Work outcome in young adults with disabilities
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CHAPTER 4

Expectations from different perspectives on future work outcome of young adults with mental disabilities

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Submitted
ABSTRACT
Expectations strongly influence future employment outcomes and several studies have noted the influential role of social networks in mediating the employment success of young adults with disabilities. Therefore, the aim of the current study is to examine the expectations of young adults with mental disabilities coming from special needs education, their parents and their school teachers regarding future work and the discriminative ability of these expectations to predict work outcome. Therefore, we examined data on 344 young adults with mental disabilities, aged 17-20 years and coming from special needs education. The expectation of the school teacher was the only perspective that significantly predicted entering competitive employment, with a complementary effect of the prediction of parents and a small additional effect of the expectation of the young adult. In conclusion, expectations of school teachers and parents are most valuable in predicting employment outcome.

KEYWORDS
Young adults with disabilities, expectations, mental disabilities, special needs education, transition to work.
INTRODUCTION
Many young adults with disabilities lag behind in terms of education, employment, and independent living, compared to their peers in the general population (Geenen et al., 2003). Although being employed is a valued adult role and a primary indicator of success in society (Eisenman, 2003; Lindstrom et al., 2011; Wagner et al., 2005), young adults with disabilities have a hard time finding and maintaining employment (Garcia-Iriarte et al., 2007; Lindsay, 2011; Wagner & Blackorby, 1996). Compared to over 80% of young adults without disabilities (Lindsay, 2011) and almost 90% of students with a vocational training background (Statistics Netherlands, 2012), only about 50% of special education students with disabilities were competitively employed within two years after leaving school (Fabian, 2007; Test et al., 2009; Wagner et al., 2005). The participation rates of young adults with intellectual disabilities range from 10% to 40% (Ireys et al., 1996; Lysaght et al., 2012b; Rose et al., 2005; WHO & World Bank, 2011) and similar rates apply to young adults with developmental disorders: 10% to 54% (Billstedt et al., 2005; Engstrom et al., 2003; Gjervan et al., 2012; Halmoy et al., 2009; Shattuck et al., 2012; Wagner et al., 2005). These mental disorders are the most common diagnoses among students in special needs education in the Netherlands. These special needs schools provide vocational training and internships for young adults with disabilities in the final years at school and appropriate job placements in the transition from school to work.

Expectations about future work outcome
In the return to work and work disability literature, there is extensive evidence for a positive association between return to work expectations and return to work or work disability outcomes (Cornelius et al., 2011; Dekkers-Sanchez et al., 2008; Iles et al., 2008; Laisne et al., 2012; Tiedtke et al., 2010). When individuals expect to return to work they are more likely to do so. This may also apply to young adults with disabilities in their transition from school to work, when entering competitive employment. The majority of transition-age young adults with disabilities, when asked about their future plans, indicated that they want to obtain a paid job (Betz & Redcay, 2005; Cameto et al., 2004; Cooney, 2002; Wagner et al., 2005; Wagner et al., 2007). Wittenburg et al. (2002) suggested that the expectations of young adults with disabilities can have a major impact on transition decisions. For example, when students with disabilities had a transition goal of post-secondary education, they were more likely to enroll in college (Wittenburg et al., 2002).

Different perspectives on employment outcomes
Several studies have noted the influential role of social networks in mediating the employment success of young adults with disabilities (Carroll et al., 2009; Carroll & Dockrell, 2012; Eisenman, 2003; Eisenman, 2007; Hughes, 2001; Test et al., 2009). By role modeling and sharing information regarding their own occupations and their expectations for the young adult, family influences
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the career interests and aspirations of the young adult (Eisenman, 2007). Especially parents’ expectations for the future of their young adult with disabilities can be a powerful influence on the employment options, experiences and transition outcomes of their young adult after leaving school (Cooney, 2002; Doren et al., 2012; Eisenman, 2003; Lindstrom et al., 2007; Wagner et al., 2005). This influence can be positive as well as negative. The US National Longitudinal Transition study (NLTS-2) in students from special education reported that 90% of the parents expected their child to definitely get a paid job and 8% thought their child would probably get a paid job (Wagner et al., 2005). Another study found that young adults with disabilities were 2.7 times more likely to be working after secondary school, when their parents expected them to do so (Doren et al., 2012). According to the NLTS-2, family members played a supportive role in many aspects of the career development of young adults with disabilities (Eisenman, 2007). However, parents may also overestimate the abilities of their young adult and may have a hard time acknowledging that their expectations for their young adult are not realistic (King et al., 2005). On the other side, parents as well as teachers are said to underestimate the abilities of young adults with disabilities (EADSNE, 2006), which may hold back the young adult in reaching their full potential. Teachers substantially contribute to the educational achievements of students and the preparation of the young adult for the workforce and play a critical role in their subsequent transition to employment (Eisenman, 2007; Kim & Dymond, 2010; Laragy, 2004; Oeseburg et al., 2010; Wagner et al., 2007). The NLTS-2 found that school staff had a strong influence on the career development of young adults with disabilities (Eisenman, 2007). Another study found that teacher support predicted students’ self-perceptions, which in turn predicted students’ academic engagement and achievement (Fall & Roberts, 2012). Other studies found that perceived teacher support was related to greater academic achievement (Chen, 2005; Mercer et al., 2011). Academic achievement has been associated with positive employment outcomes (e.g. employment stability and higher income) in young adults in regular education (Carroll et al., 2009; Johnson et al., 2006; Sanders et al., 2001). Two NLTS-2 studies in young adults with disabilities showed a small similar effect (Eisenman, 2003; Sanford et al., 2011). Another NLTS-2 study did not find a significant difference in employment outcomes for high school completers and dropouts with disabilities (Wagner et al., 2005).

Currently there is little evidence regarding the value of expectations in predicting work outcome for young adults with mental disabilities. Furthermore, the contribution of the different perspectives to work outcome is unclear for this group of young adults that is generally more dependent on parents and school teachers than their peers without disabilities. The expectations of future work outcomes by young adults with special needs education, their parents and school teachers may be a valuable source of information predicting employment outcome.
Therefore, the aim of the present study is to examine the expectations of young adults with mental disabilities from special needs education, their parents and their school teachers regarding future work and the predictive value of these expectations on competitive employment.

**METHODS**

**Participants and procedure**
This study is part of a cohort study called ‘Young Disabled at Work’ in which factors that predict work participation among young adults aged 15-27 years applying for a disability benefit at the Dutch Social Security Institute (SSI) were examined. The SSI is responsible for all work-ability assessments under social security regulations. All participants applying for a disability benefit and eligible for the present study were recruited using registry data from the local SSI offices in the three northern regions in the Netherlands (Groningen, Friesland, Drenthe). For this study only participants with mental disabilities, attending special needs education, aged 17-20 years, and with an ability to work according to the SSI were included. The level of work ability is determined by estimating the claimants’ chances to be able to find and retain work independently, earning at least minimum wage level, and by assessing their need for assistance and support to find and maintain work. For a detailed description of the work ability assessment in the Netherlands, see Holwerda et al. *(Holwerda et al., 2012)*. Recruitment started at January 1st 2009 and ended at 31st December 2009. Written consent was provided by all claimants and the Medical Ethics committee of the University Medical Center Groningen, the Netherlands, approved recruitment, consent and field procedures prior to the study.

Preceding the disability assessment the participants were approached by the SSI to fill out a questionnaire consisting of questions that were partly adapted from an existing questionnaire of the ‘Tracking Adolescents’ Individual Lives’ Survey’ (TRAILS) questionnaire T4Youth based on the National Monitor Youth Health in the Netherlands *(RIVM, 2005)* and partly self-constructed. It was inappropriate to utilize existing questionnaires for this group, because of the limited cognitive abilities of the majority of the participants. School teachers of participants were also approached to fill out a questionnaire and in case participants resided with their parents, parents were also asked to fill out a questionnaire.

**Measures**

**Work Outcome**
The cohort was linked to POLIS register data. The POLIS registry is a database, in which all Dutch workers are included that have earned any wage (from regular, supported or sheltered jobs) in the period concerned. This linkage was done quarterly, for a total of twelve different periods, from December 2008 until September 2011. Using these data, we constructed a
work outcome measure for ‘entering competitive employment during 18 months of follow-up’. Only wage earning - for any number of hours - following disability assessment was taken into account. The follow-up period differed for the individuals in the study and started in the quarter following the disability assessment at the SSI. The maximum follow-up period was two years and nine months, the minimum follow-up period was 18 months.

Expectations at baseline, with young adults still attending special education
Expectation of young adult regarding future work was measured with one self-constructed question “Do you think you are able to work in competitive employment?” with response options yes, completely / yes, partly / no. From these responses a dichotomous variable was derived that contrasted ability (yes completely and yes partly) with no ability.
Expectation of parents regarding future work for young adult was based on the parent’s response to the self-constructed question “In your opinion, what ability does your child have to participate in work?”. Response options were regular work / supported employment / sheltered employment / day centre or voluntary work / no ability to work.
Expectation of school teacher regarding future work for young adult was based on the school teacher’s response on the self-constructed question “In your opinion what ability does your student have to participate in work?”. Response options were regular work / supported employment / sheltered employment / day centre or voluntary work / no ability to work.
The responses of parents and teachers were subsequently dichotomized into: (1) young adult is able to participate in competitive employment (regular work / supported employment), and (2) young adult is not able to participate in competitive employment (no ability to work / sheltered employment / day centre or voluntary work).

Demographics
Demographics (age and gender) of the young adults were derived from SSI registers. Data regarding diagnosis was derived from the register forms filled in by the Insurance Physicians of the SSI at baseline.
Education was based on the respondent’s report at baseline on the question “Which education have you followed after primary school”. Response options were Special Secondary Education / Practical Education / Secondary education / Vocational training / High school / Higher Education. The highest educational level mentioned was included.
Living situation was based on the respondent’s report at baseline on two questions: (1) “What is your living situation?” with response options Parental home / Own place / Student home / Sheltered home / Institution or Hospital / Other and (2) “Who is living there with you?”. Subsequently four mutually exclusive groups were constructed: (1) living independently with or without partner, (2) living with parents/family/foster family, (3) living in a supported/sheltered home, and (4) other living situations (RIVM, 2005).
Statistical Analyses
Accuracy of the predictions of the participants, parents and school teachers were assessed by calculating the sensitivity, specificity and positive predictive value. 95% confidence intervals (CIs) based on normal distributions were calculated for each PPV estimate.

The accuracy of the prediction was also evaluated by calculating the Area Under the receiver operating characteristic Curve (AUC). The AUC is a measure of the diagnostic power of a test that summarizes the likelihood of a dichotomized outcome (entering competitive employment) at various cut-offs of a test, in this case an expectation. The area under this curve (AUC) represents the overall accuracy of a test, with a value approaching 1.0 indicating a higher sensitivity and specificity. The AUC usually ranges from 0.50 (no discrimination) to 1.0 (perfect discrimination) (Katz & Foxman, 1993).

Next, the perspective (either young adult, parent or teacher) with the highest AUC was entered into a logistic regression analysis with actual work during follow-up as outcome and the perspective with the second highest AUC was added. From this model, the predicted probabilities were calculated, which were then used to calculate the AUC of this combined model. Subsequently also the last perspective was added to the logistic model and the AUC was calculated again. Finally, age and gender were also added to the logistic model as independent variables, to assess odds ratio’s and 95% confidence intervals for each of the perspectives adjusted for age and gender and to see which perspective was most predictive. All analyses were performed in PASW Statistics 18.0.3 (SPSS).

RESULTS
Description of the sample
Administrative data about gender and age was available for all participants (n=385). Of the participants (n=385), 41 (10.6%) were not included in the analysis, because they already worked at baseline and thus were not able to enter into competitive employment. Of the remaining participants (n=344), 86.3 percent filled in a questionnaire (n=297).

Of 82.0 percent of the participants also a parent-questionnaire was completed (n= 282). The school teacher filled in a questionnaire for 57.8 percent of the participants (n=199). There were data from all three perspectives for 163 (47.4%) of the participants. Participants with incomplete data did not statistically significantly differ from complete cases with regard to gender, age and diagnosis. The only significant difference was found in work outcome (p = 0.049): participants with complete data found work more often than respondents with incomplete data.

The total sample consisted of 227 men (66.0%) and 117 women (34.0%), with a mean age of 17.8 years (SD 0.5). Of the participants, 38.7 per cent (n=133) entered competitive employment in the 18 months following claim assessment. Of them 43.2% worked fulltime, 36.8% worked part-time (12-32 hours a
Table 1. Characteristics of young adults with mental disabilities from a special needs education background

<table>
<thead>
<tr>
<th>Work outcome</th>
<th>Total (N=%)</th>
<th>No work (N=%)</th>
<th>Work at any time (N=)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (data SSI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Male</td>
<td>227 (66.0%)</td>
<td>138 (63.7%)</td>
<td>89 (71.2%)</td>
</tr>
<tr>
<td>- Female</td>
<td>117 (34.0%)</td>
<td>81 (37.0%)</td>
<td>36 (28.8%)</td>
</tr>
<tr>
<td>Age (data SSI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 17 years</td>
<td>81 (23.5%)</td>
<td>56 (25.6%)</td>
<td>25 (20.0%)</td>
</tr>
<tr>
<td>- 18 years</td>
<td>254 (73.8%)</td>
<td>156 (71.2%)</td>
<td>98 (78.4%)</td>
</tr>
<tr>
<td>- 19-20 years</td>
<td>9 (2.6%)</td>
<td>7 (3.2%)</td>
<td>2 (1.6%)</td>
</tr>
<tr>
<td>Primary diagnosis (n=335)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Intellectual disability</td>
<td>277 (82.7%)</td>
<td>174 (81.7%)</td>
<td>103 (84.4%)</td>
</tr>
<tr>
<td>- Psychiatric / Developmental Disorders</td>
<td>58 (17.3%)</td>
<td>39 (18.3%)</td>
<td>19 (15.6%)</td>
</tr>
<tr>
<td>Education* (n=344)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Special secondary education</td>
<td>144 (41.9%)</td>
<td>113 (51.6%)</td>
<td>31 (24.8%)</td>
</tr>
<tr>
<td>- Schools for practical training</td>
<td>200 (58.1%)</td>
<td>106 (48.4%)</td>
<td>94 (75.2%)</td>
</tr>
<tr>
<td>Living arrangements * (n=342)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Living independently (with or without partner)</td>
<td>5 (1.5%)</td>
<td>3 (1.4%)</td>
<td>2 (1.6%)</td>
</tr>
<tr>
<td>- Living with parents/family/foster family</td>
<td>298 (87.1%)</td>
<td>182 (83.5%)</td>
<td>116 (93.5%)</td>
</tr>
<tr>
<td>- Residential placement/sheltered accommodation</td>
<td>38 (11.1%)</td>
<td>32 (14.7%)</td>
<td>6 (4.8%)</td>
</tr>
<tr>
<td>- Other living situation</td>
<td>1 (0.3%)</td>
<td>1 (0.5%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>Expectation young adult with disability *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Completely able to work in competitive employment</td>
<td>79 (23.0%)</td>
<td>31 (14.1%)</td>
<td>48 (38.4%)</td>
</tr>
<tr>
<td>- Partly able to work in competitive employment</td>
<td>113 (32.8%)</td>
<td>72 (32.9%)</td>
<td>41 (32.8%)</td>
</tr>
<tr>
<td>- Not able to work in competitive employment</td>
<td>105 (30.5%)</td>
<td>88 (40.2%)</td>
<td>17 (13.6%)</td>
</tr>
<tr>
<td>- Unknown</td>
<td>47 (13.7%)</td>
<td>28 (12.8%)</td>
<td>19 (15.2%)</td>
</tr>
<tr>
<td>Expectation parent regarding ability to work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Regular work</td>
<td>17 (4.9%)</td>
<td>10 (4.6%)</td>
<td>7 (5.6%)</td>
</tr>
<tr>
<td>- Supported employment</td>
<td>176 (51.2%)</td>
<td>90 (41.1%)</td>
<td>86 (68.8%)</td>
</tr>
<tr>
<td>- Sheltered employment</td>
<td>51 (14.8%)</td>
<td>44 (20.1%)</td>
<td>7 (5.6%)</td>
</tr>
<tr>
<td>- Day centre or voluntary work</td>
<td>34 (9.9%)</td>
<td>33 (15.1%)</td>
<td>1 (0.8%)</td>
</tr>
<tr>
<td>- No ability to work</td>
<td>4 (1.2%)</td>
<td>3 (1.4%)</td>
<td>1 (0.8%)</td>
</tr>
<tr>
<td>- Unknown</td>
<td>62 (18.0%)</td>
<td>39 (17.8%)</td>
<td>23 (18.4%)</td>
</tr>
<tr>
<td>Expectation school teacher regarding ability to work</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Regular work</td>
<td>13 (3.8%)</td>
<td>3 (1.4%)</td>
<td>10 (8.0%)</td>
</tr>
<tr>
<td>- Supported employment</td>
<td>123 (35.8%)</td>
<td>59 (26.9%)</td>
<td>64 (51.2%)</td>
</tr>
<tr>
<td>- Sheltered employment</td>
<td>41 (11.9%)</td>
<td>31 (14.2%)</td>
<td>10 (8.0%)</td>
</tr>
<tr>
<td>- Day centre or voluntary work</td>
<td>22 (6.4%)</td>
<td>22 (10.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>- No ability to work</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
</tr>
<tr>
<td>- Unknown</td>
<td>145 (42.2%)</td>
<td>104 (47.5%)</td>
<td>41 (32.8%)</td>
</tr>
</tbody>
</table>

* Self-report by young adult with special needs education
Expectations on future work outcome of young adults with mental disabilities

week) and 20.0% worked less than 12 hours a week. Most of the working respondents worked in retail (21.6%), for temporary job agencies (18.4%), in agriculture/food industry (13.6%) and health care (11.2%). The majority of respondents were granted a disability benefit (96.2%) and 3.8% were denied a benefit. Most respondents had an intellectual disability (82.7%). The majority of the participants came from schools for practical training (58.1%) and most lived with parents or family (87.1%). Of the young adults, 54.7% expected to be able to work in competitive employment. Of the parents 55.9% and of the school teachers 38.6% expected the young adult to be able to work competitively.

Accuracy of prediction of entering competitive employment by young adults, parents and school teachers

The analyses regarding the accuracy of the predictions were performed on complete cases. The sensitivities of expectations (the percentage of young adults that are correctly identified as able to work in competitive employment) by the young adult with disability, their parents and school teachers varied between 0.87 and 0.92 and the specificities (the percentage of young adults that are correctly identified as unable to work in competitive employment) between 0.39 and 0.45 (see table 2). The positive predictive values varied between 0.51 and 0.54.

The area under the curve from the school teachers’ perspective was the highest at 0.66 (95% CI: 0.58 -0.74) (see table 2). When the perspective of the parent was added, the area under the curve increased to 0.69 (95% CI 0.61 – 0.78) and when the young adults’ perspective was added to the model with parents and school teachers the area under the curve increased to 0.71 (95% CI 0.63 – 0.79).

The results of the logistic regression analyses are presented in table 3. The results indicate that the school teachers’ expectation of ability to work in competitive employment was the only perspective statistically significantly related to entering competitive employment during 18 months of follow-up. When school teachers expected their student to be able to work in competitive employment, the respondents had a three times higher odds to enter competitive employment during follow-up compared to respondents with school teachers expecting that their student would not be able to work in competitive employment (OR 2.95, 95% CI: 1.10 – 7.95).

The same OR was observed for parents, but because of the slightly higher standard error, this relation did not reach statistical significance (p = 0.073).

Table 2: Accuracy of prediction of entering competitive employment by young adult, their parent and school teacher

<table>
<thead>
<tr>
<th>Prediction</th>
<th>Entering competitive employment</th>
<th>Sensitivity</th>
<th>Specificity</th>
<th>AUC</th>
<th>95% CI</th>
<th>PPV</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Young adult</td>
<td>61 (37.4%)</td>
<td>0.90</td>
<td>0.39</td>
<td>0.64</td>
<td>0.56 - 0.73</td>
<td>0.51</td>
<td>0.46 – 0.56</td>
</tr>
<tr>
<td>Parent</td>
<td>59 (37.6%)</td>
<td>0.92</td>
<td>0.39</td>
<td>0.65</td>
<td>0.57 - 0.74</td>
<td>0.51</td>
<td>0.46 - 0.56</td>
</tr>
<tr>
<td>School teacher</td>
<td>59 (37.1%)</td>
<td>0.87</td>
<td>0.45</td>
<td>0.66</td>
<td>0.58 - 0.74</td>
<td>0.54</td>
<td>0.49 – 0.59</td>
</tr>
</tbody>
</table>

* only complete cases were included in the analysis
competitive employment (OR 2.95, 95% CI: 1.10 – 7.95).
The same OR was observed for parents, but because of the slightly higher standard error, this relation did not reach statistical significance (p = 0.073).

**DISCUSSION**
This study shows that young adults with mental disabilities from special needs education, their parents and their school teachers are moderately able to predict future work when asked about their expectations regarding the ability of the young adult to work in competitive employment. The expectation of the school teacher was the only perspective that significantly predicted entering competitive employment, with a complementary effect of the prediction of parents and a small additional effect of the expectation of the young adult.

Of the included students 36% did enter competitive employment. This rather low percentage of young adults from special needs education entering competitive employment has been found in other studies as well (Fabian, 2007; Wagner et al., 2005).

On the one side, this may be an effect of the legislation, the vocational programs that are available to this population, the availability of jobs and the readiness of the employers to integrate this population into the work force. On the other side, this may also reflect the limited abilities of these young adults. Teachers know the strengths and weaknesses of their students and can help their student to be realistic in their aspirations taking into account the student’s limitations.

We did not find a significant effect of the expectations of parents on work outcome of the respondent. However, there was a complementary effect of the prediction of parents to the prediction of teachers. Parents were better able to predict that young adults would enter competitive work (sensitivity) and teachers were better able to predict that young adults would not enter competitive work (specificity). Literature suggests that parents can be a powerful influence on the employment options, experiences and outcomes of their young adults (Cooney, 2002; Doren et al., 2012; Eisenman, 2003; Test et al., 2009; Wagner et al., 2005). Our results suggest parents tend to overestimate the ability of their young adult. Parents may stimulate their child to achieve a sense of fulfilment by using their talents and abilities to the full (Cooney, 2002)
including finding suitable employment. On the other side parents may be able to assess the abilities of their child realistically, but their young adult did not enter employment because of external factors like the unavailability of jobs. The perspective of young adults was the least predictive. One reason for the somewhat lower discriminative value of the expectation of the young adult may be that the majority of our participants had an intellectual disability. It is hard for these young adults to adequately assess their own abilities. Our results, supported by other studies, show that co-operation between school teachers and parents appears to result in valuable information in the process to develop a realistic view of an young adult’s skills (Eisenman, 2003; EADSNE, 2006; Laragy, 2004).

In the final years at school preparations should start for a smooth transition from school to work, including practical job training and job orientation (Laragy, 2004). As parents may have insight in the abilities as well as affinities of their young adult, their input is valuable for teachers in planning for the transition, e.g. which job placements would be suitable and which kind of support the young adult needs to be able to function well (Eisenman, 2003). A review of transition programs for young people with disabilities found that schools should support their teachers in involving both students and their parents in these decision-making processes to achieve the desired employment outcome (Laragy, 2004). If teachers and parents work together with the student to prepare for the labour market, they may also influence the expectations of the young adult to become more realistic and achievable.

**Strengths and limitations of the study**

The strengths of this study are the longitudinal design and the use of register data for work outcome, measured quarterly, allowing accurate assessment of work outcome during the follow-up for the complete sample. The limited availability of the expectations of teachers and missings in the expectations of young adults and parents, resulted in inclusion of only 47 per cent of the respondents in the analyses. Non-response analysis showed no statistically significant differences between the respondents with complete and incomplete data with regard to gender, age and diagnosis. However, more respondents with complete data found work during the follow-up than respondents with incomplete data. As we know many school teachers were reluctant to fill in a questionnaire for a respondent involved, when they did not think employment was a realistic option for this student, our results are mainly applicable to young adults from special needs education with the potential to be engaged in work according to the teacher. In addition, we cannot rule out the possibility that there might have been differences in the characteristics of parents and school teachers of responders and non-responders. The results might be biased because more concerned and involved parents and school teachers filled out a questionnaire. However, it is unknown whether the predictions of these parents and teachers are more
accurate than those from less concerned parents and teachers or not. The missing values will have caused less precise estimates of the parameters of interest.

As the young adults with mental disabilities included in this study were all applying for a disability benefit, they may not be representative for the population with mental disabilities in special needs education. However, the majority of young adults with mental disabilities in the Netherlands are educated in special needs education. Moreover, the majority of these young adults apply for a disability benefit, so no large differences between this population from special needs education and our sample are expected.

At baseline most of the respondents were still at school. It is unknown whether the young adults left school within the 18 months of follow-up. However, in the Dutch special needs educational system most young adults leave school at 18 years of age. As the majority of respondents was 18 years or older at baseline, we expect that most of them will have left school during the follow-up and were able to enter competitive employment.

**Conclusion and recommendations**

Expectations of school teachers and parents seem to be most valuable in predicting future work outcome of young adults with mental disabilities from special needs education, even more so when these two perspectives are combined.

In the Dutch system the majority of students with mental disabilities are educated in special needs education classes. In the transition from school to work, they receive special assistance to develop vocational skills and to find a job, if the severity of their disability allows work. Co-operation of school teachers and parents in setting realistic expectations for the young adult is necessary to ensure the best possible employment outcomes for the young adult. Furthermore, It is important that the Social Security Institute incorporates the knowledge of school teachers and parents regarding the abilities of the young adult to enter competitive employment as a valuable source of information in the disability assessment when assessing work ability of the young adult.

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REFERENCES


Expectations on future work outcome of young adults with mental disabilities


