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Students with Difficulties Managing Vocational Education in High School: Identifying Intervention Areas Related to Self-Reported Student-Environment Fit and Mental Health

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ABSTRACT

Students in vocational programs have lower qualifications and more difficulties with successful entry into the labor market if they graduate without a diploma. The aim of this study was to describe the student – environment fit for high school students who are struggling with their studies in vocational programs, in terms of their perceived adjustment needs, and to describe planned interventions based on the students' needs. The aim was also to investigate whether there was a relationship between students' perceived adjustment needs and students' self-reported mental health. The study included 25 students in six vocational programs at three different high schools in Sweden. The School Setting Interview was used to identify adjustment needs, and mental health problems were identified using the Strengths and Difficulties Questionnaire. Results showed that students identified adjustment needs to increase their participation in several school activities, and that academic school activities had the most identified needs. Interventions related to planning and organizing were most common. Results also showed a correlation between self-perceived adjustment needs and mental health. By identifying students' adjustment needs, the chances of succeeding with student-centered interventions are increased, which in turn can support educational achievement.

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Adolescents; participation;
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Introduction

A completed high school diploma is important as it has a major impact on students' transition to and establishment in the labor market. In Sweden and internationally, about 20% of young adults have not graduated with a high school diploma. There are fewer students in vocational programs who graduate with a complete diploma compared with students in university preparatory programs. Vocational programs are more often chosen by boys, students whose parents have not attained tertiary education (OECD, 2018), and students with lower marks from primary school (Swedish National Agency for Education, 2014). When students enroll in a vocational program, the goal is to prepare the students for a smooth entry into the labor market. However, minimum qualifications to successful entry

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into the labor market are often approved grades and a complete high school education (OECD, 2018).

Students who struggle academically have described that the difficulties increase as they get older, which can be related to the increase in school demands at each educational level (Bolic Baric, Hellberg, Kjellberg, & Hemmingsson, 2016). When a student has difficulties meeting the environment's demands, he or she can often develop a feeling of reluctance and disinclination to participate in school, which in turn can lead to failed grades, high absenteeism and school dropouts. Lower grades, dropouts and incomplete high school grades are related to students' unmet need for adjustments in their educational environment or approach, to assist them with learning (Emmers, Jansen, Petry, Van der Oord, & Baeyens, 2017; Weyandt & DuPaul, 2008). Unmet adjustment needs imply that the student – environment fit is low, i.e., the match between the demands of the school environment and the students' abilities (Hemmingsson, Egilson, Lidström, & Kielhofner, 2014). Students who study in a vocational program tend to experience a lower student – environment fit compared with students who study in a university preparatory program (Yngve, Lidström, Ekbladh, & Hemmingsson, 2019). Negative emotions and failures that are associated with this discrepancy between the students' abilities and demands in the school environment affect students' mental health (Bolic Baric, Hellberg, Kjellberg, & Hemmingsson, 2016). Students' mental health affects their performance in school, as mental illness can lead to difficulty concentrating and impaired ability to focus on their studies (Fletcher, 2010). Thus, how students feel both physically and mentally affects the transition between school and adulthood, and students who experience mental ill-health for a long time have difficulty establishing themselves in the labor market (Lundborg, Nilsson, & Rooth, 2014). To achieve high student – environment fit, factors that the individual student experiences which hinder participation need to be identified (Egilson & Hemmingsson, 2009).

Seeing the student as a unique individual with specific needs is part of a student-centered approach, and has proven to be important for the experience of affiliation in school occupations and has a positive impact on the student's ability to learn (Backman et al., 2012). It has also been found that school staff contribute to a more inclusive environment when they have time to listen to and support the students by considering how factors in their environment, and their mental health, affect performance (Backman et al., 2012; Wang, Hu, & Wang, 2018). When the school environment is inclusive and supports the students' participation, vocational programs are effective for developing skills and support a successful transition into the labor market (OECD, 2018). In Sweden, according to the Education Act (SFS, 2010, p. 800), each teacher has the responsibility to make simpler adjustments to general education when a student is at risk of not achieving educational goals. Examples of adjustments are changes in scheduling and setting, more specialized instructions and information and changes to communication technology (ICT) (Sandall, Schwartz, & Gauvreau, 2016).

To develop effective interventions, more knowledge is needed on how the interaction between the school environment and the student's abilities affects the student's opportunity for participation (Bonnard & Anaby, 2016; Coster et al., 2013; Egilson & Hemmingsson, 2009). Mental illness with emotional symptoms, such as anxiety, depression and fear, affects students' well-being in everyday activities, but further studies are needed to understand how additional personal factors, as well as

environmental factors, affect young people's mental health (Rosenberg & Bart, 2016). School-based interventions have been studied which focus on physical environmental factors and the perspectives of school staff and parents (Bonnard & Anaby, 2016). However, research on how students perceive their school situation and their need for adjustments is limited (Bonnard & Anaby, 2016), even though there have been some studies in recent years (Lidström, Hemmingsson, & Ekbladh, 2019; Yngve, Lidström, Ekbladh, & Hemmingsson, 2019). An increased understanding of the student's perspective is a prerequisite for student-centered interventions aimed at increasing their participation by increasing the student – environment fit (Bonnard & Anaby, 2016; Coster et al., 2013; Egilson & Hemmingsson, 2009). Therefore, the aim of this study was to describe the student – environment fit for high school students who are struggling with their studies in vocational programs, in terms of their perceived adjustment needs, and to describe planned interventions based on the students' needs. The aim was also to investigate whether there was a relationship between students' perceived adjustment needs and students' self-reported mental health.

Methods

Study Design

The design was cross-sectional, and the study is based on data from students in high schools in Sweden collected between 2016 and 2018. To collect data, the School Setting Interview (SSI; (Hemmingsson, Egilson, Lidström, & Kielhofner, 2014) and The Strengths and Difficulties Questionnaire (SDQ-Swe; (The National Board of Health and Welfare, 2018) were used by two occupational therapists and one special education teacher. The study was approved by the Regional Ethical Review Board, Linköping, Sweden, (2013/409–31 and 2015/203–32).

Participants

The data originate from three high schools in different parts of Sweden. Teachers, occupational therapists, and special educational teachers at each high school identified students based on their knowledge of students having difficulties with reaching educational goals, low attendance at school or other difficulties managing their education. The inclusion criteria in the present study were students who were struggling with managing education while studying in vocational programs in regular high school, between 16 and 20 years of age, who were able to understand and speak Swedish. The students were informed about the project and researchers obtained written informed consent. In total, 25 students were included (Table 1). The majority were boys (72%), most students studied within the Child-care and leisure program (32%) and about half of the students had one or more diagnoses (52%). Eight of these students had a neuropsychiatric diagnosis, five students had dyslexia and one student was diagnosed with depression.

Table 1. Characteristics of participants.

Characteristics	<i>n</i> (%)
Gender	
<i>Girl</i>	7 (28)
<i>Boy</i>	18 (72)
Diagnosis	
<i>Yes</i>	13 (52)
<i>No</i>	11 (44)
<i>Missing information</i>	1 (4)
Educational program	
<i>Child-Care and Leisure</i>	8 (32)
<i>Commerce</i>	1 (4)
<i>Handicraft Studies</i>	7 (28)
<i>Hotel and Tourism</i>	1 (4)
<i>Restaurants</i>	5 (20)
<i>Health care</i>	2 (8)
School year	
<i>Year 1</i>	11 (44)
<i>Year 2</i>	6 (24)
<i>Year 3</i>	7 (28)
<i>Missing information</i>	1 (4)

Data Collection

The School Setting Interview

The School Setting Interview (SSI) was used to assess student – environment fit, and the semi-structured interview was used to identify students' perceived needs for support regarding adjustment of school activities (Hemmingsson, Egilson, Lidström, & Kielhofner, 2014). The assessment has been psychometrically tested and is shown to be valid for use with high school students with special educational needs (Yngve, Munkholm, Lidström, Hemmingsson, & Ekbladh, 2018). When using SSI, students' adjustment needs are identified, and written down, in relation to 16 different school activities, such as “write,” “remember things,” “sport activities” and “interact with staff,” see Table 2. Based on the student's needs, the type of adjustment (for example, personal support, assistive technology for cognition) and the process for implementation are then discussed and planned with the

Table 2. Students' total adjustment needs identified by the SSI (*n* = 24–25).

	Total unsatisfied	Unmet needs	Partly met needs	Met needs	No needs
SSI item	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Participate in the classroom	17 (68)	11 (44)	6 (24)	1 (4)	7 (28)
Remember things	16 (64)	9 (36)	7 (28)	5 (20)	4 (16)
Write	16 (64)	6 (24)	10 (40)	4 (16)	5 (20)
Do homework	13 (52)	7 (28)	6 (24)	4 (16)	8 (32)
Read	12 (48)	5 (20)	7 (28)	8 (32)	5 (20)
Take exams	12 (48)	4 (16)	8 (32)	8 (32)	5 (20)
Do mathematics	10 (40)	4 (16)	6 (24)	6 (24)	9 (36)
Practical break activities	10 (40)	3 (12)	7 (28)	2 (8)	13 (52)
Speak	9 (36)	5 (20)	4 (16)	2 (8)	14 (56)
Do practical subjects	9 (36)	1 (4)	8 (32)	4 (16)	12 (48)
Access to school	9 (36)	2 (8)	7 (28)	1 (4)	15 (60)
Go on field trips	7 (28)	4 (16)	3 (12)	1 (4)	17 (68)
Do sports activities	5 (20)	2 (8)	3 (12)	2 (8)	18 (72)
Social break activities	4 (16)	2 (8)	2 (8)	2 (8)	19 (76)
Get assistance	4 (16)	1 (4)	3 (12)	6 (24)	15 (60)
Interact with staff	2 (8)	1 (4)	1 (4)	3 (12)	19 (76)

student and written down by the therapist using the Planning Intervention Form in SSI. The students can have several planned adjustments within a single school activity (SSI-item) and the students could also have no planned adjustments, even though they had communicated a low student – environment fit. SSI interviews were conducted during scheduled school hours, in the school premises and lasted for 30–60 minutes. The level of student – environment fit was thereafter rated by the occupational therapist/special education teacher on a four-step rating scale, ranging from No needs to Unmet needs (rating 1–4). No needs imply a *perfect fit* (rating 4), i.e., when the student does not need any adjustments. Met needs implies a *good fit* (rating 3), i.e., when the student has adjustments that satisfactorily meet the student’s needs. Partly met needs implies a *partial fit* (rating 2), i.e., when some adjustments have been provided but the student also needs additional adjustments. Unmet needs imply the student – environment is *unfit* (rating 1), i.e., when the student has not received any adjustments at all and the school environment needs to be adjusted.

The Strengths and Difficulties Questionnaire

The students filled in the SDQ-Swe in connection to the SSI interview. The Strengths and Difficulties Questionnaire (SDQ-Swe) is used for assessing mental health and is a validated and reliability tested self-assessment form (Essau et al., 2012). The assessment has four subscales: conduct problems, hyperactivity, emotional problems, and peer problems (which are used to assess perceived difficulties); and one subscale: prosocial behavior (to assess strengths). Each subscale is scored. A higher score on the subscales that measure difficulties indicates poorer mental health, whereas a higher score in the prosocial scale indicates better mental health. SDQ-Swe’s total score includes the four subscales that measure self-perceived difficulties and indicates if these difficulties affect students’ mental health negatively (The National Board of Health and Welfare, 2018).

Analyses

Statistical Analysis

Descriptive statistics were used to analyze demographics, self-perceived need of adjustments and students’ perceived mental health. The frequency distribution of ratings 1–4 in the 16 SSI items were investigated to analyze students’ self-perceived need of adjustments. In addition, in the analyses Partly met needs and Unmet needs (rating 1–2) were grouped as Unsatisfied need for adjustments.

The students’ self-reported mental health was analyzed by calculating the total score in the five subscales according to SDQ’s scoring table (SDQ, 2016). The alternative “Somewhat true” gave one point and “Not true” and “Certainly true” gave either zero or two points depending on whether the symptoms were positive or negative. The subscales’ total score was categorized into three levels that describe the individual student’s level of mental health, where total score within level one means that the student’s mental health is within the average for young people aged between 11–17 years as a population (SDQ, 2016). The other categorization levels (two and three) in SDQ, where the total score was below average in the population, were in this study merged and analyzed as a negative answer for mental health. Thus, the SDQ categorization levels were dichotomized in this study to a positive or negative answer for mental health.

Correlation between self-perceived need of adjustments and self-reported mental health was analyzed with Spearman's rho on the basis on the SSI-rating for each school activity and SDQ-Swe's total score as well as total score within each subscale. The scoring scales in SSI and SDQ-Swe are reversed, as a lower rating in SSI means a greater need for adjustments and a higher score in SDQ-Swe means greater difficulties. However, there is an exception in the prosocial scale where a lower score means greater difficulties. Thus, a positive correlation between items in SSI and the prosocial scale means that the higher the score in SSI, the fewer difficulties in prosocial skills, or vice versa. The strength of correlations was classified according to Landis & Koch's classification (Landis & Koch, 1977) where 1.00–0.81 indicates an almost perfect correlation, 0.80–0.61 indicates a substantial correlation, 0.60–0.41 indicates a moderate correlation, 0.40–0.21 indicates a fair correlation and 0.20–0.00 indicates a poor correlation. The overall level of statistical significance was set at $p \leq 0.05$.

Analysis of Written Data Concerning Planned Adjustments

An analysis of the written information regarding planned adjustments from the SSI was conducted. Information that emerged in the "Planning Intervention Form" that can be found in the SSI was used to describe which adjustments were designed according to students' self-perceived needs. The analysis was carried out by systematically compiling the interventions in the school activities where at least 50% of the students perceived an unsatisfied need for adjustments (rating 1–2).

Results

Students' Unsatisfied Need of Adjustments in School Activities

Results of students' self-perceived need of adjustments are presented in Table 2. More than 50% of students perceived an unsatisfied need of adjustments in four of the 16 school activities. The highest level (68%) of an unsatisfied need of adjustments was in the school activity "participate in the classroom" where 17 students described participation problems due to lack of keeping focus, difficulties in maintaining concentration and/or discomfort due to sensory sound and visual impressions. In the school activities "remember things" and "write," 16 (64%) students perceived having unsatisfied adjustment needs. Concerning "remember things," students reported problems with planning and organizing, e.g., organization of materials, forgetting to add activities to the calendar and difficulties planning ahead for multiple classes, and/or problems with time management skills. Concerning "write" the students reported difficulties with spelling, planning and getting started with writing assignments, to incorporate instructions, to maintain concentration and to complete assignments on time. Students also perceived indistinct expectations from teachers. For the school activity "Do homework," 13 (52%) students perceived having an unsatisfied need of adjustments regarding which they described difficulties managing and completing homework efficiently and maintaining concentration. The school activities where the need of adjustments was lowest were "social break activities" and "get assistance," for which four (16%) students experienced an unsatisfied need of adjustments and "interact with staff," for which two (8%) students perceived an unsatisfied need of adjustments.

Planned Interventions

Identified planned interventions based on the discussion between the student and SSI interviewer reported in the SSI's Planning Intervention Form, were mainly related to address students' difficulties with organizational and planning skills. To facilitate these difficulties, adjustments were planned, such as calendar and notifications as a reminder on their mobile phones, support of an occupational therapist to structure school activities, new routines to improve sleeping and instructions for computer applications. Personal reminders from school staff or a parent to enter tasks and activities in their calendar were also identified. Planned interventions to address difficulties with submitting writing assignments or homework on time were to arrange, if possible, for homework to be done in school, either with or without support from school staff, and receiving extra time for assignments and homework. The students also wanted the opportunity to work one-to-one with a teacher or other school staff, e.g., getting coaching and feedback from teachers to get started with writing assignments and special education services. Other planned interventions to address late writing assignments were more comprehensible instructions tailored to the student, and notes in advance of the lesson. Interventions related to ICT were not as common as those for organization and planning, but some students had planned interventions which included installing software programs, such as spellcheck and text-to-speech software, to support their performance in writing assignments. Interventions to address students' difficulties with maintaining focus and concentration were short breaks during lessons, and that teachers should uphold a calm classroom atmosphere. To support students with maintaining focus during lessons, additional planned interventions were prescriptions of assistive technology for cognition, such as stress ball, tactile ring, wedge cushion and headset with external microphone that sends the teacher's voice directly into the student's ears.

Self-Reported Mental Health

Table 3 reports students' self-reported mental health divided into positive and negative responses on the five mental health subscales. Eleven (44%) students reported difficulties with hyperactivity and concentration, which indicates negative effects on mental health. All but one student answered that they didn't have conduct problems, such as anger, and that they get into conflicts with others. On the prosocial scale there were also all but one student who gave responses indicating positive mental health.

Table 3. Number of students' positive and negative answers regarding mental health ($n = 24-25$).

	Positive response	Negative response
Subscale	<i>n</i> (%)	<i>n</i> (%)
Prosocial	24 (96)	1 (4)
Conduct problems	23 (92)	1(4)
Emotional problems	20 (80)	5 (20)
Peer problems	18 (72)	7 (28)
Hyperactivity	14 (56)	11 (44)

Table 4. Correlation between students' total adjustments needs and self-reported mental health (n = 25).

SSI item	Emotional problems	Conduct problems	SDQ scale			SDQ total
			Hyperactivity	Peer problems	Prosocial	
Write	-.27	-.37	-.25	-.18	.06	-.40*
Read	-.25	-.52**	-.09	-.22	-.16	-.26
Speak	-.69**	-.32	-.15	-.53**	.13	-.59**
Remember things	-.22	-.44*	-.62**	-.04	.00	-.44*
Do mathematics	-.00	-.23	-.03	-.07	.19	-.06
Do homework	-.20	-.29	-.36	-.03	.00	-.30
Take exams	-.32	.11	.01	.10	-.20	-.13
Do sports activities	-.29	.06	.19	-.22	.02	-.11
Do practical subjects	-.23	.04	-.20	-.04	.13	-.20
Participate in the classroom	-.37	-.11	-.33	-.24	-.40*	-.43
Social break activities	-.15	-.24	-.08	-.27	.27	-.19
Practical break activities	-.14	-.23	-.37	-.03	.05	-.28
Go on field trips	-.57**	-.37	-.28	-.22	.23	-.51**
Get assistance	-.47*	.06	.06	-.03	.21	-.19
Access to school	-.79**	-.22	-.24	-.52**	.17	-.68
Interact with staff	-.49*	-.20	-.06	-.42*	.07	-.44

*Significant correlation, $p < .05$.

**Significant correlation, $p < .01$.

Note: The correlation is analyzed with Spearman's rho.

Correlation Between Students' Adjustments Needs and Self-Reported Mental Health

Table 4 shows that there was a statistically significant correlation between self-perceived adjustment needs and self-reported mental health in several school activities and the subscales in SDQ-Swe. Four school activities – “write,” “speak,” “remember things” and “go on field trips” – correlated with the total score of SDQ-Swe, with correlations ranging between fair and moderate. For example, there was a moderate correlation between “speak” and the total score of SDQ-Swe. Adjustment needs in “speak,” “remember things,” “access to school” and “interact with staff” correlated with two SDQ subscales each. The emotional problems subscale in SDQ-Swe correlated most with SSI school activities (n = 5), with a range between moderate to substantial correlation, and it was also the subscale with the single strongest correlation.

Discussion

The findings indicate that half of the participating high school students who are struggling with their studies in vocational programs perceived having an unsatisfied adjustment need in four of the 16 school activities. Consistent with previous studies (Kocher Stalder, Kottorp, Steinlin, Hemmingsson, & Steinlin, 2018; Lidström, Hemmingsson, & Ekbladh, 2019; Yngve, Lidström, Ekbladh, & Hemmingsson, 2019), a majority of the students perceived an unsatisfied adjustment need in the academic school activities “remember things,” “write” and “do homework.” Reoccurring planned interventions in these school activities were interventions related to organizing and planning the schoolwork, personal reminders and maintaining concentration. The reason why so many students who are struggling with their studies perceived a low student – environment fit in these school activities is not investigated in this study. However, students in vocational programs have lower qualifications

(Swedish National Agency for Education, 2014) and higher feelings of futility (Straková, Simonová, & Soukup, 2021), which has a negative impact on academic achievement. For example, mathematics and reading achievement among students in vocational programs are related to lower socio-economic status and lower sense of futility (Straková, Simonová, & Soukup, 2021). In addition, these academic school activities place high demands on memory, concentration, problem-solving and motivation, which increase the complexity of the school activities. Students with motivational problems are at risk of not receiving adequate adjustments in academic school activities, as teachers have difficulties describing strategies to address these problems (Jönsson, 2018).

Another finding is that the highest level of unsatisfied need of adjustments was in the school activity “participate in the classroom.” This finding suggests that the inclusive learning environment is not optimal for these students with special educational needs. However, in a comparative study, Myklebust (2006) found that students in an inclusive adapted ordinary class achieved higher formal competences than in special classes. This means, despite challenges which have been reported in designing an accessible learning environment that suits all students (Missiuna et al., 2017), students’ access to the adjustments they perceive they need is the first step to students being included in the classroom. An interesting additional finding is that the students in this study often need similar planned interventions. Therefore, more research is needed to determine whether universal design for learning (UDL) may be a more cost-effective framework to achieve a learning environment that supports the inclusion of students in high school settings. Previous research has shown positive outcomes when focusing on general adjustments in class instead of many individual adjustments in younger age groups (Camden et al., 2021). Altogether, the results indicate that there are difficulties in designing effective and student-centered adjustments in academic school activities, and more research is needed in this area (Myklebust & Båtevik, 2021).

Perceived mental health affects students’ performance (Bolic Baric, Hellberg, Kjellberg, & Hemmingsson, 2016), and it is conceivable that students who experience mental illness for a longer period also find it more difficult to reach academic knowledge goals and leave school without an high school diploma. The findings in this study show that the majority of the students did not perceive themselves to have poor mental health. However, the results show that both students with and without diagnoses had difficulties that correspond with neuropsychiatric symptoms, such as difficulties in planning and organizing, attention problems, difficulties in starting activities and in concentrating. A correlation between hyperactivity and increased adjustment needs in the school activity “remember things” was also found. Cognitive impairment and emotional or behavioral difficulties have been proven to be overrepresented among students that are identified with special education needs by teachers (Smeets & Roeleveld, 2016). Even though the majority of students in vocational programs in this study did not perceive themselves to have emotional or behavioral difficulties, the results show that the students had difficulties with managing several school activities, which can lead to low academic achievement. In turn, low academic achievement has been shown to increase the risk of poor mental health among students (Public Health Agency of Sweden, 2018).

Common planned interventions were related to extra support from teachers, i.e., personal reminders and working one-to-one with teachers, as the students described indistinct expectations and inadequate instructions from teachers. Concurrently, the need of

adjustments was very low in the school activities “get assistance” and “interact with staff” which may indicate that the communication between the students and school staff worked satisfactorily. Altogether, the results indicate that despite good communication between the students and school staff, it is still difficult to develop individual and effective interventions to improve participation and academic achievement. Important factors to succeed with interventions in the school environment are the shared formulation of goals between the student and school staff, explicit planning of the intervention and the student’s experience of participation (Selankoy, Yalon-Chamovitz, & Weintraub, 2017). Teachers have limited time and insufficient knowledge about the accessible learning environment as they need to focus on teaching at a group level, which can affect the capacity to create an inclusive and supportive environment for each individual student (Pearce, Gray, & Campbell-Evans, 2010). An inclusive and supportive environment may influence students’ sense of coherence, and it is proven that a low sense of coherence is related to dropping out of vocational programs (Winding, Nohr, Labriola, Biering, & Andersen, 2013). Different competencies are needed in the school environment to improve the student – environment fit for students in vocational programs. For example, competency in how the person and the environment interact with each other is beneficial in student-centered interventions (Bonnard & Anaby, 2016). Also, how the person and the environment affect occupational performance and participation. However, more research is needed to investigate how different competencies can complement each other in the school setting. Furthermore, more research about what does and does not work in the interventions is also needed to create a more meaningful school environment and participation for each individual student (Myklebust & Båtevik, 2021).

Methodological Considerations

The SSI was considered to be useful in the present study, as the students’ self-perceived need of adjustments and related planned interventions were clarified by using the student-centered assessment (Hemmingsson, Egilson, Lidström, & Kielhofner, 2014; Yngve, Munkholm, Lidström, Hemmingsson, & Ekbladh, 2018). The SDQ-Swe was used as it is standardized and easy to use for assessing emotional and behavioral difficulties among adolescents (Essau et al., 2012). Limitations of the present study are related to the selection of students. Students were identified by school personnel based on their knowledge of the students’ difficulties managing their education. Students with a great need for support are often absent from school (APA, 2013) and could therefore have missed out on being asked by the school personnel to participate in the study. Students who did not stand out among the school staff could also have been missed for participation. There are indications that it is more common for girls to hide and compensate for their difficulties to a greater extent than boys (Lai, Lombardo, Auyeung, Chakrabarti, & Baron-Cohen, 2015), which may have affected the uneven distribution between girls and boys in the present study. Overall, this possible drop-out may suggest that the results give a more positive picture of adjustment needs among students in the high schools’ vocational programs than what they are in reality. It is also important to take the low number of students into account in analyzing the present study results. Larger studies are needed to draw general conclusions about the adjustment needs of students in high school vocational programs and their perceived mental health.

Conclusion

The findings indicate that high school students who are struggling with their studies in vocational programs, perceive their need of adjustments in several school activities to increase participation in the school environment. The adjustment needs are mainly in academic school activities related to the students' difficulties with planning and organizing, and to maintain concentration. The students desire more support from school staff in the form of personal reminders, specialized instructions and coaching to get started with assignments and to maintain concentration. The results also indicate that there is a correlation between the extent of students' perceived adjustment needs and mental health. Further research is needed to form effective student-centered interventions in order to create an inclusive school environment and to investigate the impact of these interventions on students' mental health.

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