Measuring Stigma in Children Receiving Mental Health Treatment: Validation of the Paediatric Self-Stigmatization Scale (PaedS)

Anya Kaushik [1]

Efstathios Papachristou [2]

Danai Dima [3,4,5]

Sandra Fewings [1]

Evgenia Kostaki [1]

George B. Ploubidis [6]

Marinos Kyriakopoulos [1,5, 7] *

[1] National and Specialist Acorn Lodge Inpatient Children Unit, South London and Maudsley NHS Foundation Trust, London, UK

[2] Department of Primary Care & Population Health, University College London, London, UK

[3] Department of Psychology, School of Arts and Social Sciences, City University London, London, UK

[4] Department of Neuroimaging, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK

[5] Department of Psychiatry, Icahn School of Medicine at Mount Sinai, New York, USA

[6] Centre for Longitudinal Studies, Department of Social Science, University College London, London, UK

[7] Department of Child and Adolescent Psychiatry, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK

* Corresponding Author

Dr Marinos Kyriakopoulos PhD, FRCPsych

Department of Child and Adolescent Psychiatry,

Institute of Psychiatry, Psychology and Neuroscience (PO66)

King's College London

De Crespigny Park

London SE5 8AF

Email: marinos.kyriakopoulos@kcl.ac.uk

Telephone number: 00442032284521

Abstract

Background: Research on the impact of stigma associated with mental illness in children is scarce. Considering the known negative effects of stigma associated with mental illness in adults, it is crucial to explore the stigma experienced by children who access mental health treatment. However, no scale measuring self-stigmatization in younger children is available to date. This study aimed to develop and validate such a scale, the Paediatric self-Stigmatization scale (PaedS).

Methods: A total of 156 children (119 receiving outpatient and 37 receiving inpatient treatment), aged 8 – 12 years, completed the PaedS, the Self-Perception Profile for Children and the Pediatric Quality of Life Inventory (PedsQL - Child Report, ages 8 – 12). In addition, parents completed the PedsQL (Parent Report for Children, ages 8 – 12), the Strengths and Difficulties Questionnaire (SDQ) and a modified subscale of the PaedS measuring the children's rejection by others due to their mental health difficulties.

Results: A confirmatory factor analysis showed that a four-factor structure, comprising Societal Devaluation, Personal Rejection, Self-Stigma and Secrecy scales, had excellent fit to the data (CFI=0.95; TLI=0.95; RMSEA=0.05). Child-reported PaedS scores were positively correlated with parental-reported PaedS scores and negatively

with PedsQL, the SDQ, and 5 out of 6 sub-scales of the Self-Perception Profile for Children, suggesting adequate convergent validity (all p-values<0.05).

Conclusions: The PaedS is a valid instrument which is hoped to advance the understanding of self-stigmatization in children with mental health difficulties and contribute to its prevention.

Introduction

Mental health difficulties carry one of the largest disease burdens worldwide, with longstanding individual and societal implications [1]. Aside from dementia, the majority of adult mental health disorders begin in childhood, with 10% of children aged between 5-16 years old experiencing a diagnosable mental health condition at any given time-point [2]. It is becoming increasingly clear that without prioritization of early mental health recognition, prevention and care, there are population-wide effects, including poorer physical health outcomes, lower levels of employment, increased criminal behaviour and a higher economic load [3]. Unfortunately, findings suggest that less than half of those in need of treatment access mental health support to meet their needs [2]. Whilst there is a move to increase investment into timely and effective mental health services for young people [4], this must be coupled with a concerted effort to address stigma, one of the most significant barriers to accessing support [5, 6].

Goffman's widely cited definition of stigma has described it as a "deeply discrediting attribute," which "reduces the bearer from a whole and usual person to a tainted, discounted one" [7]. It results in prejudice and discrimination from others against the stigmatized individual (i.e. societal stigma), and at its worst leads to internalization of the negatively held beliefs by the recipient i.e. self-stigma.

Despite the limited evidence base, available data strongly support that children and adolescents with mental health difficulties are stigmatized against [8]. In fact, they are thought to be more stigmatized than their adult counterparts, with numerous pejorative labels used to describe them [9]. It is therefore unsurprising that stigma is posited to discourage all stigmatized individuals from accessing services, because of a concern that acceptance of a mental illness label may reduce life opportunities and self-esteem.

Whilst more work is being done to understand the role of stigma amongst adults needing mental health support, the role of stigma in children with mental health needs is inadequately investigated. Developmentally, children are going through significant neurodevelopmental and psychological changes which would impact on their perceptions, maturity and insight into their difficulties and their understanding of stigma. Hence, findings in adults cannot be simply extrapolated to children, as the social and cognitive processes that are affecting these experiences may not mirror those of children [8].

In order to effectively address the impact of stigma in the lives of children with mental health needs, one must first be able to identify the extent and manifestations of stigma in this younger group. For instance, stigma can manifest in different ways and is in

itself comprised of a number of components, including societal devaluation, personal rejection, secrecy and self-stigma [8]. Assessing stigma and its components calls for validated tools that can be reliably used to measure each individual aspect as needed, and allow for comparisons of stigma between different patient groups and at different time points.

It is likely that research into the stigma and self-stigma of mental health difficulties in children has been hindered by the absence of such validated tools. Moses [10] developed a stigma measure to evaluate the stigmatization of adolescents who experienced mental health difficulties. The scale was shown to have good internal reliability and construct validity, and was successfully used to look at stigmatization in a group of 60 adolescents. However, in order to be able to understand children's views and experiences, there is a need for a child-specific measure, which is lacking from the literature.

The aim of this study was to develop and validate a new instrument, the Paediatric self-Stigmatization Scale (PaedS), which can be used to evaluate self-stigmatization in children accessing mental health services. Such a measure is expected to be an important resource for the purpose of further research into children's experiences, allowing direct comparisons between different conditions and treatment groups and

providing guidance on the direction of future anti-stigma campaigns in children, with a view to facilitate service engagement and improve long term prognosis.

Methods

Recruitment

Children aged 8-12, of either gender, who were receiving mental health treatment from outpatient clinics or an inpatient national unit, within South London and Maudsley NHS Foundation Trust, were recruited through referrals made by their care coordinators or identified from the electronic hospital database.

Children and their parents/carers were given written and verbal information about the study. Once written consent from parent/carer and assent from children were obtained, children and their parent/carer completed a battery of questionnaires. Children received a £10 book voucher for their participation. Participants were given the opportunity to ask any questions and withdraw from the study at any time.

The study was approved by the National Research Ethics Service Committee South East Coast – Kent.

The PaedS, a modified version of the scale developed for measuring stigma in adolescents [10] was used. Modifications in language and reference groups were made to ensure the scale would be suitable for use with children aged 8-12 years (Appendix A). This involved simplification of terms the authors felt were difficult for younger children to understand and changes in technical terms and language. The scale was further modified through personal interviews and focus groups with children within this age range at the beginning of the study. These allowed children to feed back on any words they felt need replacing and more understandable terms were introduced. Like the adolescent scale, it consists of 4 subscales that measure societal devaluation (14 items), personal rejection (5 items), self-stigma (5 items) and secrecy of receiving mental health treatment (7 items). All subscales with the exception of the personal rejection scale are scored using a 4-point Likert scale in which higher scores indicate greater stigmatization. The personal rejection subscale contains items for which the child is requested to give a positive or a negative answer (Yes = 1, No = 0). A modified version of this subscale was also independently completed by the child's parent or carer (Appendix B). The PaedS takes around 5 – 10 minutes to complete.

Perceived self-concept was measured with the Self-Perception Profile for Children (SPPC) [11,12], a 36-item scale for children 8-12 years of age designed to evaluate

specific judgments of children's perceived competence in the domains of scholastic competence, social acceptance, athletic competence, physical appearance, and behavioural competence, as well as a global perception of self-worth or self-esteem.

In addition, quality of life was measured using the Pediatric Quality of Life Inventory version 4.0 [13], which consists of 4 subscales (physical, emotional, social and school functioning) of 23 items in total scored on a 5-point Likert scale. Scores can range from "Never" to "Almost always", with a higher score indicating better quality of life. The relevant version for 8-12 year old children of this scale was rated by children and their parents.

Finally, information about the participating children's age, gender, diagnosis, medication, parental occupation and score on the Children's Global Assessment Scale (CGAS) [14] reflecting their current level of functioning, was collected. The parent or carer was also asked to complete the Strengths and Difficulties Questionnaire, Parent Version (SDQ) [15].

Statistical Analysis

The internal reliability of the societal devaluation, personal rejection, self-stigma and secrecy subscales of the PaedS in our sample was assessed using Cronbach's alpha coefficients.

The construct validity of the PaedS was evaluated using a Confirmatory Factor Analysis (CFA). The hypothesized factor structure was derived from the study by Moses [10] that explored the scale structure among a sample of adolescents.

Accordingly, four latent factors representing the four subscales of the PaedS were defined using the corresponding scale items as observed factor indicators. The CFA was performed using a 2 parameter multivariate probit analysis for categorical data [16,17] estimated with the Weighted Least Squares Mean and Variance adjusted (WLSMV) estimator. The indices of fit considered included the Comparative Fit Index (CFI), the Tucker Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA) [18]. We used the recommended cut-offs of CFI≥ 0.95, TLI≥ 0.95 and RMSEA≤ 0.06 as indicative of good model fit [18,19].

We allowed correlations between the unique variances of some individual factor indicators within the same factors using Mplus' modification indices. Such small amendments can improve model fit without substantially altering the adequacy of the hypothesized factor structure [20]. We also used bootstrapping (1000 replications) to

compute bias-corrected, and therefore more reliable and robust standard errors (SE) and 95% Confidence Intervals (CI) [21].

Convergent validity was assessed using the correlations between the PaedS subscales and: i) the subscales of the SPPC; ii) the children and parental reported SDQ subscales; iii) the parental reported PaedS; iv) the CGAS; and v) the PedsQL. Spearman's correlation coefficients were computed to account for the skewed distributions of the scores.

Only few cases had missing data on the PaedS subscales, ranging from three cases for the Personal Rejection scale to 15 cases for the Personal Devaluation scale; those with complete data did not differ from those with missing data on these scales with respect to their parental reported PaedS, SDQ, global self-worth, total self-and parental reported Peds QL, or CGAS scores, and they were, therefore, treated as missing completely at random. With the exception of responsiveness which could not be assessed due to the cross-sectional nature of our study, our analytical strategy complies with the Consensus-based Standards for the selection of health status Measurement Instruments (COSMIN) checklist of assessing measurement instruments [22].

The CFA was performed using the Mplus statistical package (Version 6) [23]. All other analyses were carried out using Stata/SE 14.0 [24].

Results

 A total of 156 children were recruited. Of these, 37 were inpatients at a national children's unit and 119 were outpatients from community clinics within South London and Maudsley NHS Foundation Trust. The sample included children representative of those seen in clinical settings with a wide range of functional impairment. The majority of the sample (55%) had CGAS scores between 40 and 60 but the sample also included children with lower and higher scores (7% of children had CGAS scores under 30 and 11% over 70). The children's demographic and clinical characteristics are summarized in Table 1.

[Table 1 about here]

Table 2 presents the items of the PaedS and their associated means and standard deviations. The internal consistency was highest for the societal devaluation and self-stigma scales (Cronbach's alpha=0.86), followed by the secrecy scale (Cronbach's alpha=0.79) and the personal rejection scale (Cronbach's alpha=0.72).

[Table 2 about here]

Model fit of the proposed four-dimensional factor structure was excellent as all fit indices were within the recommended cut-offs (CFI=0.95; TLI=0.95; RMSEA=0.05). With the exception of item 2 of the Societal Devaluation Scale (0.36) and item 1 of the Secrecy Scale (0.17), all other 29 factor loadings were satisfactory (≥0.40). The individual factor loadings and corresponding bootstrapped SE (95% CI) are presented in Table 3. Table 3 also shows the three thresholds for the Societal Devaluation, Self-Stigma and Secrecy Scales as well as the single threshold for the Personal Rejection Scale corresponding to the distinction between the four and the two ordinal category response options of the scales, respectively. The correlations between the factors were high, ranging from 0.45 for the association between the Societal Devaluation and the Secrecy subscales to 0.82 for the association between the Personal Rejection and the Self-Stigma subscales (all p-values for the bivariate correlations between factors <0.001).

[Table 3 about here]

The convergent validity of the PaedS was also satisfactory. The Spearman's correlation coefficients for the relationships between subscales of the PaedS and the

subscales of the Self-Perception Profile Scale, the parental-reported PaedS and the parental-reported SDQ are summarized in Table 4. Overall, total child-reported PaedS scores correlated significantly negatively with the Scholastic Competence (rho= -0.20, p<0.05), Social Acceptance (rho= -0.47, p<0.01), Athletic Competence (rho= -0.29, p<0.01), Physical Appearance (rho= -0.51, p<0.01) and Global Self-worth (rho= -0.42, p<0.01) subscales of the Self-Perception Profile. In addition, they correlated significantly positively with parental reported PaedS scores (rho= 0.19, p<0.05) but also with the Total Difficulties and Impact Score subscales of the parental reported SDQ (all p values<0.05; Table 4). Total child-reported PaedS scores also correlated significantly with all scales of the children- and parental- PedsQL. The correlation coefficients ranged from -0.19 for the parental-reported School Functioning scale to -0.59 for the child-reported Social Functioning scale (both p values<0.01; Table 4). Finally, the Personal Rejection Scale of the PaedS correlated significantly with the total CGAS scores (rho=-0.20, p=0.02; Table 4).

[Table 4 about here]

In this study, we did not calibrate cut-offs for the PaedS subscales in the absence of additional stigmatization measuring instruments. Validation studies among independent paediatric clinical samples should yield score distributions for the PaedS subscales similar to the ones reported in this study prior to establishing reliable cut-

offs. Nonetheless, we did calculate the quintile distributions in our sample, and children in the upper quintile of the distributions had scores >2.78, > 0.60, > 2.80, and > 3.29 for the societal devaluation, personal rejection, self-stigma and secrecy of receiving mental health treatment subscales of the PaedS respectively.

Discussion

In the current study, we developed and validated the PaedS, a scale measuring self-stigmatization in children receiving mental health treatment, across a variety of clinical settings. To the best of our knowledge, this is the first scale available to evaluate self-stigmatization in paediatric clinical populations, and is expected to facilitate further studies in understanding the contribution of self-stigma in younger children experiencing mental health difficulties.

The PaedS was developed with adaptation of an earlier scale used for adolescents [10] through a robust process including input by younger children in contact with mental health services. In the CFA analysis all fit indices were excellent and, with the exception of two questions, the items of the PaedS loaded highly on their respective factors, suggesting that it has a very clean four-dimensional internal factor structure in this age-group. The sample size was adequate and in line with current

recommendations of studies using empirical simulations to estimate minimal sample sizes to produce reproducible results when conducting factor analyses, such as including more than 150 cases when the variables-to-factors ratio is at least 7 [25]. Additionally, in order to obtain unbiased estimates for the factor loadings, we generated bias-corrected (BC) bootstrap confidence intervals. We used the recommended bootstrap sample size of 1,000 [26] to avoid possible differences in the BC- confidence intervals obtained by the different bootstrap samples generated for each replication [27,28].

The four subscales comprising the PaedS demonstrated very good internal consistency. Correlation between factors was high, an aspect which was not present in the adolescent scale [10]. Convergent validity was also satisfactory, with the PaedS showing significant negative correlations with most aspects of children's self-perception profile and their difficulties as evaluated by parental measures. In addition, PaedS total scores were associated with poorer quality of life and lower functional outcomes, as well as personal rejection assessed by parents.

As self-stigmatization begins early in the journey of young people with mental health difficulties [8], the importance of developing valid measures for it cannot be underestimated. Considering the multifaceted nature of self-stigmatization, understanding its components is crucial in the accurate identification of areas for

intervention aiming to reduce its impact. The PaedS accurately captures several fundamental aspects of children's perception associated with negative societal attitudes, self-stigmatization and the need to hide their mental health difficulties. This is in line with studies identifying stigmatization towards them by their peers (e.g. [29, 30, 31] and by adults (e.g. [32, 33]). Although self-stigmatization is driven to a large extent by societal/others' attitudes, its self-directed component is likely to significantly affect children's wellbeing and access of services and a separate target of anti-stigma campaigns. As a result, the PaedS can be used as a valuable tool alongside scales measuring peers' attitudes towards children and young people with mental health difficulties, like the recently developed Peer Mental Health Stigmatization Scale [34].

An interesting aspect of self-stigmatization identified in the current study is also its association with measures of severity of a child's mental health difficulties, functional impairment and quality of life. This is in line with research in adults negatively associating internalized stigma with a range of psychosocial and psychiatric variables [35]. Although the study's cross-sectional nature does not allow for firm conclusions on the link between severity of mental health difficulties and stigma in this age group, it opens up possibilities of further exploration in that direction. This is an area of stigma which would benefit from further research as the use of evidence-based interventions to improve functional outcomes may be effective not only in reducing illness burden but also alleviating self-stigmatization.

The PaedS can also inform community programs targeting stigma in young children with mental health difficulties. This can be achieved through identification of children who are more likely to experience stigma and longitudinal evaluation of self-stigmatization following community interventions to address it. The use of the PaedS to compare self-stigmatization of children with different mental health conditions and children receiving treatment in different clinical settings is expected to improve our understanding of how mental health stigma develops in younger ages which is likely to increase the effectiveness of early intervention.

One limitation of the current study is its relatively small number of participants, which did not allow for a more detailed exploration of the significance of other potentially relevant clinical aspects on self-stigmatization (e.g. diagnosis or medication). However, given the young age of the recruited children and the fact they were recruited from clinical services, the current sample allowed for a good representation of most mental health conditions and levels of severity, including children admitted to a national mental health unit.

Conclusions

In conclusion, the PaedS, the first scale to measure self-stigmatization in children aged 8 – 12 years receiving mental health treatment, was demonstrated to be a valid and psychometrically sound instrument suitable for use in this clinical group. It is hoped that it will advance future research and promote the understanding of self-stigmatization processes in children, contributing to its prevention.

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Table 1: Demographic and clinical characteristics

Characteristics		N	%
Age	8-11 years	96	60.4
	11-12 years	63	39.6
Gender	Male	96	60.4
	Female	63	39.6
Diagnosis	Emotional/Behavioural	51	32.1
	Neurodevelopmental	66	41.5
	Both Emotional/behavioural and Neurodevelopmental	42	26.4
Medication	Yes	87	54.7
	No	72	45.3

Table 2. Description of Paediatric Self-Stigmazation Scale (8-12) by Subscale

	M (SD)
Societal Devaluation Scale[a], *Cronbach's α=0.86*	2.27 (0.58)
1. Most children my age will bully children if they know he/she is receiving mental health treatment.	2.45 (1.03)
2. Most people believe that children with difficult feelings or behaviour are just as clever as other children. (R)	2.37 (0.88)
3. Most children look down on other children receiving mental health treatment.	2.58 (0.94)
4. Most believe that a child with difficult feelings or behaviour is dangerous.	2.29 (1.04)
5. Many are afraid of children who are getting mental health treatment.	2.08 (0.90)
6. People believe that children with difficult feelings or behaviour are to blame for their problems.	2.13 (1.03)
7. Most schools would worry about having children with difficult feelings or behaviour at their school.	2.54 (1.03)
8. Most children would not want to play with somebody that has difficult feelings or behaviour.	2.28 (1.06)
9. Most people believe that children with difficult feelings or behaviour cannot be trusted.	2.15 (1.01)

10. Most people believe that children with difficult feelings or behaviour will never get better.	2.19 (1.08)
11. Most people believe that children with mental health problems cannot get good results in school.	2.17 (1.02)
12. Most people believe that children with difficult feelings or behaviour cannot take care of themselves.	2.25 (0.95)
13. Teachers and other school staff give children with difficult feelings or behaviour a hard time.	2.26 (1.12)
14. Most girls/boys will not date someone who has mental health issues.	2.13 (1.00)
Personal Rejection Scale[b], *Cronbach's α =0.72*	0.32 (0.31)
1. Do you ever feel like people are rude to you because of your difficult feelings or behaviour?	0.47 (0.50)
2. Have people used the fact that you are receiving help to hurt your feelings?	0.33 (0.47)
3. Do you ever feel like people look down on you when they find out you are receiving help?	0.36 (0.48)
4. Have you ever been avoided by people because they knew you were getting treatment for difficult feelings or behaviour?	0.23 (0.42)
5. Did some friends reject you after they found out you were receiving help?	0.19 (0.39)

Self-Stigma Scale[c], *Cronbach's α=0.86*	2.13 (0.87)
1. How often do you feel different from other children your age because you have difficult feelings or behaviour?	2.35 (1.04)
2. How often do you feel people may not like you if they know you have difficult feelings or behaviour?	2.08 (1.07)
3. How often do you feel people will not want to be friends with you if they know you have difficult feelings or behaviour?	2.01 (1.09)
4. How often do you worry that other people are uncomfortable with you because of your difficult feelings or behaviour?	2.07 (1.07)
5. How often do you feel embarrassed about your difficult feelings or behaviour?	2.13 (1.13)
Secrecy Scale[a], *Cronbach's α=0.79*	2.70 (0.69)
1. There is no reason for a person to hide the fact that he or she is receiving help for difficult feelings or behaviour. (R)	2.25 (1.03)
2. I usually wait until I know a person really well before I tell them I am receiving help for difficult feelings or behaviour.	3.00 (1.09)
3. When I meet people for the first time, I make a special effort to keep the fact that I am receiving help to myself.	2.98 (0.98)
4. I often worry that someone will tell others about my difficult feelings or behaviour without my permission.	2.81 (1.05)

5. I feel like I need to hide the fact that I have difficult feelings or behaviour from children my age.	2.52 (1.07)
6. I often feel the need to hide the fact that I am receiving help.	2.49 (1.08)
7. If you are getting help with your difficult feelings or behaviour, the best thing to do is keep it to yourself.	2.70 (1.00)
R: Reverse scored [a]Response scale: 1 (*I disagree a lot*), 2 (*I disagree*), 3 (*I agree*), to 4 (*I agree a lot*) [b]Response scale: 1 (*yes*), 0 (*no*) [c] Response scale: 1 (*Very rarely*), 2 (*Rarely*), 3 (*Often*), to 4 (*Very often*)	

Table 3. Factor loadings, standard errors and bootstrapped 95% CI of confirmatory

factor analysis for the Paediatric Stigma Scale in ages 8-12 years old

	Standardized Factor Loadings	Bias-corrected bootstrapped standard error (95% CI)	Thresholds (Tau) (SE)		
			1	2	3
Societal Devaluation Scale (S1)					
Item 1	0.63	0.07 (0.47-0.74)	-0.84 (0.12)	0.14 (1.10)	0.82 (0.11)
Item 2	0.36	0.10 (0.14-0.54)	-1.13 (0.13)	0.37 (0.10)	1.07 (0.13)
Item 3	0.66	0.07 (0.51-0.78)	-1.04 (0.12)	-0.16 (0.10)	0.95 (0.12)
Item 4	0.51	0.09 (0.30-0.66)	-0.56 (0.11)	0.18 (0.10)	1.05 (0.13)
Item 5	0.40	0.10 (0.18-0.57)	-0.53 (0.11)	0.52 (0.11)	1.47 (0.16)
Item 6	0.72	0.06 (0.60-0.82)	-0.39 (0.11)	0.37 (0.11)	1.16 (0.13)
Item 7	0.52	0.09 (0.33-0.67)	-0.87 (0.12)	-0.06 (0.10)	0.80 (0.12)
Item 8	0.82	0.04 (0.72-0.89)	-0.56 (0.10)	0.26 (0.10)	0.94 (0.12)
Item 9	0.74	0.06 (0.62-0.83)	-0.52 (0.10)	0.46 (0.11)	1.10 (0.13)
Item 10	0.79	0.05 (0.69-0.87)	-0.47 (0.10)	0.43 (0.10)	0.92 (0.12)
Item 11	0.61	0.07 (0.45-0.73)	-0.48 (0.11)	0.37 (0.10)	1.13 (0.13)

Item 12	0.65	0.07 (0.51-0.79)	-0.69 (0.11)	0.30 (0.10)	1.23 (0.14)
Item 13	0.56	0.08 (0.39-0.69)	-0.46 (0.10)	0.29 (0.10)	0.84 (0.12)
Item 14	0.40	0.10 (0.19-0.57)	-0.44 (0.11)	0.40 (0.11)	1.21 (0.14)
Personal Rejection Scale (S2)					
Item 1	0.81	0.07 (0.67-0.94)	0.06 (0.10)		
Item 2	0.73	0.07 (0.59-0.87)	0.45 (0.11)		
Item 3	0.80	0.07 (0.66-0.92)	0.36 (0.11)		
Item 4	0.79	0.06 (0.65-0.91)	0.73 (0.11)		
Item 5	0.59	0.10 (0.39-0.74)	0.88 (0.12)		
Self-Stigma Scale (S3)					
Item 1	0.77	0.05 (0.66-0.86)	-0.61 (0.11)	0.07 (0.10)	1.04 (0.13)
Item 2	0.90	0.03 (0.82-0.95)	-0.31 (0.10)	0.53 (0.11)	1.01 (0.13)
Item 3	0.86	0.04 (0.76-0.93)	-0.15 (0.10)	0.52 (0.11)	1.04 (0.13)
Item 4	0.81	0.05 (0.68-0.90)	-0.24 (0.11)	0.43 (0.11)	1.09 (0.13)
Item 5	0.72	0.06 (0.59-0.83)	-0.24 (0.10)	0.33 (0.11)	0.97 (0.12)
Secrecy Scale (S4)					
Item 1	0.17	0.11 (-0.06-0.37)	-0.56 (0.10)	0.29 (0.11)	1.04 (0.13)

Item 2	0.47	0.10 (0.25-0.64)	-1.06 (0.12)	-0.50 (0.11)	0.12 (0.10)
Item 3	0.60	0.08 (0.44-0.75)	-1.30 (0.14)	-0.55 (0.11)	0.33 (0.10)
Item 4	0.81	0.06 (0.69-0.91)	-1.02 (0.12)	-0.38 (0.10)	0.48 (0.11)
Item 5	0.91	0.03 (0.85-0.96)	-0.77 (0.12)	-0.04 (0.11)	0.75 (0.12)
Item 6	0.90	0.04 (0.82-0.97)	-0.74 (0.12)	0.03 (0.10)	0.74 (0.11)
Item 7	0.64	0.07 (0.49-0.77)	-1.09 (0.14)	-0.20 (0.10)	0.65 (0.11)

Model fit: CFI=0.95; TLI=0.95; RMSEA=0.05

Correlations between Subscales:

S1 with S2: 0.67, p<0.001

S1 with S3: 0.69, p<0.001

S1 with S4: 0.45, p<0.001

S2 with S3: 0.82, p<0.001

S2 with S4: 0.59, p<0.001

S3 with S4: 0.67, p<0.001

Table 4. Non-parametric correlation coefficients between subscales of the child-reported PAEDS (8-12 years old) with subscales of the Self-Perception Profile Scale, the parental-reported PAEDS and parental-reported SDQ

| | M(SD) | Children-reported PaedS 8-12 | | | | |
		Societal Devaluation Scale	Personal Rejection Scale	Self-Stigma Scale	Secrecy Scale	PaedS (8-12) Total Score
Self-Perception Profile						
Scholastic Competence	15.30 (4.18)	-0.08	-0.22**	-0.18*	-0.13	-0.20*
Social Acceptance	15.99 (4.74)	-0.29**	-0.45**	-0.46**	-0.30**	-0.47**
Athletic Competence	16.33 (4.70)	-0.23**	-0.30**	-0.34**	-0.12	-0.29**
Physical Appearance	16.76 (4.92)	-0.36**	-0.40**	-0.45**	-0.39**	-0.51**
Behavioural Conduct	15.30 (4.38)	-0.17	-0.12	-0.14	0.03	-0.09
Global Self-worth	17.07 (4.49)	-0.32**	-0.44**	-0.46**	-0.23**	-0.42**

Parental-reported PaedS 8-12	1.97 (1.63)	0.10	0.14	0.16	0.10	0.19*
Parental-reported SDQ						
Total difficulties	21.26 (7.80)	0.07	0.17*	0.17*	0.06	0.19*
Impact score	4.77 (2.95)	0.14	0.29**	0.19*	0.15*	0.26**
Parental-reported PedsQL						
Physical functioning (Physical health summary score)	69.42 (21.93)	-0.22**	-0.20*	-0.22**	-0.01	-0.24**
Emotional functioning	38.70 (20.92)	-0.12	-0.18*	-0.28**	-0.21*	-0.29**
Social functioning	56.23 (24.86)	-0.24**	-0.27**	-0.22**	-0.12	-0.31**
School functioning	52.03 (21.14)	-0.17	-0.12	-0.08	-0.07	-0.19*

Psychosocial health summary score	48.77 (18.65)	-0.21*	-0.22**	-0.22**	-0.13	-0.29**
Total score	53.93 (17.96)	-0.24**	-0.23**	-0.23**	-0.10	-0.30**
Child-reported PedsQL						
Physical functioning (Physical health summary score)	70.45 (22.72)	-0.33**	-0.39**	-0.41**	-0.20*	-0.40**
Emotional functioning	53.67 (23.55)	-0.36**	-0.40**	-0.49**	-0.28**	-0.48**
Social functioning	66.79 (25.68)	-0.41**	-0.56**	-0.57**	-0.33**	-0.59**
School functioning	57.21 (22.51)	-0.17*	-0.25**	-0.21*	-0.22**	-0.27**
Psychosocial health summary score	59.22 (20.07)	-0.38**	-0.49**	-0.52**	-0.34**	-0.54**
Total score	62.03 (19.27)	-0.39**	-0.50**	-0.53**	-0.32**	-0.54**

Children's Global Assessment Scale	54.54 (14.88)	-0.15	-0.20*	-0.14	-0.10	-0.15

*p<0.05;

**p<0.01;

PaedS: Paediatric Stigma; SDQ: Strengths and Difficulties Questionnaire; PedsQL: Pediatric Quality of Life Inventory

Paediatric self-Stigmatization scale (PaedS)

1. Most children my age will bully children if they know he/she is receiving mental health treatment.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
2. Most people believe that children with difficult feelings or behaviour are just as clever as other children.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
3. Most children look down on other children receiving mental health treatment.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
4. Most believe that a child with difficult feelings or behaviour is dangerous.	I disagree a lot □	I disagree □	I agree □	I agree a lot □

5. Many are afraid of children who are getting mental health treatment.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
6. People believe that children with difficult feelings or behaviour are to blame for their problems.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
7. Most schools would worry about having children with difficult feelings or behaviour at their school.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
8. Most children would not want to play with somebody that has difficult feelings or behaviour.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
9. Most people believe that children with difficult feelings or behaviour cannot be trusted.	I disagree a lot □	I disagree □	I agree □	I agree a lot □

	I disagree a lot	I disagree	I agree	I agree a lot
10. Most people believe that children with difficult feelings or behaviour will never get better.	□	□	□	□
11. Most people believe that children with mental health problems cannot get good results in school.	□	□	□	□
12. Most people believe that children with difficult feelings or behaviour cannot take care of themselves.	□	□	□	□
13. Teachers and other school staff give children with difficult feelings or behaviour a hard time.	□	□	□	□
14. Most girls/boys will not date someone who has mental health issues.	□	□	□	□

	Yes	No
1. Do you ever feel like people are rude to you because of your difficult feelings or behaviour?	□	□
2. Have people used the fact that you are receiving help to hurt your feelings?	□	□
3. Do you ever feel like people look down on you when they find out you are receiving help?	□	□
4. Have you ever been avoided by people because they knew you were getting treatment for difficult feelings or behaviour?	□	□
5. Did some friends reject you after they found out you were receiving help?	□	□

1. How often do you feel different from other children your age because you have difficult feelings or behaviour?	Very rarely □	Rarely □	Often □	Very often □
2. How often do you feel people may not like you if they know you have difficult feelings or behaviour?	Very rarely □	Rarely □	Often □	Very often □
3. How often do you feel people will not want to be friends with you if they know you have difficult feelings or behaviour?	Very rarely □	Rarely □	Often □	Very often □
4. How often do you worry that other people are uncomfortable with you because of your difficult feelings or behaviour?	Very rarely □	Rarely □	Often □	Very often □
5. How often do you feel embarrassed about your difficult feelings or behaviour?	Very rarely □	Rarely □	Often □	Very often □

1. There is no reason for a person to hide the fact that he or she is receiving help for difficult feelings or behaviour.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
2. I usually wait until I know a person really well before I tell them I am receiving help for difficult feelings or behaviour.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
3. When I meet people for the first time, I make a special effort to keep the fact that I am receiving help to myself.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
4. I often worry that someone will tell others about my difficult feelings or behaviour without my permission.	I disagree a lot □	I disagree □	I agree □	I agree a lot □
5. I feel like I need to hide the fact that I have difficult feelings or behaviour from children my age.	I disagree a lot □	I disagree □	I agree □	I agree a lot □

6. I often feel the need to hide the fact that I am receiving help.	I disagree a lot ☐	I disagree ☐	I agree ☐	I agree a lot ☐
7. If you are getting help with your difficult feelings or behaviour, the best thing to do is keep it to yourself.	I disagree a lot ☐	I disagree ☐	I agree ☐	I agree a lot ☐

Appendix B

Paediatric self-Stigmatization scale – Parent completed subscale

	Yes	No
1. Do you ever feel like people are rude to your child because of his/her difficult feelings or behaviour?	□	□
2. Have people used the fact that your child is receiving help to hurt his/her feelings?	□	□
3. Do you ever feel like people look down on your child when they find out he/she is receiving help?	□	□
4. Has your child ever been avoided by people because they knew he/she was getting treatment for difficult feelings or behaviour?	□	□
5. Did some friends reject your child after they found out he/she was receiving help?	□	□