**Development of measures to assess personal recovery in young people
treated in specialist mental health services**

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Abstract

Background

Recovery has become a central concept in mental health service-delivery and several recovery-focused measures exist for adults. The concept's applicability to young people's mental health experience has been neglected and no measures yet exist.

Aim

To develop measures of recovery for use in specialist child and adolescent mental health services.

Method

Based on 21 semi-structured interviews, three recovery measures were devised, one for completion by the young person and two for completion by the parent/carer. Two parent/carer measures were devised in order to assess both their perspective on their child's recovery and their own recovery process. The questionnaires were administered to a UK sample of 47 young people (10-18 years old) with anxiety and depression and their parents, along with measures of emotional and behavioural problems and self-esteem.

Results

All three measures had high internal consistency ($\alpha \geq .89$). Young people's recovery scores were correlated negatively with emotional and behavioural difficulties ($r = -.75$) and positively with self-esteem ($r = .84$). Parent and young persons' reports of the young person's recovery were positively correlated ($r = .61$). Parent report of the young person's recovery and of their own recovery process were positively correlated ($r = .75$).

Conclusion

The three measures have the potential to be used in mental health services to assess recovery processes in young people with mental health difficulties and correspondence with symptomatic improvement. The measures provide a novel way of capturing the parental/caregiver perspective on recovery and caregivers' own wellbeing.

Key Practitioner Message

- No tools exist to evaluate recovery-relevant processes in young people treated in specialist mental health services
- This study reports on the development and psychometric evaluation of three self-report recovery-relevant assessments for young people and their caregivers
- Findings indicate a high degree of correspondence between young person and caregiver reports of recovery in the former
- The recovery assessments correlate positively with standardized symptom-focused measures and self-esteem

Introduction

Recovery has become a prominent philosophy underpinning mental health service redesign and evaluation internationally. Current mental health policy in the UK indicates an intention that recovery-oriented services are developed and evaluated across all specialties and age groups. The current evidence-base on recovery has, however, been derived largely from adults with severe mental illness. Given this evident gap in the literature on the conceptualisation and assessment of recovery specifically with respect to young people, the current study aimed to develop dual-perspective recovery-focused tools that were derived from the first hand accounts of young service users and their caregivers. Dual perspective assessments are necessary given it is considered essential practice to obtain ratings of child mental health from parents/caregivers as well as young people themselves.

Within the literature, recovery is conceived as an idiographic process - each person's recovery is unique. At the same time, reviews of the recovery literature indicate a discrete number of common recovery-enhancing processes involving empowerment and control, positive identity development, social connectedness, hope, optimism, and discovering meaning and purpose (Tew et al., 2012). This suggests some validity to a nomothetic approach to assessing recovery processes and, indeed such an approach is necessary given the requirement for valid service evaluation. That is, measures focusing only on symptomatic change may not capture the progress brought about by recovery-focused interventions (Slade, 2009). Therefore, supplementing routine symptom-based outcome measures with

recovery-focused assessments in clinical practice may provide a more holistic evaluation of service effectiveness. Importantly, the use of recovery-focused measures alongside routine outcome measures is necessary if the relationship between recovery processes and symptomatic change is to be understood. Although personal recovery is conceived as distinct from clinical recovery this should not imply that they do not co-vary. Indeed, research suggests that recovery in adults is inversely correlated with psychiatric symptoms (Corrigan, Giffort, Rashid, Leary & Okeke, 1999; Markowitz, 2001; Neil *et al.* 2009; Resnick, Rosenheck & Lehman, 2004). Several measures of recovery in adults have been developed (see Sklar & Groessl, 2013, for a review). There are currently no measures that were designed specifically to assess recovery in young people with mental health problems; this is likely a result of a lack of conceptual and empirical work in this client group.

Some adult recovery models emphasise phases or stages (e.g. Andresen, Oades & Caputi, 2003; Baxter & Diehl, 1998; Davidson & Strauss, 1992; Spaniol, Wewiorski, Gagne & Anthony, 2002) although empirical support for the validity of the stages proposed in such models is limited at present. For example, Andresen *et al.* (2003) developed a five-stage recovery model, operationalized through the development of the Stages of Recovery Instrument (STORI), but found empirical support for only three of the stages, a finding that was replicated by Weeks, Slade and Hayward (2011). Other recovery models emphasize core processes or domains of recovery. For example, Whitley and Drake (2010) describe five domains of recovery (clinical, existential, functional, physical and social)

and Resnick, Fontana, Lehman and Rosenheck (2005) propose four domains (knowledge, empowerment, hope/optimism and life satisfaction). Other models include both stages and processes. Within Andresen *et al.*'s (2003) model, the five stages postulated are comprised of four component processes (hope, identity, meaning and responsibility) such that the initial 'moratorium' stage, for example, is characterised by hopelessness. Leamy, Bird, Le Boutillier, Williams and Slade (2011) suggest that recovery processes equate to measurable aspects of change whereas recovery stages provide a framework for intervention planning and evaluation. Consistent with this, we aimed to delineate specific recovery processes (e.g. social engagement) and to develop multiple indicators of these that would allow recovery-related change to be assessed (e.g. a move from social isolation to social re-engagement).

The assessment of recovery in young people should necessarily include the perspective of parents/caregivers given that they will have a critical role in helping the developing child make sense of their emotions and in supporting the child's personal goals and social development. Parents also need to be able to make sense of what is happening for their child if they are to be enabled to provide appropriate support. It has been acknowledged in the adult recovery literature that family members play a significant role in an individual's recovery (Topor, Borg, Girolamo & Davidson, 2011) and that each family member can experience his or her own recovery from the trauma of their loved one's experience of mental illness (Spaniol & Zipple, 1994). The literature suggests, therefore, that measuring recovery processes from the parental/caregiver perspective is

important. This approach is also consistent with the practice of assessing symptomatic outcomes in young people with mental health problems from the perspective of multiple informants.

A number of multiple-informant instruments exist to assess youth outcomes in clinical services. These instruments, whilst being effective for their intended purposes, were not designed specifically to assess recovery-focused outcomes. For example, the 30-item Youth Outcomes Questionnaire (Dunn, Burlingame, Walbridge, Smith & Crum, 2005) includes items that assess non-symptom based outcomes, such as the subscale assessing social isolation, but its content is more weighted towards assessing somatic symptoms, depression and anxiety, and behavioural and conduct problems. An alternative way to tap relevant intervention outcomes is to focus on strengths rather than deficits. This has much in keeping with the non-symptomatic focus of recovery and individualized intervention planning. The Behavioral and Emotional Rating Scale (Epstein & Sharma, 1998), for example, has five dimensions tapping the child's ability to relate to others, to express difficult feelings and problems and accept help, their engagement with family, functioning at school, and their outlook on their abilities (Epstein, 1999). However, these existing measures can be usefully supplemented with instruments that have been specifically designed to tap recovery-focused outcomes. Recovery assessments would aim to elicit a respondent's orientation to their specific problems, whatever they may be, and how they manage and understand them. Furthermore, recovery assessments not only enquire about the existence of social isolation but also the process of reconnection with others and one's perception of self relative

to others. Most importantly, recovery assessments would also aim to elicit the respondents' perception of the possibility of living with symptoms rather than focusing on their reduction. Basing evaluation of recovery-focused practice on instruments that are derived from conceptual accounts of recovery is likely to increase the validity of the evaluation process.

In summary, recovery-oriented service design and evaluation requires the development of reliable and valid assessment tools for mental health service users in all age groups and specialties. Currently, there are no validated measures of recovery-relevant processes in young people using specialist mental health services. It is important that such measures are developed from the first-hand accounts of young people in order to be coherent with recovery philosophy. The goal of the current study was to develop a set of recovery-relevant assessment instruments for use in specialist child and adolescent mental health services. We aimed to develop non-symptom based measures of change dimensions that young people report during their experience of mental health difficulties, along with measures of the parental perspective of this change process. Overall, three measures of recovery-related process were developed: a young person self-report of recovery process scale; a parent-report scale of their child's recovery process; and, a parent-report scale of their own recovery process.

Given that no other validated measure of recovery-related process exists for young people in the age range studied or for their parents/caregivers, we were unable to assess the new measures against existing recovery measures. Therefore, we examined the validity of the measures by examining associations with conceptually related variables.

Research in adults suggests that recovery is inversely correlated with symptoms. Consequently, we hypothesized that extent of recovery (reported by both young people and caregivers) would be inversely correlated with self-reported emotional and behavioural difficulties in young people. We also hypothesized that self-esteem would be positively correlated with recovery. Self-esteem comprises an evaluation of one's self-worth in various life domains including ones skills, abilities and interpersonal relationships. Jacobson and Greenley (2001) propose that self-esteem is central to recovery because the process of recovery involves seeing mental health problems as only part of the self rather than the individual being defined by such problems. This, they argue, promotes resistance to stigma, further self-connection and enhanced self-esteem. In support of this, Mukolo, Heflinger and Baxter (2011) found a strong positive correlation between self-esteem and recovery scores in an adult sample. Finally, we assessed degree of correspondence between scores on young person and caregiver self-report measures within parent-child participant pairs.

Method

Approvals

The study was approved by a UK National Health Service Research Ethics Committee and by the authors' institutional ethics committee.

Development of the questionnaires

Scale items were primarily derived from transcripts of 21 semi-structured interviews from a qualitative study of recovery processes in

young people with anxiety and depression (Simonds, Pons, Stone, Warren & John, 2013, *in press*). There were 9 transcripts from young people (aged 14 to 16 years) and 12 transcripts from mothers of children all treated within specialist child and adolescent mental health services (CAMHS) in Southern England. Consistent with the idea that recovery is a process that changes over time, the interviews with young people and their mothers were structured in order to capture the young person's experience of anxiety/depression at different stages and their reflections on change and the future. As such, interviews focused on: (1) the period when the young person first started to experience problems; (2) when they first went to CAMHS; (3) the current time; (4) what they think has changed between these time points; (5) how they think any changes had come about; and (6) how they envisaged the future. Each interview lasted from 30 to 60 minutes and was digitally recorded (further details of the interviews are given in Simonds et al., 2013, *in press*). Thematic analysis of interview transcripts (Braun & Clarke, 2006) was used to develop questionnaire items. After familiarization with each transcript, relevant features of the transcripts (i.e. discrete pieces of interview text) were coded. These codes were then sorted into thematic categories. The coding process was undertaken by the second and third authors and was audited by the first and last authors. Following this, items were written to represent each thematic category. For example, the interview text "I didn't know what was happening to me" was coded as 'inexplicable thoughts and feelings' and was classified within the category of 'understanding'. Items were then written to reflect the category of understanding. The transcripts from young people were used to develop a

young person recovery measure and the transcripts from mothers were used to develop two parent/caregiver recovery measures.

Development of the Recovery Questionnaire for Young People (ReQuest-YP)

Thematic analysis of transcripts indicated two broad ways of characterising experience: a period of intense distress, lack of understanding, and social withdrawal, and a period of greater understanding, more ability to take control and increased engagement with others. Within these two periods, common processes were identifiable: change in understanding of problems, in hope, in personal and social identity, and in managing problems. Broadly, these stages and processes have conceptual similarity with adult recovery frameworks reviewed and synthesised by Leamy *et al.* (2011). For example, Andresen *et al.* (2003) proposed a period of ‘moratorium’ characterized by hopelessness, identity confusion and social withdrawal followed by a period of ‘awareness’ in which the individual realizes a different self is possible. Similarly, Spaniol *et al.* (2002) formulated an initial phase ‘overwhelmed by the disability’ characterized by fearfulness, confusion and disconnection from self and others followed by ‘struggling with the disability’, a period of increasing knowledge of and engagement with problems and increasing self-confidence. Item wording was used verbatim from the interview transcripts where possible. Items were written in the first person and were aimed at the reading ability of a ten year old. The authors and five young people aged 10 to 16 years old subsequently reviewed the resulting 84 items for face validity, readability,

redundancy, and overall suitability. Thirty items were retained. Items were worded both positively and negatively in order to minimize response bias.

Development of the Recovery Questionnaire – Parent (ReQuest-P) and Parent Report of Young Person (ReQuest-PYP)

Analysis of transcripts from interviews with mothers suggested two parallel processes – that of the mother’s own experience of recovering from the distress of their child having a mental health difficulty, and that of the mother’s perception of their child’s experience of recovery. Ten working age adults (four mother/father dyads and two single mothers who parented children referred to specialist CAMHS) reviewed the initial set of questionnaire items for readability, redundancy and acceptability.

i. *Request-P*

Analysis of parent transcripts revealed two main processes underlying parents’ own experience: understanding (from confusion to increased understanding) and self-efficacy (from helplessness through to recognising and utilising strengths). An initial pool of 44 items was refined to 28 items.

ii. *Request-PYP*

Analysis of parent transcripts indicated that parents’ perceptions of their child’s recovery, similar to those of young people themselves, centred around three processes: finding meaning, developing self-efficacy and building a sense of identity. An initial pool of 65 items was developed which was subsequently refined to a set of 35 items.

For all three measures a simple four-point likert scale was used (0 *not at all* to 3 *completely*).

Reliability and Validity

The reliability and validity of the ReQuest scales were assessed using a cross-sectional design. Young people aged between 10 and 18 years experiencing a range of anxiety problems and/or depression treated within specialist child and adolescent mental health services (CAMHS) and their parents were recruited from four CAMHS teams in Southern England. Families identified by clinicians were sent questionnaire packs by post that contained a cover letter outlining the study and indicating that only one parent should complete the measures. For children aged 16 or over and parents, return of questionnaires was taken as consent. Children under 16 required written consent from parents. Questionnaire packs were returned anonymously via pre-paid envelope. In addition to the ReQuest-YP, all young people who took part completed the following measures:

- i. *Strengths and Difficulties Questionnaire – self-report form*
(SDQ; Goodman, Meltzer & Bailey, 1998)

The SDQ is a 25-item scale measuring emotional symptoms, conduct problems, hyperactivity, peer problems and prosociality. Items are rated on a 3-point scale (0 *not true*, 1 *somewhat true*, 2 *certainly true*). Each subscale comprises 5 items. The self-report version is designed for eleven to sixteen year olds. The SDQ is used routinely in the CAMHS teams who

participated in the current study to assess treatment progress and outcome. Research suggests the SDQ has satisfactory reliability and validity. In the current study, the total difficulties scale score was used which entails summing all items except those in the prosociality subscale. The total difficulties scores can range from 0 to 40 and scores may be classified as follows: normal (0-15), borderline (16-19) and abnormal (20-40). Cronbach's alpha in this sample was .72 indicating reasonable internal reliability.

ii. *Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965)*

The RSES is a widely used 10-item measure of global self-esteem. Several studies support its psychometric properties. Items are rated on a four point scale from *strongly disagree* to *strongly agree*. Scores range from 0 to 30, with a higher score indicating greater self-esteem. Positive and negative self-esteem scores can be derived by totalling the 5 positively and negatively worded items respectively. Cronbach's alpha in the current sample was excellent (.92).

Results

Analyses of data from young people

Questionnaire packs were sent to 351 eligible families by CAMHS clinicians. Completed questionnaire packs were returned by 47 children (13% response rate). Demographic data were missing for one participant. Respondents were aged between 10 and 18 (mean 14.7, SD 2.37). Duration

of service engagement ranged from 1-119 months (mean 28.6, SD 34.7). Eleven young people had been discharged from CAMHS at the time of the study. Thirty-seven were girls. All but two described their ethnicity as White British. The other two young people described themselves as White and Asian. Forty-two had their mother present at home and twenty-nine had their father present. Thirty-six reported it was their mother who brought them to CAMHS appointments.

All 47 children completed the ReQuest-YP. Out of a possible 1410 data points (30 items for 47 young people) 51 (3.6%) were missing. Due to the small volume of missing values, mean replacement was considered acceptable. Four items (numbers, 7, 19, 23 and 24) had a low (<.3) correlation with the total scale score and with the majority of other items. These items were removed prior to further analyses giving a total achievable scale score of 78. Cronbach's alpha for the 26 items was .95. After item removal, all corrected item-total correlations were greater than .30. The mean score in this sample was 43.31 (SD=16.02). The lowest score was 8 and the highest 69. Descriptive statistics for each of the 30-items are shown in Table 1 (the four items removed are in parentheses). No item in the measure suffered particularly from restricted range. The distribution of total scores was not significantly different from normal.

TABLE 1 HERE

Relationship between ReQuest-YP score and SDQ categories

All 47 young people completed the SDQ. Out of a possible 1175 data points (25 items for 47 young people) 28 (2.3%) were missing. Due to the small volume of missing values, mean replacement was considered acceptable. More (n=21, 45%) scored in the 'normal' range than in either of the other two categories but the distribution of total scores was not significantly different from normal. Table 2 indicates that the range of ReQuest-YP scores in the three SDQ categories is variable and the distributions overlap. However, as expected, the lowest ReQuest-YP score is in the 'abnormal' group and the highest is in the 'normal' group. Given unequal groups sizes, non-parametric analyses were used. Bonferroni correction was applied to follow-up tests (adjusted alpha of .0167). Table 2 indicates that there was a significant difference overall between the three groups. Follow-up testing indicated that recovery scores in the 'normal' group were significantly higher than in both the 'borderline' and 'abnormal' groups. Recovery scores in the 'borderline' and 'abnormal' groups did not differ significantly. Utilizing the SDQ total as a continuous variable, the correlation with the ReQuest-YP was $r = -.75$, $p < .001$ indicating a strong inverse relationship between recovery scores and total difficulties.

TABLE 2 HERE

Relationship between ReQuest-YP scores and Self-Esteem

Forty-six young people completed the self-esteem scale. Out of a possible 460 data points (10 items for 46 young people) 22 (4.7%) were missing. Due to the small volume of missing values, mean replacement was considered acceptable. The mean score was 15.02 (SD 7.23) and scores ranged from 2 to 30. The distribution of total scores was not significantly different from normal. There was a strong significant positive correlation between global self-esteem and total ReQuest-YP score: $r=.84, p < 0.001, n=46$ (positive and negative self-esteem correlated with total Re-Quest-YP score $r=.87, p < .001$ and $r = -.76, p < .001$ respectively). Further examination of the data indicated that the strength of the correlation between recovery and global self-esteem was attenuated in the group classified as 'normal' on the SDQ: $r=.51, p=.021 (n=20)$. This contrasts with the 'borderline' group ($r=.87, p=.002, n=9$) and the 'abnormal' group ($r=.87, p < .001, n=17$) indicating that the overlap between the recovery and self-esteem measures is lower in less symptomatic young people.

Analyses of data from parents

Out of 351 questionnaire packs sent, 54 were returned complete (15% response rate). Parent age ranged from 31 to 59 (mean 44.94, SD 5.16). All but two respondents were mothers and all but three identified their ethnicity as White British (one identified as White and Asian and two as White Other). Twenty-three had a University degree (six of these had a postgraduate degree). Forty-eight were employed. Forty were married or

cohabiting. The number of people in the household ranged from 2 to 7 (mode = 4).

With regard to the characteristics of the young person in CAMHS that the parents were reporting on, forty were girls and forty-six were currently in full-time education. Forty-three were still attending services and eleven had been discharged. Twenty-five were taking psychiatric medication (most commonly sertraline). Specific diagnostic information was not available. However, 13 young people were reported as treated for anxiety, eight for depression, and nine for both. Twenty-four parents did not report the issue their child was being treated for. Twenty parents reported that their child was experiencing physical health difficulties, most commonly stomach pains/problems, nausea/sickness, fatigue, insomnia and headaches.

Request-P

All 54 parents completed the Request-P. Out of a possible 1512 data points (28 items for 54 parents) only 10 (.7%) were missing. Due to minimal missing data, mean replacement was considered acceptable. Table 3 displays descriptive statistics for each of the 28 items and indicates that, whilst some items indicated greater range restriction than others, this might be expected in a small self-selecting sample where most of the young people were not in the 'abnormal' range on the SDQ. All items showed variability across the response scale but six items (numbers 1, 2, 3, 10, 15 and 24) were removed from the scale before conducting further analyses due to low (<.30) intercorrelations with most other items and the total scale score (these items

are shown in parentheses in Table 3). Following removal of these items, Cronbach's alpha was .89. After item removal, all corrected item-total correlations were greater than .30 with the exception of item 5 (.25) and item 17 (.27). The maximum possible ReQuest-P score following item removal was 66. The mean was 46.96 (SD=9.34). The lowest was 28 and the highest 66.

TABLE 3 HERE

Request-PYP

All 54 parents completed the ReQuest-PYP. Out of a possible 1890 data points (35 items for 54 parents) only 19 (1%) were missing. Due to minimal missing data, mean replacement was considered acceptable. Inter-item and item-total correlation analysis suggested that all 35 items could be retained. All corrected item-total correlations were greater than .30. The maximum possible score on the ReQuest-PYP was therefore 105. The mean score in this sample was 58.76 (SD 18.30). The lowest score was 22 and the highest was 95. Descriptive statistics for each item are given in Table 4 and indicate that no item exhibited a problem with restricted range. Cronbach's alpha for the Re-Quest-PYP was .95.

TABLE 4 HERE

Relationship between ReQuest-P and ReQuest-PYP scores

There was a significant strong positive correlation between the two parent-report scales: $r=.75$, $p<.001$ ($n=54$).

Analyses with matched young person and parent data

Forty data sets were returned from a young person and parent from the same family. All 40 parents in the matched parent-child dataset were mothers with a mean age of 44.70 years (SD 5.46). Of the 40 young people, 32 were girls. The mean age of the young people was 14.38 (SD 2.42) and 34 were in full-time education. Seven had been discharged from CAMHS.

Relationship between parent's and young person's reports of young person's recovery

There was a strong significant positive correlation between responses given by young people on the ReQuest-YP and those given by their parent-informant on the ReQuest-PYP: $r=.61$, $p<.001$.

Relationship between SDQ categories and parent-report ReQuest scales

The ReQuest-PYP and Re-Quest-P scores of parents whose children scored in the three different SDQ total difficulties categories are shown in Table 5. The distribution of ReQuest-PYP and ReQuest-P scores in the three SDQ categories overlaps but, as expected, the highest scores are in the 'normal' group. Given unequal groups sizes, non-parametric analyses were used. Bonferroni correction was applied to follow-up tests (adjusted alpha of .0167). Table 2 indicates that there was a significant difference overall

between the three groups on both recovery measures. Follow-up tests indicated that recovery scores of parents whose children were classified in the 'normal' group on the SDQ were significantly higher than those parents who children were classified in the 'abnormal' group on both recovery measures, with a large effect size. There was a moderate effect size for the difference between parents whose children were classified in the 'normal' category of the SDQ and those whose children were classified in the 'borderline' group on both recovery measures but these failed to reach significance following Bonferroni correction. There was little difference between the scores of the 'borderline' and 'abnormal' groups.

TABLE 5 HERE

ReQuest scores, duration in CAMHS and child age

The relationship between the ReQuest scores and time in CAMHS was assessed as it might be expected that recovery would increase during engagement with services. Contrary to expectation, correlation analysis showed there was no relationship between number of months in CAMHS (as estimated by the young person) and Re-Quest-YP scores ($r=.005$, $p=.97$, $n=43$). Furthermore, there was a small inverse relationship between number of months in CAMHS (as estimated by the parent) and Re-Quest-PYP scores ($r=-.22$, $p=.11$, $n=51$). Number of months in CAMHS (as estimated by the young person) shared a small positive relationship with SDQ total difficulties ($r=.21$, $p=.17$, $n=43$). Finally, the relationship between ReQuest-YP scores and child age was assessed as it could be hypothesized that scores

on recovery measures reflect a maturational process. There was a small negative correlation between age and Re-Quest-YP total score ($r=-.25$, $p=.10$, $n=46$).

Discussion

Key findings and study strengths

To our knowledge this study represents the first attempt to develop measures to assess recovery-related processes in young people experiencing common mental health problems. The measures are for use with multiple informants, in line with good practice in child and adolescent services. A strength of the current study is that the measures were derived from a qualitative study of the experience of mental health problems over time from the perspective of young people using services and their mothers. The subsequent conceptual framework from which the measures were derived has similarity with adult models of recovery in terms of an initial period of inexplicable and frightening thoughts and feelings along with social withdrawal followed by greater problem understanding and engagement, increased awareness of strengths and social re-engagement. However, the conceptual framework developed by Simonds et al. (2013, *in press*) departs from adult conceptualisations in some ways. Andresen et al's. (2003) and Spaniol et al's. (2002) adult recovery frameworks involve periods of active engagement with recovery, taking responsibility and control, being resilient, positive and forward looking. Whilst resilience and positivity were evident to some extent in AUTHOR'S (2013) analysis, they noted that the evidence

for these as distinct and universal qualities of the experience was not sufficiently compelling to warrant their inclusion in the description of the young person's experience of recovery. However, given that the qualitative study on which the recovery measures are based was the first of its kind, further work is needed to expand understanding of recovery-relevant processes in young people. Consequently, the ReQuest measures capture some recovery-relevant processes rather than comprising an exhaustive evaluation. A further point is warranted here. The conceptual framework on which the ReQuest measures were based was derived from young people aged 14 to 16 years. Additionally, the data reported here are based on those aged 10 to 18 years. Clearly, the extent to which the conceptual model and measurements apply to children younger than 10 years is an empirical question. Further critical debate is indicated regarding the extent to which the recovery philosophy might be applied to children who are developing capacities for self-reflection and social independence and, by inference, the ability of the philosophy to be applied across the board to children and adolescents treated within mental health services. Although the idiographic focus of recovery should make this possible, in practice work is required to see how this will translate to young people and their parents and how it might be evaluated.

All recovery measures seemed acceptable and tolerable to young people and their parents given the limited occurrence of missing data. Internal reliability for all was high. Validity was assessed against conceptually related and commonly used measures of self-esteem and emotional and behavioural problems, given the absence of alternative

recovery measures. Results were in line with expectation. The findings suggest that the three measures described in this paper have promise as non-symptom based recovery-relevant assessments suitable for use with young people aged 10 years upwards and their caregivers.

As hypothesised, there was a strong negative correlation between young person report of their recovery process and their self-reported emotional and behavioural problems. This parallels findings in the adult literature that recovery is inversely correlated with psychiatric symptoms (Corrigan *et al.* 1999; Markowitz, 2001; Neil *et al.* 2009; Resnick *et al.* 2004), although personal recovery philosophy emphasises that recovery may be independent of symptom experience. Similarly, parents of children who reported fewer emotional and behavioural problems reported a perception of greater recovery both in their children and in themselves. The strong positive correlation between young person's and parent's report of child recovery contrasts with research that consistently shows that child and parent reports of the former's emotional status often fail to correspond (De Los Reyes & Kazdin, 2005). Although preliminary, the findings of this study suggest that the parent report measures have the potential to provide important additional information about recovery-related therapeutic progress in young people and, perhaps, within the family system.

In contrast to the findings showing a strong inverse relationship between total difficulties and recovery, there was no correlation between duration in CAMHS, in months, and recovery scores. It might be anticipated that recovery increases over the course of intervention. The lack of relationship between duration in treatment and recovery might be

explained by the fact that recovery is not, as theorised in the adult literature, a linear process. Given that recovery involves living with difficulties rather than reaching a state of having overcome them completely, there may not be a straightforward relationship between intervention duration and recovery. Of note though, the relationship between total difficulties and time in CAMHS was small, non-significant and positive rather than negative. These findings might be due to a methodological issue in that participants were asked to estimate the duration of their engagement with CAMHS because it was not possible to obtain this data directly from CAMHS records. However, further work is needed to assess whether treatment duration is associated with both symptomatic improvement and recovery.

The strong positive correlation between self-esteem and recovery in young people provides further evidence of validity. This relationship was expected, given that recovery may involve greater self-understanding, an increased perception of one's abilities and a greater sense of connection with others: factors related to increased self-worth. A strong relationship between recovery and self-esteem has been reported in the adult recovery literature (Mukolo et al., 2011). Of note, however, the correlation between recovery and self-esteem was attenuated in the sub-group with less severe emotional and behavioural problems.

Conceptually, recovery might be considered synonymous with expected developmental processes in childhood and adolescence, for example the development of independence and identity. The analysis did not suggest a strong relationship between recovery process and child age. However, the sample size is small.

Limitations

The response rate was low and the findings might reflect the views of a particular subset of respondents who felt more emotionally able to consider questions about progress. In addition, the sample size precluded assessment of the factor structure of the measures. The scale items in the parent measures were derived from interviews with mothers only and may not represent the concerns of other caregivers. As noted in the method section, however, a small number of fathers did comment on the composition of the measures during the process of their development and did not make suggestions for additions or revisions. The sample was not culturally or gender diverse and a large proportion of the sample scored in the 'normal' range on the SDQ. Information about the child's main and comorbid difficulties was often not reported.

Further research

Several recommendations for further research arise from this study. First, future studies should aim to recruit a larger sample in order to determine whether the item-level analysis, which suggested the removal of some items from two of the measures due to low inter-item and item-total correlations, should lead to items being removed permanently. A larger sample would also permit an assessment of the factor structure of the measures. Second, this study found a small inverse relationship between recovery scores and participant age. The hypothesis that recovery might reflect a maturation effect warrants further testing. Third, there is a need to obtain reports from more fathers, a more culturally and ethnically diverse

sample, and to reach some of the participants who were reluctant to engage with the research. In addition, future work might assess correspondence between the ratings of more than one parent or carer. Dunn *et al.* (2005) suggest that multiple informant ratings should be assessed for the extent to which they correspond so that clinicians can ascertain whether the ratings of two or more carers might be interchangeable. This, they suggest, is particularly important given that it is often the case that only one informant is available to provide ratings, that different informants might provide ratings between assessment sessions, and that informant ratings will be influenced by their own unique perspective on the child. Fourth, the temporal stability of the measures was not been assessed in this study. Fifth, future research might also incorporate a parent-rated SDQ in order to assess whether young person and parent ratings on the SDQ would also have been as highly correlated as reports of recovery were. We did not collect parent-rated SDQ data in the current study due to concerns about participant burden. Further research might also address whether the attenuation of the relationship between recovery and self-esteem in those with less severe emotional and behavioural problems is a replicable effect.

Conclusions

Concerns have been raised in the adult recovery literature that quantification is at odds with the idiographic emphasis of recovery; such debates are equally relevant here. By definition, nomothetic measures cannot capture every aspect of each individual's experience and therefore will appear reductionist. However, the recovery literature and the qualitative

work underpinning the measures developed and assessed in this study (Simonds et al., 2013, *in press*) indicates common processes in recovery and services require evidence of their effectiveness at promoting recovery. Although the ReQuest measures were derived from a number of individual accounts, they are nomothetic measures that cannot capture every aspect of each individual's experience. However what is noteworthy is that the recovery processes tapped in the ReQuest measures are similar to those represented across adult models and measures: increased personal meaning and understanding, greater social connectedness and increased empowerment and control.

An inherent limitation of evidencing change numerically is that the area of enquiry needs to be reduced to generality. Although this might seem like anathema in the context of recovery-oriented practice, the derivation of recovery measures can add positively to an evidence-based practice agenda by providing an index of non-symptomatic change that is important to the consumers of mental health services. Furthermore, evaluation of responses to individual items or dimensions within a measure can inform treatment planning and progress in a more nuanced way whilst being careful not to convey the idea that there is a 'right way' to recover. The advantage of utilising recovery-based measures in addition to standardized symptom-based outcome measures is that they may provide a more holistic picture of service effectiveness by capturing dimensions that symptom-focused measures do not. Further research is needed to provide additional psychometric data on the measures presented here and their clinical utility in routine practice.

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Author Version

Table 1: Number of respondents endorsing each scale point - Re-Quest-YP

Item	0	1	2	3
1 I enjoy being with my friends	1	6	21	19
2 Talking about my problems makes me feel better	4	27	9	7
3 My problems will always ruin my life*	12	23	6	6
4 I do not see my friends because of how I feel*	12	21	8	6
5 Knowing that there are other people my age with similar problems makes me feel better	16	18	8	5
6 I am too frightened to do anything*	24	19	4	0
(7 I can see how my life could be better)	6	15	16	10
8 I do not feel alone any more	12	14	8	13
9 I have a better understanding of my problems	5	12	21	9
10 I have no life*	28	13	4	2
11 My problems are not affecting me as badly as before	10	15	13	9
12 I have abilities and talents	3	15	18	11
13 I find ways to be with my friends	3	14	19	11
14 I feel quite alone because nobody understands me*	12	15	12	8
15 I cope with my problems much better than before	7	11	16	13
16 I do not know who I am any more*	26	10	4	7
17 I wish I could be like other people my age*	8	12	5	22
18 I am hopeful about my future	6	12	19	10
(19 I look for people to talk to about my problems)	19	21	3	4
20 I believe in myself	12	15	17	3
21 I am not different to other people my age	17	19	10	1
22 I understand my problems	4	10	22	11
(23 I have no confidence in myself*)	12	18	14	3
(24 I do not understand my problems at all*)	31	10	4	2
25 I have learnt ways to manage my problems	4	14	20	9
26 I like who I am	11	16	8	12
27 People around me understand and can help me	9	16	17	5
28 I try my hardest and, if it fails, I try again	4	24	13	6
29 I try not to share my problems with anybody*	13	17	10	7
30 I can enjoy my life despite having my problems	5	16	14	1

0=not at all, 1 = a little, 2= mostly, 3 = completely; item mode shown in bold; *item is reverse scored

Table 2: ReQuest-YP scores by SDQ category

SDQ category	Mdn	Score range	Kruskal-Wallis	Mann-Whitney U
Normal (n=21)	57	38-69	$H(2)=22.74, p<.0001$	Normal>Borderline $U=25.5, z=-3.13, p<.003, r=-.57$
Borderline (n=9)	42	17-54		Normal>Abnormal $U=28.5, z=-4.41, p<.0001, r=-.72$
Abnormal (n=17)	34	8-56		Borderline=Abnormal $U=54.5, z=-1.19, p=.23, r=-.23$

Table 3: Number of respondents endorsing each scale point - Re-Quest-P

Item	0	1	2	3
(1 I am able to recognise when my child is unable to deal with something)	0	2	33	19
(2 I realise that my child is not the only one with difficulties)	0	3	11	40
(3 I feel I know what my child is dealing with)	0	8	36	10
4 I can help my child achieve things despite their difficulties	0	10	33	11
5 I understand my child's difficulties more	1	5	32	16
6 I can't do anything to make things better for my child*	29	14	10	1
7 I don't know how best to deal with my child's difficulties*	19	19	13	3
8 I get on well with my child	0	1	24	29
9 I feel out of my depth*	11	30	7	6
(10 I look up information about my child's difficulties)	3	19	12	20
11 I do not know how I will cope with my child's difficulties in the future*	14	28	6	6
12 I have become stronger and can cope with more	3	12	21	18
13 Although sometimes what my child is dealing with is scary, I know what to do to help	0	10	36	8
14 I am positive about my child's future	2	7	27	18
(15 Although I am unsure how to help, I am able to listen to my child)	1	1	20	32
16 I find it hard to understand my child's difficulties*	16	27	7	4
17 I am able to stay calm even when things are difficult	0	12	34	8
18 I know there are different ways in which I can help my child	0	4	25	25
19 I realise I have the ability to help my child	0	6	30	18
20 I have no idea what my child is going through*	34	12	5	3
21 My child and I communicate well with each other	0	3	25	26
22 I feel I do not have the skills I need to help my child*	26	20	6	2
23 My child's difficulties are beyond my control*	27	19	5	3
(24 I believe there are other people my child's age who have similar difficulties)	1	10	17	26
25 I understand how to help my child	0	11	33	10
26 I am getting better at dealing with my child's difficulties	0	9	31	14
27 I can help my child become more independent	1	11	24	18
28 I know how my child can manage their difficulties in future	5	17	23	9

0=not at all, 1 = a little, 2= mostly, 3 = completely; item mode shown in bold; *item is reverse scored

Table 4: Number of respondents endorsing each scale point - ReQuest-PYP

My child...	0	1	2	3
1. seems scared to talk to anyone about their difficulties*	15	26	8	5
2. understands why they feel the way they do	9	20	24	1
3. feels that no-one understands what they are going through*	9	23	13	9
4. talks about their difficulties	1	21	22	10
5. understands that it might take a long time to overcome their difficulties	4	12	24	14
6. appreciates the good things in their life	2	15	25	12
7. seems to be isolated*	13	29	6	6
8. is able to work through problems they encounter	4	22	27	1
9. tries hard to stay positive	4	14	31	5
10. has become more self-aware	1	11	32	10
11. feels in control of situations	5	25	24	0
12. understands what they need to do to overcome their difficulties	4	21	23	6
13. is scared of what is happening to them*	4	23	16	11
14. feels unable to do anything to deal with their problem*	13	24	15	2
15. can deal with stressful situations	15	20	17	2
16. takes responsibility for doing things that will help them overcome their difficulties	5	23	21	5
17. feels different to other people their age*	2	22	14	16
18. is gaining in confidence	2	22	19	11
19. talks positively about the future	4	13	26	11
20. screams or shouts with anger/frustration about what is happening to them*	18	24	5	7
21. is less troubled by their difficulties than before	10	19	18	7
22. has no hope that things will get better*	30	16	6	2
23. doesn't know how to talk about their difficulties*	18	30	4	2
24. is able to identify things that trigger their difficulties	8	15	23	8
25. is more in control of their emotions than before	5	21	24	5
26. has no confidence*	20	26	2	6
27. is determined to achieve their goals	4	7	27	16
28. feels overwhelmed by their difficulties*	14	27	7	6
29. is able to deal with setbacks	8	24	22	0
30. recognises their abilities despite the difficulties they are experiencing	2	24	23	5
31. is confident	12	20	15	7
32. creates short term goals for themselves	10	15	23	6
33. recognises that they are not the only one with these difficulties	3	20	18	13
34. is able to identify things that they might find difficult	2	18	26	8
35. talks about how they will use their talents in the future	4	17	23	10

0=not at all, 1 = a little, 2= mostly, 3 = completely; item mode shown in bold; *item is reverse scored

Table 5: ReQuest-PYP and ReQuest-P scores by SDQ category

Re-Quest-PYP total score				
SDQ category	Mdn	Score range	Kruskal-Wallis	Mann-Whitney U
Normal (n=17)	70	44-95	$H(2)=13.11$, $p=.001$	Normal=Borderline $U=34$, $z=-1.98$, $p=.047$, $r=-.40$
Borderline (n=8)	54	24-81		Normal>Abnormal $U=32.5$, $z=-3.59$, $p<.0001$, $r=-.63$
Abnormal (n=15)	48	22-73		Borderline=Abnormal $U=49.5$, $z=-.68$, $p=.498$, $r=.14$
Re-Quest-P total score				
Normal (n=17)	53	34-66	$H(2)=8.83$, $p<=.012$	Normal=Borderline $U=36.5$, $z=-1.84$, $p=.066$, $r=-.37$
Borderline (n=8)	45	28-61		Normal>Abnormal $U=52$, $z=-2.85$, $p<.01$, $r=-.50$
Abnormal (n=15)	44	32-50		Borderline=Abnormal $U=52.5$, $z=-.48$, $p=.628$, $r=.10$