Interviews with children about their mental health problems: The congruence and validity of information that children report

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Abstract

To obtain a child's perspective during a mental health assessment, he or she is usually interviewed. Although researchers and clinicians generally agree that it is beneficial to hear a child's account of his or her presenting issues, there is debate about whether children provide reliable or valid clinical information during these interviews. Here, we examined whether children provide clinically and diagnostically relevant information in a clinical setting. In all, 31 children aged 5–12-years undergoing mental health assessments were asked open-ended questions about their presenting problems during a semi-structured interview. We coded the information that children reported to determine whether it was clinically relevant and could be used to diagnose their problems and to formulate and plan treatment. We also coded children's information to determine whether it was congruent with the children's presenting problems and their eventual clinical diagnoses. Most of the information that children reported was clinically relevant and included information about behaviour, affect, temporal details, thoughts, people, the environment, and the child's physical experiences. The information that children reported was also clinically valid; it was congruent with the problems that were discussed (84%) and also with the eventual diagnosis that the child received after a complete assessment (74%). We conclude that children can contribute relevant, clinically useful, valid information during clinical psychological assessments.

Keywords

Mental health, assessment, interview, diagnosis, clinical psychology, child

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When children require mental health services, the first step is to conduct a thorough assessment to obtain information that can be used to formulate the problem, establish a diagnosis and plan the treatment (Carr, 2006; Frick, Barry, & Kamphaus, 2010; Meyer et al., 2001). To achieve these assessment goals, clinicians must obtain information from multiple informants, including parents, relevant other adults (e.g. teachers) and the child who is the focus of the assessment (Carr, 2006; Whitcomb & Merrell, 2013). Although there are many validated assessment approaches for obtaining reliable, valid information from *adults* about a child's clinical difficulties, there is debate surrounding the best methods for obtaining information *directly from the child* (see Frick et al., 2010; Holmbeck, Li, Schurman, Friedman, & Coakley, 2002; Mash & Hunsley, 2005). To ensure that a child's perspective contributes to his or her clinical assessment and that this perspective is seen as legitimate, it is important to determine whether current assessment methods yield accurate, clinically valid information from children.

Experts agree that it is necessary to obtain the child's perspective of his or her difficulties during clinical assessments (King & Work Group on Quality Issues for the American Academy of Child & Adolescent Psychiatry (AACAP), 1997; National Institute for Health and Care Excellence (NICE), 2005, 2013). Despite this necessity, obtaining reliable, valid clinical information from children is complicated by a number of factors, including the type of assessment tools used, the nature of the clinical problem and the developmental level of the child (Frick et al., 2010). The assessment tools that clinicians use in child psychological settings are generally categorised as either unstructured or semi-structured, or formal (Frick et al., 2010; Whitcomb & Merrell, 2013). Unstructured or semi-structured assessments usually involve interviews and observations; these approaches can be used with any informant, including a child, for multiple purposes, including developing rapport, generating hypotheses and gathering information about clinical difficulties (Frick et al., 2010). Formal assessment tools include structured interviews and observations (e.g. the National Institute for Mental Health Diagnostic Interview for Children and Adolescents-IV (NIMH DISC-IV); Shaffer, Fisher, Lucas, Dulcan, & Schwab-Stone, 2000), broadband rating scales (e.g. the Achenbach system of empirically based assessment; Achenbach, 1991) and specific rating scales (e.g. the Connors Rating Scales, designed to identify symptoms of attention deficit hyperactivity disorder (ADHD); Conners, 1997). Formal assessment tools are designed to elicit specific information about symptoms and disorders, or other foci of clinical attention such as self-esteem (Holmbeck et al., 2008).

Whereas researchers agree that formal assessment tools can aid parents and teachers to provide valid information about a child's clinical problem (Holmbeck et al., 2008; Pelham, Fabiano, & Massetti, 2005), there is significant debate about the value of using formal assessment tools to obtain clinical information directly from the child. On one hand, Pelham et al. (2005) found that children do not reliably report symptoms of ADHD on structured self-report rating scales. In addition, Boyle et al. (1993) found that children reported unreliable information about internalising difficulties in a structured interview. On the other hand, researchers have argued that children do provide reliable and valid clinical information using structured assessment measures (Edelbrock, Costello, Dulcan, Kalas, & Conover, 1985; Holmbeck et al., 2002; Ialongo et al., 2001; Silverman & Ollendick, 2005). For example, Ialongo et al. (2001) found that when children as young as 5-year old used a rating scale, their self-reported mood symptoms predicted later psychopathology and academic difficulties.

In general, the reliability and validity of formal assessment tools with children improve with age (Edelbrock et al., 1985; Frick et al., 2010). Most formal assessment tools are not validated or suited for use with children below the age of 8 or 9 years (Frick et al., 2010), and even as development progresses, validated formal assessment tools fail to provide all of the information necessary for a comprehensive assessment (Frick et al., 2010; Meyer et al., 2001). Pelham et al. (2005) argued that

most formal assessment tools are designed to identify diagnostic symptoms, and usually fail to eliminate other diagnoses. Formal assessment tools usually fail to provide information that is crucial for developing a successful treatment plan, including information about the development and maintenance of the child's problem (e.g., aetiology, onset, precipitating and maintaining factors), the child's developmental and family history, or contextual factors (e.g. the child's perception of family functioning; Frick et al., 2010; Mash & Hunsley, 2005; Pelham et al., 2005).

Given the limitations associated with formal assessment tools designed to gain information from children, clinicians also use un-structured or semi-structured interviews to gather the child's viewpoint and obtain broader contextual information. In these semi- or un-structured interviews, the child can be asked about a number of presenting issues, including about experiences of abuse, accounts of witnessing or taking part in illegal activities, descriptions of thoughts and feelings (e.g. suicidal thoughts, fears), and information about the child's perception of the impact of his or her difficulties (King & AACAP, 1997).

Another reason for using these un-structured or semi-structured assessment tools is that children, parents and teachers typically have different views about a child's presenting problem (De Los Reyes & Kazdin, 2005; Hawley & Weisz, 2003; Holmbeck et al., 2002; Rutter, 1997) and there is generally low agreement between parents and children regarding the presenting clinical issues or symptoms. For example, parents are more likely to identify that children have internalising or externalising problems compared to children themselves (De Los Reyes & Kazdin, 2005; Hawley & Weisz, 2003). Children, on the other hand, are more likely to identify their problems as being related to contextual factors such as family and environmental problems; these contrasting views can provide valuable insight into factors that may contribute to, or maintain, a particular problem (De Los Reyes & Kazdin, 2005; Hawley & Weisz, 2003). Formal assessment tools fail to identify the reasons for parent–child differences in problem perception, and how the differences could interfere with treatment. When viewpoints differ, hearing from the child is important to gain an understanding of the child's unique perspective, as well as for developing rapport, maximising the chance that the child will accept and participate in treatment (Frick et al., 2010; Hawley & Weisz, 2003).

In most clinical settings, clinicians often begin their assessment with a semi-structured interview in which they ask parents and children to identify the current problems. Unfortunately, research is limited regarding whether the information that children report about their difficulties in these kinds of semi-structured clinical interviews is clinically relevant and valid. The existing research on the reliability of children as informants often compares children's reports with those of a significant adult informant such as a parent. Some studies have demonstrated that informant-child agreement improves with the child's age, whereas others have shown that informant-child agreement does not change, or declines with age (De Los Reyes & Kazdin, 2005). De Los Reyes and Kazdin (2005) have argued that the inconsistency in findings may be explained by the fact that the age ranges across studies investigating informant-child agreement vary dramatically, beginning between 5 and 8 years and finishing between 11 and 16 years. For the purpose of this study, we have defined *children* to be under 12 years, to capture individuals prior to major adolescent socio-emotional and cognitive advances and prior to sexual maturation (e.g. Berk, 2013). We have focused our research on children, because this is the population for whom the reliability and validity of self-report of clinical information are most often questioned.

Research in developmental settings has shown that in a semi-structured interview, children as young as 5 years can provide detailed verbal information about their personal, emotional experiences, including experiences of being sad, scared, worried, angry and bullied (Gross & Hayne, 1998; Macleod, Gross, & Hayne, 2013; Patterson & Hayne, 2011; Salmon, Roncolato, & Gleitzman, 2003; Shakoor et al., 2011). Moreover, children's accounts of their self-reported experiences are

highly consistent with their parents' knowledge of the same experiences (Gross & Hayne, 1998; Salmon et al., 2003; Shakoor et al., 2011). Research in clinical settings has shown that in semi-structured interviews, children can provide detailed information about clinical psychological experiences (Katz & Hershkowitz, 2010; Woolford, Patterson, Macleod, Hobbs, & Hayne, 2015), but it is unclear whether the information that children provide can be used to adequately inform diagnoses and plan treatment. That is, is the information that children provide simply general narrative information, describing events, or can children provide information that is meaningful to psychological formulations and diagnoses? For example, the cognitive-behavioural model is one of the most widely used psychological models to formulate a range of children's problems and treatment approaches (Chorpita et al., 2011; Christophersen & Van Scoyoc, 2013). To inform a cognitive-behavioural formulation of a child's problem, a clinician requires information about the child's thoughts, feelings and behaviours. To determine triggers and consequences, a clinician also requires information about the timing, locations and people involved with the thoughts, feelings and behaviours. Currently, it is not clear how much of this information can be gleaned directly from the child.

The aim of this research was to investigate whether children can provide clinically valid (i.e. information about cognitive, emotional, behavioural, social and/or physical functioning that is consistent with the child's presenting problem), and diagnostically valid information (i.e. consistent with the child's eventual diagnosis) during a semi-structured clinical interview. To do this, we used a semi-structured interview protocol to interview children who had been referred for a mental health assessment. Children's reports were then coded for clinically relevant content, and compared to their subsequent diagnosis.

Method

Participants

Participants were 31 children aged 5–12 years (15 females; $M = 9.30$ years, standard error $(SE) = .35$) who had been referred for an individual mental health assessment (5- to 6-year-olds, $n = 5$; 7- to 8-year-olds, $n = 6$; 9- to 10-year-olds, $n = 13$; and 11- to 12-year-olds, $n = 7$).[1] We chose to include children as young as 5 years, because this is one of the earlier ages at which children are often asked about their personal experiences, and can provide a narrative relevant to their experiences (Gross & Hayne, 1998; Macleod et al., 2013; Patterson & Hayne, 2011; Salmon et al., 2003; Shakoor et al., 2011). We included children aged up to 12 years to capture children who would not yet be classed as adolescents. In the mental health services who participated in the study, individuals aged over 12 years would usually be treated as adolescents, or in adolescent services. The sample represented a wide range of socio-economic backgrounds and were predominantly European ($n = 26$; the remainder were Māori (the indigenous people of New Zealand), $n = 3$ or other, $n = 2$). Participants were referred for internalising (e.g. low mood, anxiety), externalising (e.g. oppositionality, impulsivity) or developmental difficulties (e.g. social, cognitive or language delays). One child was receiving medication for the treatment of ADHD, but his presentation for the present research was for separate symptoms. Two additional children were excluded due to second language challenges, and poor audio-recording quality. Eight additional children/families declined to participate in the study and continued with assessment as usual.

Participants were recruited from one of four mental health clinics. These four mental health clinics were the main providers of general mental health assessment and treatment for children in the specific region of New Zealand where the study was conducted. There were no non-participating clinics. Prior to participant recruitment, the four child mental health clinics were provided with an outline of the study, as well as the information sheets and consent forms and asked whether they

would take part in the study; all four mental health clinics agreed to participate. We also invited the clinicians from each clinic to express their interest in participating in the study; clinicians who did so were given a preliminary overview of the study and those who agreed to participate as interviewers ($n = 5$ female child mental health practitioners) were offered specific training in the interview protocol. All interviewing clinicians were qualified and experienced in conducting comprehensive multi-method clinical child assessments and came from a range of therapeutic disciplines (i.e. two therapist/counsellors, two nurse therapists and one clinical psychologist). Assignment of the child to the clinician was based on each clinic's admission practice regarding new referrals. At some centres ($n = 2$), each participating clinician screened his or her new referrals for suitability, and if the child was identified as suitable (i.e. children in the age range and suitable for an individual assessment rather than a family assessment), he or she was invited to participate. At other centres ($n = 2$), where all initial referrals resulted in an individual child assessment, all children who were newly referred to the service were invited to participate. The children/families who were identified as suitable candidates for the study were sent an information pack for the study alongside the usual documentation sent by the administrator for the initial appointment.

Participants were eligible to participate in the study if they were aged between 5 and 12 years, had been referred to one of the participating clinics and were able to be interviewed independently, in the absence of a familiar adult. The interviewers reported that a total of 39 children were eligible for the study, and that 8 children declined to participate in the study (i.e. 79% participation rate). The eight children who declined to participate were thanked for considering participation in the study and their assessment continued as usual. Due to ethical restrictions, we do not have data regarding non-participators.

Ethical approval for the study was obtained from a regional Health and Disability Ethics Committee.

Assessment interview

Eligible children and families were sent a study information pack prior to the initial appointment. At the initial appointment, the clinician obtained informed consent from interested parties (verbal assent from the child).

At the beginning of the assessment interview, the clinician introduced herself and the service and gathered basic background information (e.g. education, health and family composition). The clinician developed rapport with the child by talking about general events and activities in the child's life. When the clinician observed that the child was at ease, the caregiver adjourned to the waiting area, and the clinician commenced the experimental phase of the interview.

First, the child was asked to provide a verbal description of his or her presenting problem. Clinicians used a semi-structured interview format and began by asking, 'Do you know why you have come here to see me today?' If the child identified a presenting problem, the clinician and child established the name of the presenting problem (e.g. worry, sadness). If the child did not know why he or she was attending the clinic, the clinician used the referral document as a guide: 'Well I heard that you came along here today because …' Once the presenting problem was established, the clinician said, 'I'd like you to tell (or draw and tell) me everything you can about [the problem]?' For children who were given the opportunity to draw, if they did not spontaneously narrate about what they were drawing, they were asked to do so. The draw versus tell aspect was part of a larger study and will not be discussed further here (see Woolford et al., 2015).

Clinicians invited more detail using general open-ended prompts such as 'Can you tell (or draw and tell) me anything else about the (problem)?' To obtain specific details, clinicians followed up general prompts with more direct prompts (e.g. 'what did Dad do when the police arrived?')
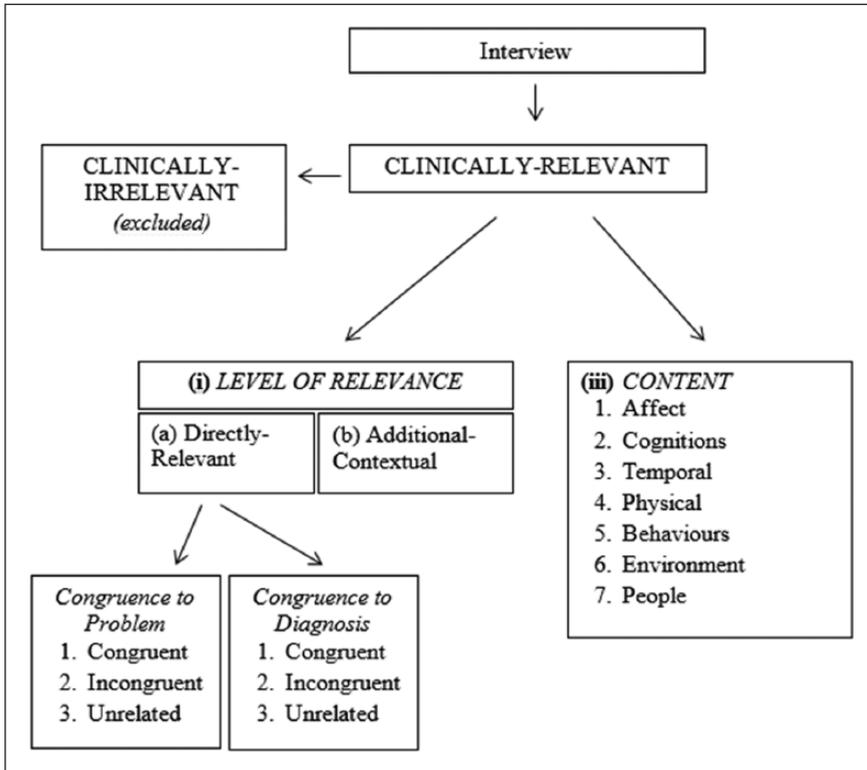
Figure 1. A schematic diagram of the coding process.

regarding key topics that the child reported. To encourage children to provide additional information, clinicians used minimal encouragers (e.g. 'Uh huh', 'right', paraphrases, reflections of what the child said). The prompts and minimal encouragers continued until the child's report about the problem was exhausted. The clinician then asked the child whether there were any other problems. If the child identified other problems, the clinician repeated the interview protocol for the next problem. This sequence continued until the child identified that there were no further issues.

After the research phase of the interview, the clinician continued with the standard clinical assessment. After the full assessment was completed (including multi-informant interviews and multi-modal assessment measures), clinicians provided information regarding the diagnosis or assessment outcome for each child.

Coding

The interviews were audio-recorded, transcribed verbatim and coded. Figure 1 provides an overview of the coding process.

Clinically relevant information. First, each transcript was parsed into clauses, or simple sentences containing an explicit or implicit verb (Gross & Hayne, 1998). Children were only given credit for things that they said during the interview; their drawings were not analysed. The clauses of information that children reported were then coded for clinical relevance. Information was defined as

clinically relevant if the child reported information about the presenting problem, including information that was relevant to a multi-axial assessment (i.e. information about social, emotional, behavioural, intellectual, communicative and physical functioning). Repeated information and additional information that was not of clinical relevance were excluded (i.e. clinically irrelevant and off-topic information, e.g. '*What is that box over there?*').

An additional researcher independently coded 33% of the transcripts (randomly selected) and inter-observer reliability for the number of clinically relevant clauses was $r = .94$.

Clinically relevant information subcodes. The clinically relevant information that children reported was coded in two ways:

1. *Relevance to the clinical assessment and formulation.* Information was coded as *directly relevant* if it pertained directly to the child's clinical issues (e.g. 'Sometimes I get violent') or it was coded as *additional contextual* information if it provided background or context to the clinical assessment. Additional contextual information included rapport-building dialogue, and descriptions of daily activities and general family life (e.g. '*They had an X-Box*').
2. *Type of clinically relevant information*. Information was coded into one of seven categories:
(a) *Affect*, including information about emotional experiences (e.g. 'I get scared') and evaluations (e.g. '*She's probably annoyed with me*');
(b) *Cognitions*, or information about thoughts, desires, wants, imagining (e.g. '*I felt like I was caught in a box*' or '*I want to hit him*');
(c) *Temporal,* including information about timing, frequency, intensity, duration or amount (e.g. '*I read too slowly*' or '*Mum says I sleep walk 3 or 4 times a week*');
(d) *Physical* experiences, including physical sensations or symptoms (e.g. '*I shake when I get a question*');
(e) *Behaviours*, or actions (e.g. '*I hit the ball*');
(f) *Environment*, including information about location and objects (e.g. '*The room was noisy*') and
(g) People or animals (e.g. '*The police were involved*').

Inter-observer reliability for coding information for relevance to the clinical assessment and formulation was $\kappa = .90$, and for coding information into the seven clinically relevant categories, was $\kappa = .90$.

Presenting and additional problems. Next, each child's presenting problem was identified. The presenting problem was defined as the initial clinical issue identified in the interview by either the child or the clinician, which involved social, emotional, cognitive, physical or behavioural difficulties. An additional problem (AP) was identified if the clinician or child introduced a new issue that was distinct from a problem that had already been discussed (e.g. if the presenting problem was anger, an AP would be identified when the clinician said, 'I also heard that it's hard for you to concentrate at school'). Half of the interviews ($n = 16$, 52%) contained only one presenting problem, with no APs. The remaining interviews included a presenting problem, plus one or more APs (one AP: $n = 6$ interviews, 16%; two APs: $n = 5$ interviews, 16%; three APs: $n = 2$ interviews, 6.5%; four APs: $n = 2$ interviews, 6.5%).

Inter-observer reliability for agreement on the presenting problem was $r = .94$ (agreements/ agreements + disagreements).

Information that was congruent to the presenting problem. Children's problems do not always directly map to a diagnosis, but the problems may still be relevant to formulation and treatment of the problem. That is, children may provide clinically relevant information that is incongruent with their diagnosis. Independent of the diagnosis, we therefore wanted to determine whether children would provide information that reflected the general essence of that problem, for each problem that was identified. To do this, we coded the directly relevant clauses of information that children provided to determine whether the information was congruent with the problem that had been identified. A clause was coded as *congruent with the problem* if the information was accordant with, or supported, the problem under discussion (e.g. problem=anger, congruent clause='*Sometimes I get violent*'.). A clause was coded as *incongruent with the problem* if the information was discordant with, or did not support, the problem (e.g. problem=anger, incongruent clause='*I'm just worried what's going to happen*').

A clause was coded as *unrelated* if it consisted of information that was not related to the problem under discussion. For example, if the problem was anger, '*I had fun at Grandma and Grandad's house*' or '*It was a school assignment of mine*' would be coded as unrelated. Unrelated clauses also included clauses involving information about what other people thought or did (e.g. '*Mum and Dad sorted it out, not me*'), clauses such as '*I don't know*' or '*I can't remember*', and clauses that included talk about the child's drawing that was unrelated to the problem being discussed (e.g. '*That's my brother*').

Inter-observer reliability for coding information for congruence with the problem was κ=.90.

Information that was congruent to the eventual diagnosis. Finally, directly relevant clauses were also coded to determine whether they were congruent with the child's eventual diagnosis. A clause was coded as *congruent with the diagnosis* if the information was accordant with, or supported, the diagnosis (e.g. diagnosis=generalised anxiety disorder (GAD), congruent clause='*I'm just worried at what's going to happen*' or diagnosis=adjustment difficulties, congruent clause='*It's sad because we moved house*'). A clause was coded as *incongruent with the diagnosis* if the information was discordant with the diagnosis (e.g. diagnosis=ADHD, incongruent clauses='*even walking*' or '*feels like running a marathon*'). A clause was coded as *unrelated to the diagnosis* if it consisted of information that was not related to the eventual diagnosis (e.g. diagnosis=oppositional defiant disorder (ODD), unrelated clauses='*it was sad when my brother died*').

Inter-observer reliability for coding information for congruence with the problem was κ=.90.

Interviewer questions

It is possible that children report more congruent information if the interviewer uses leading questions to elicit responses in line with the clinician's view of the problem or diagnoses. To ensure that children were asked best-practice questions (i.e. open-ended, rather than leading), we examined the questions that the clinicians asked during the assessment interview. Each question was coded as either:

1. *Open-ended.* The clinician used open-ended questions to prompt the child for more information (e.g. 'Tell (or draw and tell) me everything you can about worry');
2. *Closed.* The clinician used a prompt that required the child to give a yes, no, or choice answer (e.g. 'Do you stay asleep all night?');
3. *Leading.* The clinician used a prompt that suggested the desired answer or contained information that the child had not already given (e.g. 'I bet that was fun was it?').

Inter-observer reliability for coding type of clinician question was κ=.94.
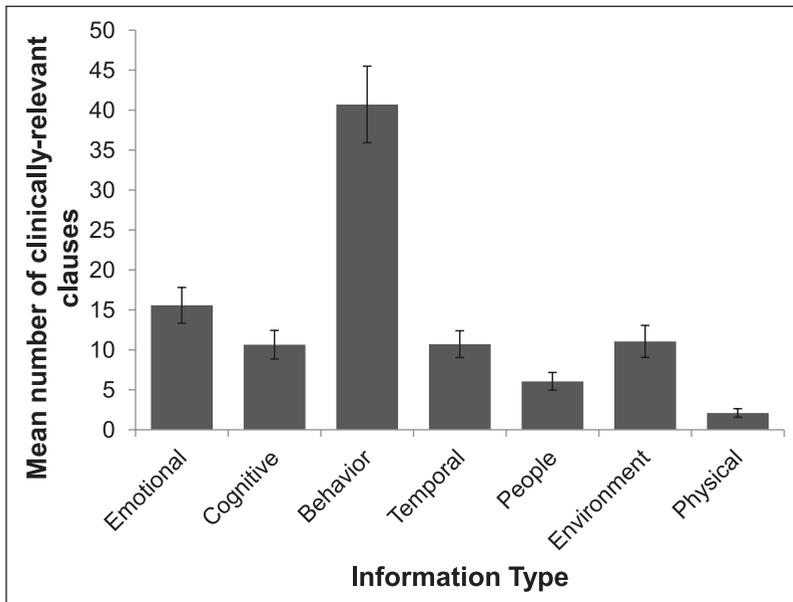
Figure 2. Mean number of clinically relevant clauses reported by content category.

Finally, to assess the potential influence of the interviewers introducing the problem to discuss, rather than the child, each presenting and AP was coded as *interviewer-led* if the interviewer introduced the problem, or *child-led* if the child introduced the problem. Inter-observer reliability for introduction of the problem was $r = .94$.

Results

On average, children reported 96.87 ($SE = 10.63$) clauses of clinically relevant information.[2] Most of the clinically relevant information that children reported was directly relevant to their clinical assessment (85.38%; $M = 82.71$, $SE = 9.40$) and the remaining 14.16% ($SE = 3.58$) was additional contextual information.

Figure 2 shows that amount of clinically relevant information that children reported in each of the content categories. A within-subjects analysis of variance (ANOVA) with the Greenhouse–Geisser correction showed that children reported significantly more information about behaviours (46.26%) than they did about any other information type, $F(2.23, 66.92) = 40.65$, $p < .01$, $\eta_p^2 = .58$. The remaining information that children reported was spread relatively evenly across the other categories (affect = 17.70%, environment = 12.57%, temporal information = 12.17%, cognitions = 12.10%, people or animals = 6.89%). Children reported the least amount of information about their physical experiences (2.39%, significantly less than all other categories, $p < .05$).

Congruence with presenting or APs

To determine whether children reported information that was relevant to the topic under discussion (i.e. the problem that was introduced by the clinician or volunteered by the child), we analysed the amount of directly relevant information that children reported that was congruent with each separate presenting and AP using a within-subjects ANOVA. The majority of information that children
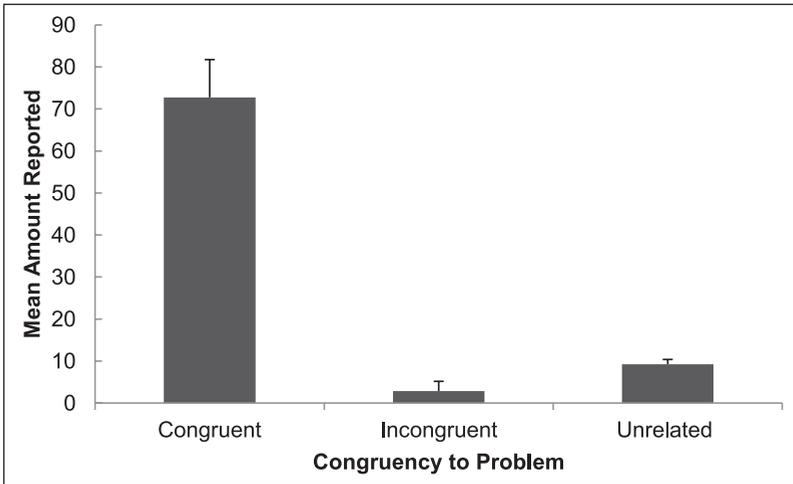
Figure 3. The amount of the information that children reported that was congruent with their presenting problem(s).

reported was congruent with their presenting or APs (84%; see Figure 3). Children reported significantly less problem-unrelated information (11%, $p < .01$), and the least amount of problem-incongruent information (4%, $p < .01$), $F(1.08, 32.65) = 53.95$, $p < .01$, $\eta_p^2 = .64$.

Congruence with diagnosis

Next, we analysed the amount of directly relevant information that children reported that was congruent with their eventual clinical diagnosis. Most of the information that children reported was congruent with their clinical diagnosis (74%, $p < .01$; see Figure 4). Children reported significantly less diagnosis-unrelated information (24%, $p < .01$), and very little diagnosis-incongruent information (1%, $p < .01$), $F(1.17, 35.16) = 33.80$, $p < .01$, $\eta_p^2 = .53$.[3]

Age effects

Although our sample was small, we conducted exploratory one-way ANOVAs to determine whether children's congruence might differ as a function of age. As shown in Table 1, the proportion of problem-congruent information reported did not appear to differ by age, $F(3, 31) = 2.05$, $p = .13$, $\eta_p^2 = .47$, power = .47, and neither did the proportion of diagnosis-congruent information, $F(3, 31) = .16$, $p = .92$, $\eta_p^2 = .02$, power = .08.

Interviewer influence

Preliminary analyses confirmed that interviewers adhered to a recommended interviewing protocol, based predominantly on open-ended questions. On average, interviewers used less than one leading question per child ($M = .87$, $SE = .21$), and there was no relation between leading questions and the amount of information that children reported that was congruent with their problems ($r = -.02$, $p = .90$) or diagnoses ($r = .03$, $p = .86$).

Overall, interviewers introduced the majority of children's presenting or APs (interviewers: 70.5%; children: 29.5%). When children introduced a presenting or AP themselves, they reported
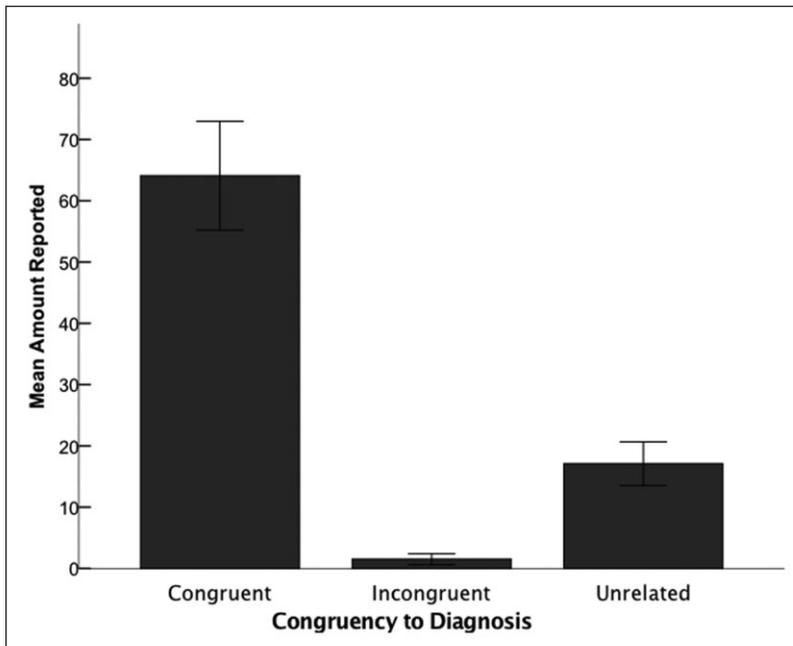
Figure 4. The amount of information that children reported was congruent with their eventual diagnosis.

Table 1. Distribution of children's congruent and incongruent clauses by age.

Age (years)	Number	Problem congruent (*SD*)	Diagnosis congruent (*SD*)
5–6	5	.76 (.14)	.73 (.35)
7–8	6	.87 (.14)	.68 (.35)
9–10	13	.80 (.18)	.77 (.21)
11–12	7	.95 (.07)	.76 (.30)

SD: standard deviation.

significantly more problem-congruent information ($M=53.00$ clauses, $SE=9.58$) compared to when interviewers introduced the problem ($M=28.79$ clauses, $SE=4.60$), $t(59)=-2.57$, $p<.05$, $d=.68$. When children introduced a presenting or AP, they also reported significantly more diagnosis-congruent information ($M=40.72$ clauses, $SE=9.11$) compared to when interviewers introduced the presenting problem ($M=18.86$ clauses, $SE=5.28$), $t(59)=-2.17$, $p<.05$, $d=.60$.

Discussion

In this research, we found that in an initial open-ended, semi-structured psychological assessment interview, the majority of information that children reported was clinically relevant, insofar as it directly contributed to the formulation and treatment of the child's problem. Furthermore, the information that children reported appeared to be clinically valid; not only was the information congruent with the problems that were discussed, but it was also congruent with the eventual diagnosis that children received, which was derived from a range of sources and assessment methods.

Overall, children reported very little incongruent information, or information that conflicted with their presenting problems or eventual diagnosis.

In general, children provided information that was relevant to the widely used cognitive-behavioural framework. Almost half of the information that children reported was about behaviours, but children also provided clinically useful levels of information about affect, including emotional reactions, experiences and evaluations (e.g. '*she's probably annoyed at us*'); temporal details, such as problem onset, intensity and timing; the environment, including locations and triggers; cognitions, thoughts and desires (e.g. '*she might laugh at me*'); and people, including who was there, and their roles and behaviours. In sum, during a semi-structured interview, children contributed relevant and valid information to assessments of their clinical difficulties.

We found that children provided a slightly higher proportion of problem-congruent information compared to diagnosis-congruent information. That is, children provided information that was directly relevant to formulations and treatment plans in relation to the reason the child was referred to the clinic in the first instance, but that did not necessarily map directly to a diagnosis. This pattern highlights that children's problems are often more than their diagnoses, and reinforces the idea that clinicians should always view children's difficulties as specific to the individual child, and incorporate all of the wider relevant problems in their treatment plans (Carr, 2006).

Our finding that children report clinically relevant and valid information about their problems is consistent with research with non-clinical populations, which has shown that children are able to provide detailed, relevant information about their personal, emotional experiences (Katz & Hershkowitz, 2010; Macleod et al., 2013; Patterson & Hayne, 2011; Salmon et al., 2003). Given the wide age range of children in this research, however, future research with a bigger sample size will be required for a more fine-grained analysis of age-related differences in children's abilities to provide information about their problems and diagnoses. That is, this research is limited in terms of the number of children in each age group. In this research, we only had eight children aged between 5 and 7 years. Although our study indicates that children in this age range can report clinically-relevant and -valid information, additional studies with a larger sample size are required to confirm our initial conclusion, and to determine whether there are age-related changes in children's abilities to report reliable and valid information about their clinical difficulties.

In this research, we found that children were most likely to report information that was congruent with their problem if they volunteered the problem themselves, rather than if the interviewer introduced it. Past research in typically developing populations sheds some light on possible factors that might be related to children being able to generate problems to discuss themselves. For example, a child's experience discussing emotional content with his or her parents, and the child's age, can predict a child's ability to talk about his or her past experiences (Haden, Haine, & Fivush, 1997; Reese, Yan, Jack, & Hayne, 2010). Children who volunteer topics themselves might also have better verbal skills, helping them to better articulate their difficulties, or they may have a clearer understanding of, or greater insight into, their problems. Important avenues for future research will be to investigate the role of these factors on children's abilities to discuss their clinical difficulties, and to investigate additional interviewing techniques that may support children to provide greater levels of clinical information and assist children to self-identify their presenting problem.

We also found that most of the information that children provided was based on what the clinician identified as the topic of concern. It was a necessity for the clinician to introduce the problem because children often reported that they did not know why they were visiting the clinic, or what their problem was. The fact that children mostly reported information that was congruent with the problems that were discussed suggests that the interviewers introduced issues that were real from the child's perspective. If clinicians often introduce discussions about children's difficulties, as in this research, it is important that the clinicians base their questioning on high-quality information.

Research in forensic settings, for example, has shown that having prior knowledge before questioning the child can skew the clinician's viewpoint, raising the danger that the clinician might ask questions that elicit inaccurate information from the child (American Professional Society on the Abuse of Children (APSAC), 2002; Bruck & Ceci, 1995). Future research in clinical settings is required to investigate the benefits and disadvantages of clinicians having prior knowledge before gaining a child's perspective, and particularly whether any of these effects change with the child's developmental level.

The nature of a child's clinical difficulties may also affect a child's ability to provide information about his or her problems. Exploratory analyses in this research suggest that children with cognitive difficulties were less likely to report information that was congruent with their problems and eventual diagnosis; however, further research is required to confirm this finding, with larger samples of children who demonstrate a wider range of clinical difficulties.

In this research, we only investigated the child's viewpoint regarding his or her assessment. It is well documented that parents and children often disagree on a child's clinical problems and diagnostic symptoms when formal assessment measures are used (Boyle et al., 1993; De Los Reyes & Kazdin, 2005; Hawley & Weisz, 2003; Holmbeck et al., 2002; Rutter, 1997). Less is known about the way that children and parents view the child's problems when a semi-structured interview is used. For example, we do not know the extent to which the different information provided by children and parents contributes to the clinician's formulation and treatment plan. Future research regarding the contributions of parents and children to the assessment would enable clinicians to understand how best to maximise the time spent, and methods used, during child psychological assessments.

Summary and clinical implications

To ensure that children's voices are heard during a clinical assessment, it is important to identify which of the current available assessment methods are evidence based for obtaining clinically valid information from children. Current guidelines for psychological assessment with children state that the child's viewpoint should be included during clinical assessments (Frick et al., 2010; NICE 2005, 2013). Currently, the most appropriate method for hearing a child's viewpoint is the use of a semi-structured interview. Until now, we knew little about the relevance and validity of information that children report about their presenting problems during such interviews, and its relation with the child's eventual diagnosis. Our findings demonstrate that a semi-structured interview based around open-ended questions is an effective means of enabling children to report information about their presenting problems that is predictive of their eventual diagnosis, and also informs formulations and treatment. That is, clinicians can generally be confident that children's viewpoints are valuable and reflect their real issues during an assessment. Future research will help to elucidate the unique contribution that children's free-recall reports have during child psychological assessments.

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Notes

1. The sample size was limited by the number of participants that could be recruited during the time period in which the research was resourced (i.e. within a 12-month time period).
2. Published research with the current participant sample showed that children who had the opportunity to draw reported more clinically relevant information than did children who simply told (Woolford et al., 2015), but preliminary analyses in the present experiment showed that there was no difference in the

overall proportion of information that children reported as a function of interview condition. Given this, we collapsed across interview condition for all further analyses.

3. During childhood, a number of clinical diagnoses can affect a child's cognitive functioning (e.g. ADHD, or pervasive developmental disorder). In this research, it is possible that children with a diagnosis involving cognitive difficulty may have had symptoms that interfered with their ability to provide information during an interview (e.g. distractibility, inattentiveness). Although few children in our sample met the criteria for a diagnosis that affected cognitive functioning (ADHD: $n=4$; pervasive development disorder (PDD): $n=1$), we conducted exploratory analyses to investigate the possibility that children with cognitive difficulties would be more likely to provide incongruent and unrelated information. Although our analyses were underpowered, we found that children with a cognitive diagnosis reported less diagnosis-congruent information ($M=35.20$ clauses, standard error (SE)$=21.73$; other: $M=69.65$ clauses, $SE=9.52$), and more unrelated information ($M=47.20$ clauses, $SE=6.63$; other: $M=11.31$, $SE=2.91$), than did children with other diagnoses.

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