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Using the strengths and difficulties questionnaire with adults with Down syndrome

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ABSTRACT

Background: The Strengths and Difficulties Questionnaire (SDQ) has been widely used to screen typically developing children for mental health problems; in recent years it has also been used with children with intellectual disabilities. The present study investigated the possible use of the SDQ to screen adults with Down syndrome (DS).
Method: Only four items on the SDQ were changed slightly to remove references to children. Parents or carers completed the SDQ and all 125 adults with DS (aged 18–43 years) were assessed for mental health problems by a psychiatrist.
Results: Twenty-eight adults were diagnosed with a psychiatric condition. Parents and carers found the SDQ easy to complete and liked the inclusion of positive behaviours. The SDQ did discriminate significantly between those with and without a diagnosis, however the sensitivity and specificity were insufficient. Exploratory and Confirmatory Factor Analyses showed a four factor model (pro-social behaviour, emotional difficulties, hyperactivity and conduct disorders) to be the best solution. This structure was similar to previous research findings of three factors of pro-social behaviour, internalising disorders and externalising disorders.
Conclusion: Construct validity and reliability suggest that the SDQ has potential for use with adults with DS and possibly those with other intellectual disabilities. The SDQ is user friendly for parents and carers, and did highlight behavioural and mental health needs, suggesting that it would be worthwhile to develop the SDQ specifically for adults with intellectual disability.

1. Introduction

The purpose of this study was to investigate the usefulness of the Strengths and Difficulties Questionnaire (SDQ) for the assessment of mental health problems in adults with Down syndrome. It was necessary to investigate the psychometric properties of the questionnaire with an adult population, and determine whether it could distinguish those with mental health problems.

Goodman (1997) developed the SDQ as a brief behavioural questionnaire to assess the psychological adjustment of children and adolescents aged from 4 to 14 years of age. The SDQ has 25 items divided into 5 domains: emotional symptoms,

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conduct problems, hyperactivity, peer problems and pro-social behaviour; it has become one of the most widely used, brief questionnaires for assessing mental health problems in children and adolescents. It has been shown to have good reliability and validity, and can discriminate between those children attending psychiatric clinics and those who do not (Goodman, 1997, 2001; Vostanis, 2006). Goodman tested the sensitivity and specificity of the SDQ using Receiver Operating Characteristic (ROC) curves, and reported that for parents' total ratings of difficulties the area under the curve was .87, which indicates good discriminability. He created norms chosen so that 80% of the children were within normal parameters, 10% borderline, and 10% abnormal. The latter, he argued, required in-depth psychiatric assessment.

Also explored has been the possibility that the SDQ can be used to identify mental health problems in children and young people with intellectual disability (ID). Kaptein, Jansen, Vogels, and Reijneveld (2000) analysed parents' reports on children aged from 6 to 12 years with mild or moderate ID compared to typically developing children matched for chronological age (CA).They found that 61% of the children with ID had elevated scores on the SDQ and its subscales, compared to 10% of the control group. This is a very high proportion in the abnormal range but may not necessarily be linked with psychiatric disorders as there was no independent psychiatric data, and only 45% of those with elevated SDQ scores had visited a health care professional for such problems in the last 6 months. Bakare, Ubochi, Ebigbo, and Orovwigho (2010) used teachers' ratings on the SDQ for 44 children, aged 4–18 years assessed with profound to mild ID. They found that 48% of the children had borderline to abnormal SDQ scores, with those with mild ID having the highest total difficulties score. Similarly Oesburg, Jansen, Groothoff, and Reijneveld (2010) found that the results from parent completed SDQs produced a prevalence of 45% of emotional and behavioural problems in 12–18 year old adolescents with ID (mild, moderate and severe), who also had chronic diseases. None of these studies used independent psychiatric assessment.

In the United Kingdom Emerson (2005) reported data from a national representative survey of children aged 11–15 years, 95 of whom had been identified as having ID by parents or schools. As well as the SDQ, the presence of psychiatric disorder was assessed on the DAWBA (Development and Well Being Assessment, Goodman, Ford, Richards, Gatward, & Meltzer, 2000) which provides an ICD-10 diagnosis. Emerson reported that children with such a diagnosis, scored higher than those not diagnosed, on total difficulties on the SDQ, conduct problems, emotional problems and hyperactivity; parents rated significantly higher than the children rated themselves for total difficulties, hyperactivity, and peer problems.

All the above studies therefore reported significantly higher scores on the SDQ for children with ID compared to typically developing children, and significantly higher scores for those with mental health problems when these were separately assessed. However, none used a sensitivity and specificity analysis to identify those who might be at risk of a psychiatric disorder. An ROC analysis was carried out by Indredavik, Vik, Heyerdahl, Kulseng, and Brubakk (2005) who compared psychiatric symptoms in low birth weight adolescents using the SDQ, with an independent psychiatric interview. Very low birth weight (VLBW) children were reported by mothers to have high scores on the SDQ for hyperactivity, emotional symptoms, peer problems and conduct problems. This result also held when those with ID were excluded. Using a cut-off at the 90th percentile, the sensitivity of the mother reports for VLBW was 83%, and the specificity was 58% compared to the psychiatric diagnosis. Thus mothers' ratings on the SDQ would have produced 17% false negatives and 42% false positives.

A further issue is that the 5 factor structure of the SDQ has not always been supported for a population of typical children. For example, Dickey and Blumberg (2004) used Exploratory and Confirmatory Factor Analyses (EFA, CFA) on parents' ratings on the SDQ of a large sample of American children aged 4–17 years. They found a three-factor structure of Internalising problems (including somatic complaints, social withdrawal, anxiety depression), Externalising problems (including aggression, hyperactivity, delinquency) and positive prosocial behaviour. Van Leeuwen, Meerschaert, Bosmans, De Medts, and Braet (2006) with a Belgium sample of children aged 4–8 years) also found evidence for a three-factor solution of Internalising problems, Externalising problems and prosocial behaviour (including 2 positive scores on peer problems: 'well liked', 'has a good friend'). Goodman, Lamping, and Ploubidis (2010) analysed results from 18,222 British children and also found some support for internalising (combining emotional and peer items), externalising (combining hyperactivity and behavioural items), and prosocial subscales. In contrast 2 recent studies have supported the Goodman 5 factor model with large samples of typically developing children (McCory & Layte, 2012 in Ireland, $n = 8{,}000+$; Niclasen et al., 2012 in Denmark, $n = 70{,}000+$).

However, there is some evidence that the structure of the SDQ may be different with samples with ID. Using CFA, Haynes, Gilmore, Shochet, Campbell, and Roberts (2013) examined the factor structure of a self completed SDQ with 128 children with ID and found a three factor model (positive relationships, negative behaviour and emotional competence), rather than the 5 factors identified by Goodman (1997, 2001).

Although to date the SDQ has not been used with adults with ID, we included it as part of a larger study (Prasher, Glenn, Cunningham, & Glenholmes, 2013) assessing psychiatric problems in 18–43 year old adults with Down syndrome (DS). The majority of items on the SDQ are sufficiently general to enable their use with adults as well as children e.g. item 1 "*Considerate of other people's feelings*"; four items were modified to remove references to children. *W*e examined the psychometrics of the SDQ with this sample, whether scores differentiated those with and without a psychiatric diagnosis, and how sensitive and specific for mental health problems the SDQ was with this population.

2. Method

Ethical scrutiny and approval was obtained from the local NHS and University Committees.