Clinical Assessment of the Child: Does Drawing Help Children to Talk About Their Presenting Problems?

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Abstract

Child psychopathology is a significant mental health issue in New Zealand and overseas. When child mental health services are required, clinicians should conduct assessments that are developmentally sensitive and include the child’s point of view. Drawing is a popular and developmentally sensitive tool that is commonly used in clinical settings; research in experimental settings has confirmed that drawing increases the amount of verbal information that children report. The goal of the present research was to determine whether drawing also facilitates children’s self reports during mental health assessments. A total of 33 children, 5- to 12-years of age, were asked to either draw and tell about their presenting problem or tell only. Children, who were allowed to draw and tell, provided twice as much information, as children who told only. The interviewers’ questions also varied as a function of conditions. Interviewers in the draw condition used a greater number of prompts and minimal responses. These data have important implications for clinical practice.
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Child mental health is a significant issue both nationally and internationally. In New Zealand, for example, one in four children experiences some form of psychopathology prior to adolescence (MoH, 1998). This prevalence rate is highly consistent with prevalence data overseas which indicate that between 10 and 25 per cent of children and adolescents will be affected by mental health issues (Carr, 2000; Egger & Angold, 2006; WHO, 2003).

**Child Psychopathology**

Child psychopathology can impact negatively on children in a number of ways. It can disrupt normative developmental trajectories and stop children from fulfilling their academic and personal potential (Ford & Goodman, 1999; The Science of Early Childhood Development, 2007; WHO, 2005). For example, attention problems associated with ADHD may cause impairment because learning is hampered by poor concentration and focus (Bideman & Faraone, 2005). Further, the negative symptoms of mood disorder may impair a child’s ability to engage in social contexts and anxiety conditions can prevent children from engaging in events that might offer new learning opportunities and experiences (Graham, Turk & Vehulst, 1999).

Psychopathology does not only impact on the immediate functional capacity of the child, but it can also have far reaching psychosocial effects if left untreated. For instance, behavioural disturbances in childhood have been identified as pre-cursers to more complex dysregulation in adolescence (Holmbeck, Greenley & Franks, 2004). Youth with compromised mental health have been identified as being at increased risk for disengagement from education, substance misuse, relational difficulties, suicide, criminal offending and adult psychopathology (The Sainsbury Centre for Mental Health, 2009; WHO, 2003). This loss of human potential due to untreated childhood psychiatric illness is significant to both the individual and society. The World Health Organisation has argued that provision for child and adolescent mental health is central to the development of healthy societies (WHO, 2009). It is imperative that child mental health issues are addressed in order to remediate
conditions that can potentially impede development. Fortunately, early intervention can remediate child psychopathology, so that healthy development may proceed (The British Psychological Society, 2010).

**Intervention and Assessment**

In order to address issues of child psychopathology and to alleviate its effects, engagement with specialty child mental health services is often required (Carr, 1999; Royal College of Paediatrics and Child Health, 2003; The Science of Early Childhood Development, 2007; WHO, 2003, 2005). To be effective, these services should be designed and delivered to meet the specific needs of the child (Day, 2008). That is, services to children must be child focused and delivered in a developmentally appropriate way (MoH, 1997). Optimal clinical provision and assessment is developmentally sensitive (Day, 2008; Salmon, 2006). In other words, both treatment and assessment should be compatible with the developmental abilities of the child at the time of clinical presentation (Holmbeck, Greenley & Franks, 2004).

Historically, clinical practice has often failed to reflect this child focused approach. In relation to assessment of the child’s mental health, for example, children traditionally have been required to “go along for the ride” as adults gather parametric data, such as physical measures and behavioural observations with adult caregivers as the primary source of information (AACAP, 1997; Rushforth, 1999; Salmon, 2006). As a matter of course, children have not always been included in assessment interviews or asked for their view of the problem. In this way, children have been excluded from direct participation in the assessment process. Further, the assessment tools used with children have often been simplified versions of tools designed for adults, despite the obvious developmental differences that exist between adults and children (Day, 2008; Holmbeck et al., 2004). Contemporary practice guidelines recommend that child assessments are multi-modal or include a
range of different tests and measures, and multi-informant or include interviews
with the parent, child, and teacher (Holmbeck et al., 2004; Rutter, 1997). Central to
this process is the child interview, which is conducted to obtain the child’s
perspective of their difficulties (AACAP, 1997; Davies & Wright, 2008; Graham
1999; Rushforth, 1999; UN CROC, 1989). Asking the child what they know about
the presenting problem creates an opportunity to frame the clinician’s
understanding and takes into account the child’s view (AACAP, 1997; Carr, 1999;
Graham 1999). Without a thorough assessment and accurate identification of the
difficulties the child is experiencing, it is not possible to identify effective treatment
regimes. Obtaining the child’s account of the problem allows the clinician to
understand how the child views the problem and to gain a unique view into the
child’s internal world (AACAP, 1997; Carr, 2006; Salmon, 2006; Wesson &
Salmon, 2001).

*The Benefits of Hearing the Child’s Voice Directly*

Researchers and clinicians have emphasised the need to obtain a first hand account of
the child’s experience because psychological processes, such as thoughts, feelings and
experiences must be conveyed to others via verbal communication. Observation alone is not a
reliable method of assessing psychological processes (Day, 2008; Hawley & Weisz, 2003;
Ialonga, Edelson & Kellam, 2001; Salmon, 2006). Failure to interview children directly can
lead to difficulty in ascertaining the degree of adversity or suffering that a child is
experiencing or conversely, whether the child is experiencing any difficulty at all (AACAP, 1997).

Research also suggests that parents or informant adults do not always report
accurately on the child’s psychological processes and affective experiences. For example,
Rutter (1997) examined a body of research on inter-respondent reliability and found weak
agreement between child and adult/parent respondents within clinical settings. That is, the
information that the child provided and the information the caregiver provided was often inconsistent. In another study conducted in a child mental health outpatient setting, a large sample of children and their parents were interviewed (Hawley & Weisz, 2003). After the assessment was complete, the parents, children and therapists were asked to identify the target symptoms and their responses were compared. Only one quarter of the sample commenced therapy with consensus between parent, child, and therapist regarding the target problem (Hawley & Weisz, 2003). In addition, the authors note that adults were dominant within the assessment process, despite the fact that caregiver perspectives have less predictive value than child perspectives (Hawley & Weisz, 2003).

Research also suggests that parents and children are likely to recall the same shared experiences quite differently; particularly experiences that involve negative emotions, such as fear or anger. In one study, for example, researchers compared parents’ and children’s recall of a shared experience; the children in the study ranged in age from 2- to 6-years old (Levine, Stein, & Liwag, 1999). Overall, parents and children showed more discordant recall for events that resulted in children expressing fear or anger. Levine et al., point out that this discordance may be due to parents and children focussing on different aspects of events or having conflicting goals. Similarly, studies involving clinical observation have also yielded significant differences in symptomatology as reported by parents and children (Levine 1995; Boyle, et al., 1997; Rutter 1997). For example, parents reported more externalising symptoms and behaviours, which directly increase levels of parenting burden, whereas children were more likely to report internalising symptoms such as anxiety or depressed mood (AACAP, 1997). Taken together, these studies clearly demonstrate a discrepancy between parents’ and children’s view of the presenting problem and of the child’s internal state. These findings underscore the need to directly obtain children’s perspectives.
Can Children Provide an Adequate Self Report?

Most researchers and clinicians now agree that it is beneficial to hear a child’s account of their symptoms, but are children capable of providing this information in a clinical setting (Day, 2008)? The ability to provide a complete and accurate account of an experience relies on both memory and language skills. A large body of research has established that even young children (from 2- to 3-years of age) can recall their prior experiences and can recount them accurately (Boland, Haden & Ornstein, 2003; McGuigan & Salmon, 2004; Peterson, Sales, Reese & Fivush, 2007; Principle, Ornstien, Baker-Ward & Gordon, 2000; Reese & Brown, 2000; Reese & Newcombe, 2007; Rudek & Haden, 2005; Salmon, McGuigan & Pereira, 2006; Simcock & Hayne, 2003). In many instances, however, young children’s reports of their prior experiences are extremely brief (Gee & Pipe, 1995; Ornstein, Gordon & Larus, 1992; Pipe & Salmon, 2009; Sutherland & Hayne, 2001). In fact, even when children have well developed communication skills, they still report less information about a prior event than do adults (Sutherland & Hayne, 2001). Furthermore, young children often require adult support (Nelson & Fivush, 2004) or contextual cues (Pipe, Salmon, & Priestly, 2002; Pipe & Salmon, 2009) to help them to fully report their experiences or emotions.

In response to the findings that children need additional support in all interview contexts, professionals working with children have implemented some developmentally sensitive techniques, designed to support children during an interview. To ensure that any interview is child friendly the interviewer must consider a range of elements to support the child. Research conducted in forensic and clinical contexts suggests that children can provide accurate and reliable accounts of their prior experience if the interview is conducted in a way that is congruent with the child’s developmental needs (Lamb et al., 2009; Pipe & Salmon, 2009). Open ended, free recall prompts have been identified as the single most effective prompt type to increase the accuracy of information that children report about a prior
experience (Lamb, Orbach, Hershkowitz, Horowitz, & Abbott, 2007; Lamb, Orbach, Sternberg, Esplin, & Hershkowitz, 2002; Orbach & Lamb, 2001). Open ended prompts include statements such as, “Tell me what happened” or “Tell me everything you can about…” (Lamb et al., 2009; Larsson & Lamb Tielsch & Allen, 2005). Open ended prompts do not suggest or imply the correct answer, but rather allow the child to lead the response. Larsson and Lamb (2008) have argued that in addition to eliciting accurate accounts, open-ended prompts also provide children the opportunity to give details that may be seemingly irrelevant from an adult perspective. In addition to using open ended questions, interviewers can facilitate children’s reports during the interview by ensuring that the child does not become fatigued or distressed by the ambience within the interview setting (Greenstock & Pipe, 1997; Sutherland & Hayne, 2001). For optimal outcomes the interviewers must provide a structured interview format with supportive context and interpersonal interactions (Pipe & Salmon, 2009; Salmon, 2006).

When interviewing children in clinical settings it is important to understand something of the child’s emotional development. Large scale, longitudinal studies of child development have shown that by 6 months of age, infants experience and express the basic emotion states (i.e., happy, sad, anger, fear, Sheridan, 1999). The emotional development that begins in infancy changes rapidly during the second and third years, continuing into the preschool years. During the preschool years, children may understand more complex concepts, for example; that although a smile typically indicates happiness, sometimes a smile may be an attempt to mask sadness (Flavell & Miller, 1998). As the child reaches middle childhood, they are able to understand the more subtle or complex emotions; such as feelings of embarrassment or pride (Carr, 1999; Ialonga et al., 2001).

The ability to verbally communicate about emotional states usually begins during the second year when language development is burgeoning. By two years of age, for example, children know and can use the words for basic emotion and feeling states (i.e., hurt) but both
the use, and complexity of emotion language that children use increases as a function of age (Wellman, Harris, Banerjee, & Sinclair, 1995). In one recent study, 22 pre verbal were taught to use symbolic gestures to communicate emotion and feeling states (e.g., sad or sleepy). Video recordings were made of the infants using symbolic gestures. The recordings were screened for contextual congruence, in order to identify that the children were not merely using imitation. Half of the infants used symbolic gesture for communicating emotion (Vallotton, 2008). Clinical research indicates that young children are able to accurately self report regarding symptoms of psychopathology. In one study, for example, participants who identified themselves with symptoms of depressed mood at five years old, were more likely to require specialist service intervention by age 14, confirming that they had accurately identified and reported mood symptoms at age 5 (Ialonga et al., 2001). In summary, children show increasing emotional awareness as their development proceeds. It is evident that from early childhood, children do have insight into their emotional experience and the ability to communicate about their experience.

Although children do have a basic understanding of their own emotional states and can tell someone else about them, children often provide little (albeit highly accurate) information in response to general open-ended questions. Given this, researchers and clinicians have attempted to identify new interview techniques that augment the amount of information that children report without decreasing accuracy. Drawing is one technique that has attracted a significant amount of interest. Drawing materials are inexpensive to provide and drawing is an activity that is popular with children (Davies & Wright, 2008; Patterson & Hayne, 2009; Narwal et al., 2005). Drawing is both popular and practical but what do we know about drawing and its application? This applies particularly to the effects of drawing on children’s interview performance.
The Role of Drawing in Clinical Contexts

There is a rich history of the use of drawing with children in clinical settings (Butler et al., 1995; Gross, Hayne & Drury, 2008; Gross & Hayne, 1998; Gross & Hayne, 1999; Patterson & Hayne, 2009; Wilcox, 2004). Traditionally, drawing has been used in one of two ways. First, drawing has been used as a projective method for testing cognitive ability and emotional wellbeing or personality. For example, the Goodenough Draw-a-Man Test was designed to measure IQ (Goodenough, 1926), and the Draw-a-Person Test was originally designed to measure aspects of personality (Machover, 1949). Similarly, the House-Tree-Person Test was designed to assess personality and aspects of neurological function (Buck, 1948). The Kinetic Family Drawing test was designed to assess family relationships (Burns & Kaufman, 1970). When a drawing test is used as a projective measure, the clinician instructs the child to draw something. The clinician will then study the drawing, and make inferences about the child’s psychological function.

The evaluation of the effectiveness of projective drawing tests has shown that clinician’s interpretation of children’s drawings is fraught with confounding factors (Gregory, 2004; Nawal, Glyn & Jolley, 2005) and despite being popular, there is no empirical evidence to support the conclusion that drawing is a valid measure of personality, behaviour or intelligence (Anastasi & Urbina, 1997; Gregory, 2004; Nawal, Glyn & Jolley, 2005; Thomas & Jolley; 1998). Due to lack of empirical support, the use of drawing tests as a measure of intelligence or personality is controversial in contemporary practice. One key criticism of all projective techniques pertains to the focus on what the child draws and not what the child says. Researchers have urged caution about the assessment of children’s drawing without the accompanying verbal communication, due to the risk of misunderstanding and misinterpretation (Butler et al., 1995; Gross & Hayne, 1999; see Pipe & Salmon, 2009; Tielsch & Allen, 2005).
In addition to its use as a projective measure, drawing has also been used as an informal assessment tool to build rapport or to facilitate children’s verbal reports (Nawal, Glyn & Jolley, 2005). Currently, clinicians support the use of drawing as a therapeutic tool for generating verbal communication and enabling understanding of the child’s of experience (Graham et al., 1999). Similarly, researchers have concluded that it is the verbal report, accompanying a drawing that is of greatest value (Gross & Hayne, 1999; Rollins, 2005; Salmon & Pipe, 2009). Over the last decade, Hayne and her colleagues (Butler, Gross, & Hayne, 1995; Gross & Hayne, 1999; Gross, Hayne, & Drury, 2008; Patterson & Hayne, 2009) have conducted extensive research on the use of drawing to help children describe their prior experiences in experimental and educational settings. The method they have focused on is the draw and tell method. In one of the first empirical studies to assess the effect of drawing on children’s self reports, 32 5- to 6-year-old children participated in a visit to a fire station and engaged in a number of activities, such as climbing into a fire engine (Butler, Gross, & Hayne, 1995). One day later, children were asked to tell about the event under one of two conditions. There was a draw and tell condition and a tell condition. The children in the draw and tell condition were asked to draw and tell everything they could remember about the visit. Children in the tell condition were asked to tell everything they could remember about the visit. Children’s verbal reports about the event were recorded, transcribed verbatim, and coded for the amount of information that they reported. Children in the draw condition provided twice as much information as children in the tell condition. Further, in relation to the accuracy of the report about the event, children in the draw condition were just as accurate as the children in the tell condition. The authors extended this study by including an additional group of younger children (3- to 4- years old) as well as the 5- to 6-year old children. In addition, the time period between the event and the interview was extended from one day, to one month for both age groups. Drawing did not facilitate recall for the younger children, but the 5- to 6-year old children in the draw group reported
more information than did children of the same age in the tell condition, even after the one month delay. This seminal study was the first to provide empirical support that drawing about an event increases the amount of information that children report, at least for children over 5 years of age.

Gross and Hayne (1999) continued this line of research and explored the facilitative effects of drawing on children’s reports of novel events after even longer delays. In the Gross and Hayne (1999) study, children were tested after delays ranging from 1 day to 12 months. Fifty-five 5- to 6-year-old children visited a chocolate factory and were initially interviewed either at 1 month or 6 months later. As in Butler et al., children were asked to draw and tell about the event or tell only. As in previous research, children who were invited to draw and tell reported more information than those who were invited to tell only, irrespective of the delay between the event and the interview; the accuracy of children’s reports in both conditions was also high. One year after the event, all of the children were re-interviewed. Again, children in the draw and tell condition produced more information than children in the tell-only condition. Furthermore, children in the draw condition reported 78 percent more new information (i.e., information that they had not reported in the original interview), indicating that the draw condition elicited the greatest increase in both old and new information; again, all of the information that children reported was highly accurate.

In yet another study from Hayne’s laboratory, children visited a museum and then took part in draw or tell interviews. Children in the draw condition reported more narrative and factual information about the visit to the museum when they were tested after a 1 or 2 day delay, and reported more narrative information when they were tested after a 7-month delay. This research has important implications for developing strategies to support learning and memory of educational material (Gross, Hayne, & Drury, 2008).

Having established that drawing facilitated children’s verbal reports for novel events and educational visits. Gross and Hayne (1998) also examined the use of drawing as a means
to facilitate children’s reports of their emotional experiences. In their study, 20, 3- to 4- year old children and 20 5- to-6- year old children were asked to describe a time when they were happy, sad, angry, or scared. The children were assigned to either a draw and tell or tell only condition. The children reported a range of emotional experiences, including negative emotion states such as loss, grief and distress related to family disharmony. Children in the draw and tell condition reported twice as much information compared to children in the tell-only condition, irrespective of age group. In order to assess the accuracy of the information that the children reported, caregivers were asked to corroborate the child’s reports. Irrespective of age, children who were allowed to draw and tell provided more information regarding their emotional experience compared to children in the tell condition. The increase in information provided did not compromise the accuracy of the information. Recently, researchers have replicated and extended these findings with an extended age range of 5- to 12 year old children (Patterson & Hayne, 2009).

Having established the fact that the opportunity to draw increases the amount of information that children report without decreasing the accuracy, subsequent researchers have compared the effect of the draw and tell technique to that of another experimental interview technique; re-enactment (Salmon, Roncolato, & Gleitzman, 2003). In the Salmon et al. study, children in the re-enactment condition were allowed to act out an emotionally laden, prior experience. In that study 58, 5- to 7- year old children were assigned to one of three conditions (i.e., draw and tell, re-enact and tell, or tell only). Irrespective of their interview condition, children were invited to report about a time when they had felt either happy or scared. Children in the draw condition reported nearly twice as much information when compared with children in the re-enact condition, and a third more information than children in the tell condition.

In summary, research has shown that drawing increases the amount of information that children report about a variety of experiences, including, educational visits, emotionally-
laden events, and other kinds of novel, past events. These studies also suggest that under optimal interview conditions, there is no evidence that drawing has an adverse influence on accuracy.

**Conditions under which Drawing might Compromise Accuracy**

As described above, prior research with the draw and tell technique indicates that drawing helps children to provide increased amounts of information without compromising accuracy. Recent research, however, suggests that drawing does not protect children against the negative effects of misleading or suggestive questions during the interview, and in some situations, drawing might actually make things worse. In one study by Bruck, Melnyk, and Ceci (2000), for example, children participated in a magic show and watched as 2 tricks were performed. Children were then interviewed 3 times. The first interview occurred 2 weeks after the event and there were 3 elements to this interview; warm up, free recall and suggestion (the children were given both true and false information about the show). Half the children were then asked to draw about the show and half the children were asked questions about the show. The second interview occurred 12 days after the first, and the protocol was repeated but there was less free play, followed by the suggestion phase (the free recall phase was omitted). Finally, an exit interview was conducted 2 weeks later and the interviewers used free recall prompting and a memory recognition test. Although the children who drew about the event provided more information in the exit interview, their reports contained a combination of both true and false information. In addition to this finding, the results showed that the children who drew gave more free recall information and answered more recognition questions correctly. Furthermore, they were more likely to recall the source of reported information during the exit interview (Bruck et al., 2000).

Strange et al., (2003) also investigated the effects of drawing on children’s recall of false event information. In that study, children completed a Life Event Inventory (LEI) that included items that were highly unlikely experiences for a child, such as being able to fly.
Children were assigned to either a draw or no draw condition. Children in the draw condition were invited to draw about three randomly selected events from the LEI. One hour later, the LEI was re-administered to both groups. Children who drew were more likely to claim that the false events had occurred, even if they had previously denied them, when compared with children who did not draw.

In yet another study on the potentially negative effects of drawing, Gross, Hayne, and Poole (2006) arranged for groups of 5- to 7-year-olds and 9- to 10-year-olds to visit a police station. During the visit, the children participated in a number of activities such as being finger printed and visiting a cell. Children were interviewed multiple times. For example, 2- and 4-weeks after the event, children were assigned to one of three experimental groups; adult-draw (adult draws aspects of the event), adult-tell (adult verbally reports aspects of the event), or child-draw (children draw and report on the event) and a control group. Three of the groups (i.e., adult-draw, adult-tell and child-draw) participated in two misinformation interviews during which they received both true and false event information. Six weeks later, the children were interviewed individually; they were assessed on free and directed recall of verbal information. Children in the adult-draw, adult-tell and child-draw conditions provided more false event information than did children in the control condition. The 9- to 10-year-old children in the child-draw condition were more likely to reject false information, however, once they commenced drawing about false information, they went on to provide an elaborate report of the event that contained almost twice the amount of detail. Taken together, the results from these studies indicate that drawing does not protect against misleading or suggestive information and emphasises the need for the interviewer to use open-ended prompts that are not suggestive or misleading.

*Why does Drawing Work?*

Although it is now generally well accepted that the opportunity to draw increases the amount of information that children report, the mechanisms by which this happens is not clear.
There are at least two possibilities. First, drawing might influence the child directly. For example, some researchers have argued that drawing might focus the child’s attention on the task at hand or generate additional retrieval cues that remind the child of other aspects of the same event (Butler et al., 1995; Pipe & Salmon, 2009). Drawing might also help children to structure the story they are trying to tell (Gross & Hayne, 1998, 1999; Wesson & Salmon, 2001, Brooks, 2005). Some researchers have stated that children like drawing (Patterson & Hayne, 2009; Yuen, 2004) and that they find it efficacious when talking in clinical settings (Davies & Wright, 2008). These findings suggest that motivational and attributional concepts might be influential when children appraise the use of drawing. Second, drawing might change the way the adult conducts the interview. For instance, Willcock (2004) looked at differences in interviewers’ prompting when they were interviewing with draw or tell protocol. Importantly, when she looked at the relation between interviewers’ questions and the amount of information that children reported, she found that Interviewers made twice as many verbal prompts in the draw condition, when compared with the interviewers in the tell condition. Although interviewers in the draw condition used more free recall prompts, the biggest increase was noted for the interviewer’s use of minimal responses.

The Present Research

A growing body of research has now shown that, when accompanied by appropriate questions, drawing increases the amount of information that 3- to 12-year-old children report about a wide range of experiences, without compromising accuracy. To date however, this method has not been empirically tested in an actual clinical environment. It is unclear, therefore, whether draw and tell interviews would facilitate children’s reports on their affective experiences in clinical settings. Given this, the main aim of the present study was to establish whether drawing facilitates children’s verbal reports of their presenting problem in a clinical setting. We hypothesized that children who are invited to draw and tell about their presenting problem would report more information when compared with children who
tell about their presenting problem. In addition, we were also interested in children’s views and perceptions about drawing within clinical interviews. Specifically, would children express a preference to draw about their presenting problem rather than tell only? Finally, we wanted to know if children perceived that drawing made the task of reporting their presenting problem easier.
Method.

Participants:

A total of 33 children who had been referred to one of four child mental health clinics in the Dunedin and the greater Otago region took part in this study. The four mental health clinics included two tertiary child and adolescent services, one primary family mental health service, and one non government organisation. The four services all provide mental health assessment and treatment for children. Children ranged in age from 5- to 12-years old (i.e., 5-to 6- years old, n = 6; 7- to 8- years old, n = 6; 9- to 10- years old, n = 14; 11- to 12- years old, n = 7). There were 15 girls and 18 boys. All of the children had been referred to the respective services for a mental health assessment. Children were referred due to symptoms of internalising disorder (e.g., low mood, anxiety), externalising disorder (e.g., oppositionality, impulsivity), or developmental disorder (e.g., delays in language, social or cognitive development).

We gathered demographic data from clinicians in relation to children’s ethnicity and medication status. One child who took part in the study had been on an established medication regime, over time, and to good effect. Therefore, it is unlikely that this would have had an effect on the child’s psycho-social function during the interview process. The ethnic composition of this group included 3 children who identified as Maori (10%), 26 children who identified as Pakeha/European (84%), and 2 children who identified as other than Maori or Pakeha (6%). In addition, we made arrangements with each service such that when the assessment was complete, we could access information regarding the diagnosis or assessment outcome for each child.

Prior to recruitment, the four mental health clinics were approached to ascertain their willingness to be part of the study. They were provided with an outline of the study, as well as the information sheets and consent forms to be used (see appendix A & B). Each of the four clinics agreed to the study being carried out in their setting. As the clinicians at these
services were the people who would conduct the clinical assessments, we invited expressions of interest from clinicians at the respective services. Clinicians who expressed an interest were given a preliminary overview of the study and those who continued to indicate an interest in participating as interviewers (n = 5), were offered training in the interview protocol. The centres varied in their admission practice regarding new referrals. At some centres (n = 2), each participating clinician screened their 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), they were invited to participate. At other centres (n = 2), where all initial referrals result 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 information pack (see appendix A & B) for the study alongside the usual documentation sent by the administrator for the initial appointment.

At the initial appointment, the clinician raised the option of participation with the family. If the child and their caregiver indicated they would like to participate in the study, they were recruited to the study and the process of informed consent, including child assent (see appendix C) and written parental consent, was obtained. Children were excluded from the study if they were not able to physically manage the tasks involved in the study (i.e., unable to talk or draw). The interviewers reported that a total of 8 children declined to participate in the study. The 8 children who declined to participate were thanked for their consideration to participate and the assessment process continued as per usual assessment practises without further reference to the study.

Apparatus:

Interviewers used professional audio equipment for recording interviews. In the draw and tell condition, children were supplied with a pack containing twelve coloured felt pens and a piece of white, A3 size paper. A question sheet was devised for this study (see
Appendix D). The question sheet contained 2 questions; 1 question related to the child’s preference for the use of drawing: 1) “There are two ways you can tell me about your presenting problem, you can draw and tell or tell; which would you prefer? Draw or tell?” and 2) “How easy was it for you to tell me about your presenting problem? Was it easy, very easy or not easy?”

Procedure:

The assessment procedure commenced with the children and their caregivers being introduced to the service and their clinician, as per the usual assessment procedure, and basic background information was gathered (e.g., education, health and family composition). The interviewer spent time building rapport with the child by talking about general events and activities in the child’s life (e.g., about sport, recreation, pets and friendships). When the interviewer observed that the child was at ease, the interviewer suggested that the caregiver might have a break in the waiting area and the experimental phase of the interview commenced (see Appendix E for an overview of the interview protocol).

First, children were asked to provide a verbal account of their presenting problem in one of two randomly assigned experimental conditions. In one condition, the ‘tell only’ condition, the child was asked to tell everything that he or she could about the presenting problem. In the other condition, the ‘draw and tell’ condition, the child was asked to draw and tell everything that he or she could about the presenting problem. Children in the draw and tell condition were given coloured felts and paper to draw on. The experimental phase of the interview started with the interviewer asking the child, “Do you know why you have come here to see me today?” If the child identified a presenting problem, the interviewer and child established the name of the presenting problem (e.g., worry, sadness). If the child did not know why they were attending the clinic, the clinician would use the referral document as a guide thus; “Well I heard that you came along here today because …. ” (Interviewer stated the presenting problem the child was referred for). Once the child and interviewer
established what the presenting problem was, the interviewer invited the child to describe the presenting problem by saying; “I’d like you to tell (or draw and tell) me everything you can about …?” (The presenting problem). If the child did not spontaneously narrate about what he or she was drawing, he or she was asked to do so.

Interviewers in both conditions invited more detail by using a general prompt such as; “Can you tell (or draw and tell) me anything else about the …?” (The presenting problem). The interviewer could follow up general prompts (e.g., “so the police arrived, then what happened?”) with more direct prompts (e.g., “what did dad do when the police arrived?”) regarding key topics the child reported. In addition, to encourage the child to provide additional information, the interviewer used minimal encouragers (e.g., “Uh huh”, “right”) and paraphrases and reflections of what the child said (e.g., “It was very sad when your mother died”). The encouragers, reflections and prompts continued until the child had no further information to report about the presenting problem.

The interviewer then asked the child if there were any other presenting problems. If the child identified other presenting problems, the interviewer repeated the interview protocol described above for the first presenting problem. This sequence continued until the child identified that there were no further issues that he or she wished to report.

Second, the child was asked the questions in Appendix D. The interviewer read aloud the statements about preference (i.e., “would you prefer to draw or tell?”) and ease of reporting (i.e., “How easy was it for you to tell me about …” [presenting problem]? with the accompanying answer options (e.g., “Was it hard, easy or very easy to tell me about your presenting problem?”). The clinician then asked the child to indicate their answer by either circling the option or pointing to an option that the clinician circled on the child’s behalf. Once the child had answered these questions, the experimental phase of the interview was over and the clinical assessment of the child continued as it would usually proceed in the
respective treatment setting (e.g., the child and family may reunite and spend time talking with the clinician).

The experimental phase of the interview was audio-taped and all interviews were transcribed verbatim and coded in the following way: First, the amount of clinically-relevant information the child provided was coded. Clinical relevance was defined as information the child reported about the presenting problem and also included verbal information the child reported that was seen as relevant to assessment (i.e., information about social, emotional, intellectual, communicative and physical functioning). The amount of information the children provided in both conditions was quantitatively assessed, by calculating the number of clauses that were provided. A clause was defined as a simple sentence that contained an explicit or implicit verb such that there was one verb per clause. For example, “When he died” “I felt I was alone” “and no one was there for me,” would be coded as three clauses. Only verbal information was coded. That is, children were only given credit for things that they said during the interview. The drawings the children made were not subjected to any analysis. Furthermore, additional information that was not of clinical relevance (e.g., “may I have a tissue?”) was not coded.

In addition, we also examined the questions that the clinician asked during the assessment interview. Each question was coded as one of the following:

a) Open-ended question. The interviewer used open-ended questions to prompt the child for more information (e.g., Tell (or draw and tell) me everything you can about worry).

b) Closed question. The interviewer used a prompt that required the child to give a yes, no or choice answer (e.g., “do you stay asleep all night?”).

c) Leading question. The interviewer 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?” “is that your mum?” when the child had not already indicated that he or she was drawing about his or her mother).


d) Minimal response/reflection or encourager. The interviewer used a prompt that encouraged the child to keep talking without asking a question (e.g., “uh huh,” “really,” or “wow”). The interviewer may have reflected/paraphrased something the child said or made a supportive comment (e.g.,” That was tricky for you”).Interviewer turns that were off task and that were not related to the event that the child was describing (e.g., the interviewer commented on noises outside the room) were not coded.

Coding reliability. To ensure that the coding scheme was reliable, 33 % of coded transcripts were randomly selected and recoded by an independent, trained coder. The total number of agreements, divided by the number of agreements plus the number of disagreements (agreements/ agreements + disagreements) was calculated to get a reliability coefficient for the number of clauses children reported. A reliability coefficient of 94% was established for the number of child clauses. Inter-observer reliability for type of interviewer turn (i.e., open-ended, closed, leading, or minimal responses) was 97%, (k =0.94).
Results

Interviews were conducted with 33 children presenting for their first clinical interview at a child mental health clinic. Of these, two interviews were omitted from further analysis. One interview was omitted from inclusion due to sound distortion that rendered the recording inaudible. The second interview was omitted because retrospective information identified that the child had English as a second language.

Some children presented with more than one presenting problem (n = 10, range 2 - 4 presenting problems). In order to manage the variable amounts of information that occurred when children have more than one presenting problem, we analysed the reported information pertaining to the first presenting problem only. Preliminary analysis revealed that there were no effects associated with the person who interviewed the child, the gender of the child or the category of the presenting problem (e.g., internalizing, externalizing, or developmental) on the amount of information that children reported. Further, a Pearson product moment correlation showed that there was no association between age and the amount of information that children reported, and there was no association between age and interviewer prompting behaviour (i.e., the number of open, closed, leading or minimal responses). Given these findings, the data were collapsed across interviewer, age, gender and category of presenting problem for all subsequent analyses.

Amount of Information Reported

The amount of information that children reported is shown in Figure 1 as a function of interview condition. In order to assess the effects of drawing on children’s reports of their presenting problem, we conducted a -one-way (Condition: Draw/Tell) analysis of variance (ANOVA) on the data in Figure 1. This analysis yielded an effect of condition, $F (1, 31) = 10.56, p < .01$. Overall, children reported more clinically-relevant information when they
were allowed to draw during the interview (M = 99.73; SE = 10.78) than when they were not (M = 50.93; SE = 10.44).

![Figure 1. Mean number of clauses (and standard error) reported in the draw and the tell condition.](image)

**Figure 1.** Mean number of clauses (and standard error) reported in the draw and the tell condition.

**Interviewer Behaviour**

A number of researchers have reported that particular verbal prompts by interviewers are associated with an increase in the amount of information provided by the child. For example, Willcock (2004) found that minimal responses, in particular, facilitated children’s reports. In order to determine if interviewer behaviour differed between the draw and tell conditions, we assessed the number and category of interviewers’ prompts that occurred in each interview. First, we conducted a 2 (Condition: Draw/Tell) x 4 (Prompt Type; open, closed, leading or minimal responses) analysis of variance (ANOVA). This analysis yielded a main effect of prompt, $F(3, 87) = 55.98, p < .01$, and a main effect of condition, $F(1, 29) = 7.09, p = .01$. These main effects were qualified by a Prompt Type x Condition interaction, $F(3, 87) = 5.32, p < .01$. The Prompt Type x Condition interaction is shown in Figure 2.
To evaluate this Prompt Type x Condition interaction, post-hoc $t$-tests comparing each pair of bars in Figure 2 were carried out using the Bonferroni correction. These analyses revealed that interviewers used more minimal responses (MRE) in the draw condition than did interviewers in the tell condition, $t(18) = 2.53, p < .01$, but there was no effect of condition on the number of open, closed or leading prompts.

**Drawing-Related Factors**

Research in a variety of contexts (i.e., recreational, experimental and health-related) suggests that children like to draw during interviews presumably because drawing makes them feel more comfortable (Yuen, 2004; Patterson & Hayne, 2009; Pipe & Salmon, 2009). Although the use of drawing is recommended in clinical guidelines (AACAP, 1997; Graham et al., 1999), it is not yet known, whether children would prefer to draw during interviews in
clinical contexts. That is, would children elect to draw during a clinical interview when they are given the opportunity to do so?

In order to address this issue, the children in the present study were asked whether they would prefer to draw or tell about their presenting problem, if given a choice. Overall, 55% (n = 17) of the children in the sample indicated that they would prefer to draw rather than to tell about their presenting problem. The remaining 45% (n = 14) of the children in the sample said that they would prefer to tell. We also examined whether the experimental condition that the child had been assigned to influenced their stated preference (i.e., would children in the draw condition, be more likely to state a preference for drawing?). In order to answer this question, we conducted a Pearson Chi square analysis. As shown in Table 1, there was no association between children’s experimental condition and their stated preference to draw or tell, Pearson χ² (1, 31) = 0.784, p < 0.376.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Prefer Draw</th>
<th>Prefer Tell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw</td>
<td>7 (47%)</td>
<td>8 (53%)</td>
</tr>
<tr>
<td>Tell</td>
<td>10 (62%)</td>
<td>6 (38%)</td>
</tr>
</tbody>
</table>

We were also interested in examining if drawing influenced children’s perception of how easy it was for them to report their presenting problem. Recall, that after being interviewed, the children were asked how easy it was to talk about their presenting problem (i.e., ‘easy’, ‘very easy’ or ‘not easy’). For the purpose of data analysis, the positive categories ‘easy’ and ‘very easy’ were combined and compared with the negative category,
‘not easy.’ Overall, 48% (n = 15) of children indicated that it was ‘easy/very easy’ to talk about their presenting problem and 52% (n = 16) of children indicated that it was ‘not easy.’

To assess whether children in the draw condition thought that it was easier to talk about their presenting problem than children in the tell condition, we conducted a Pearson Chi square analysis. As shown in Table 2, the proportion of children who perceived the level of difficulty either positively or negatively, did not differ significantly between draw and tell conditions, (Pearson $\chi^2 (1,31) = .034, p < 0.853$).

<table>
<thead>
<tr>
<th>Condition</th>
<th>Easy</th>
<th>Not Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Draw</td>
<td>7 (47%)</td>
<td>8 (53%)</td>
</tr>
<tr>
<td>Tell</td>
<td>8 (50%)</td>
<td>8 (50%)</td>
</tr>
</tbody>
</table>

Table 2. Number of children (and percentage) who perceived the task as “easy” versus “not easy” as a function of experimental condition.

Diagnostic Information

Recall that the mental health service providers who conducted these interviews provided us with post-assessment data regarding the formulation and diagnoses of the children who participated in the study. Of the 31 children whose data was analysed in the present study, 90% (n = 28) were found to have met criteria for an Axis 1 psychiatric diagnosis as measured by the Diagnostic and Statistical Manual of Mental Disorders (DSM IV, 2000). Specifically, the range of conditions included attention deficit hyperactivity disorder (n = 5), Tourette’s disorder (n = 1), oppositional defiant disorder (n = 1), pervasive developmental disorder (n = 1), anxiety (n = 6), adjustment disorders (n = 9) and “other conditions that may be the focus of clinical attention” (n = 5, p. 27, DSM IV, 2000). Three (10%) of the group were found to have symptoms that did not reach a clinical threshold.
Discussion

Research conducted in analogue settings has consistently shown that children provide more information when they are asked to draw and tell during an interview, than when they are asked to tell only. In the present study, we extended this finding by examining whether drawing facilitates children’s verbal reports of their presenting problem during an actual clinical assessment. Consistent with prior laboratory-based research, we found that children who drew and told about their presenting problem provided twice as much information as children who told only. In addition to finding that children provided more information about their presenting problem, we also found differences in the way the interviewers prompted the children to talk about their problem as a function of interview condition. That is, interviewers in the draw and tell condition provided more minimal responses than did interviewers in the tell condition. Further, drawing did not increase less desirable interviewer prompts such as closed or leading questions.

Prior research has shown that children report that they like to draw in interview settings (Yuen, 2004; Patterson & Hayne, 2009). Given this, we also examined whether children would indicate a preference to either draw or tell about their presenting problem. Irrespective of their experimental condition, children did not express a preference for drawing. Approximately half the children said that they would prefer to draw about their presenting problem and half the children said that they would prefer to tell. Prior research has also shown that children say that drawing helps them to talk in clinical settings (Davies & Wright, 2008). Given this, we examined whether drawing children in the draw condition perceived that drawing made it easier to describe their presenting problem. We found that children who drew and told about their presenting problem did not report the task to be easier than children who told only. That is, irrespective of condition, approximately half of children said that it was ‘easy’ to talk about their presenting problems and half of children said it was ‘not easy’ to talk about their presenting problems. Taken together, these findings do not
support the notion that drawing facilitates children’s self reports because it is a preferred activity or because it is perceived by children as making the task easier.

**Clinical implications**

In the present study, we found that drawing increases the amount of information that children report about their presenting problem in an actual clinical setting. This finding is consistent with the growing body of research conducted in experimental settings that has shown that the draw and tell method facilitates children’s reports (Butler, Gross & Hayne, 1995; Gross & Hayne, 1999; Gross, Hayne & Drury, 2008; Patterson & Hayne, 2009). To the best of our knowledge, only one other research group has assessed the effect of drawing on children’s reports in a clinical context. In an unpublished study by Drucker, Greco-Vigorito, Moore –Russell, Avaltroni and Ryan (1997), clinicians interviewed children of substance abuser about their parent’s most recent drinking or drug-taking episode. They found that the children who drew and told about episodes of parental substance misuse provided three times the amount of information as children who told only. Taken together, the findings reported by Drucker et al. and the findings of the present study suggest that drawing may be a developmentally sensitive tool that clinicians can use when interviewing children in a clinical context.

Identifying tools that increase the yield of information about a child’s symptoms and their overall psychosocial functioning is very valuable to the assessment process. Assessment information obtained in clinical interviews forms objective data about mood, affect and functioning that informs diagnostic and treatment processes. A tool that increases the amount of information obtained therefore increases the available data on which to base these diagnostic and treatment decisions. Clinicians conduct multi axial diagnosis to ensure that all precipitating, maintaining and protective factors are considered in the diagnostic evaluation. This helps with capturing and communicating the complex nature of psychiatric presentations (DSM-IV, 2000). A multi-axial diagnosis requires clinical information that
relates to five domains of function. The first axis pertains to mental disorders or other
conditions that may be the focus of clinical attention. The second axis pertains to personality
disorders or mental retardation. The third axis is for information on general medical
conditions. Axis four notes psychosocial and environmental problems and axis five is a
numerical value which scores the child’s global assessment of function (DSM-IV, 2000).
Gleaning extensive information on all of these domains of functioning is important for the
completion of a multi axial diagnosis which enables the clinician to make an accurate
diagnosis, recommend treatment and provide information regarding prognosis. In the present
study, more information was obtained about the child’s functioning across these domains in
the draw and tell condition than the tell condition. Recall that we only coded clinically
relevant information. That is, information children reported about their presenting problem
and also information that was relevant to multi axial diagnosis (e.g., information about their
friends, who they liked, how school was for them). In this way, more assessment and
diagnostic information was obtained in the draw versus the tell condition, again suggesting
that drawing maybe a useful tool to be used in clinical settings.

In relation to obtaining multi axial information for diagnosis, a further advantage of
interviewing children in the draw condition was apparent. When children are interviewed in
the draw condition the clinician is provided with a further opportunity to observe a wider
range of skills and behaviours that are relevant to the assessment, other than the child’s self
report. For example, the child’s physical / manipulative skills can be observed by the
clinician, as well as the child’s orientation to task, and their attention span. When children
draw, aspects of their confidence levels and self efficacy may be evident (i.e., does the child
observed seek reassurance before commencement of the task?). Although we did not code
these behaviours in the present study, in future research, these observations could be
recorded and scored to determine whether they help the clinician to formulate an overall
clinical impression of the child.
Previous researchers have commented that the symptoms of psychopathology may impair a child’s ability to provide a self report (Tielsch & Allen, 2005). For instance, symptoms of ADHD may impair the child’s ability to focus and remain on task for any length of time or anxiety may result in excessive worry about the task or difficulty with concentration. In the present study, all the children were referred for assessment due to symptomatic presentation that was occurring in more than one environment (i.e., school and home). After a full psychiatric assessment, the clinicians involved in the assessment processes concluded that 90% of the children met criteria for a DSM-IV (2000) diagnosis. This finding establishes that most of the children in the present study were symptomatic and experiencing significant psychological impairment or distress. These same children were able to provide a self report and further, drawing increased the amount of information they provided. These findings suggest that drawing helped children to talk about their presenting problems even in the presence of psychopathology.

**Individual Factors**

Researchers conducting research in non clinical settings have examined factors that might impede or enhance the effect of drawing for children in draw and tell interviews. For example, Patterson & Hayne (2009) assessed children’s level of embarrassment regarding their drawing and whether that embarrassment had any effect on the amount of information that children subsequently reported about their emotional experiences. Patterson and Hayne (2009) found that one quarter of the children in their sample indicated that they were ‘embarrassed’ by their drawing, but they also found that children’s level of embarrassment did not have an adverse effect on the amount of information that these children reported. That is, children who were embarrassed by their drawing reported as much information in the draw condition as did children who were not embarrassed.

Other researchers have examined whether individual difference factors such as temperament or language ability alter the facilitative effect of drawing. For example,
Salmon, Roncolato & Gleitzman (2003) assessed children’s temperamental style and expressive language ability in a draw and tell study. Children were asked to describe a time when they had felt either happy or scared in either a draw and tell condition, a re enact condition or a tell-only condition. Salmon et al. found that, irrespective of temperament type or expressive language ability, children reported more information when they were given the opportunity to draw and tell.

In the present study, we were also interested in individual characteristics that may affect the facilitative effect of draw and tell. For example, we wanted to know if drawing would be more or less effective for children who were affected by specific categories of symptoms. For example, would children with anxiety conditions be able to draw and tell about their presenting problem or would drawing further accentuate their symptoms of anxiety, and their ability to self report? In the present study, we found no association between category of presenting problem, amount of information children reported and experimental condition. Despite the various types of presenting problems the children had, drawing enhanced the amount of information that children reported. That is, children who presented with a range of symptoms consistently reported more information about their presenting problem when they drew and told than we when they told only (see below for a further discussion of this issue).

We also wanted to know if drawing was more or less effective for boys and girls. Consistent with the large body of prior research in analogue settings, drawing was just as facilitative for both boys and girls in a clinical setting (cf., Gross & Hayne, 1998; Gross, Hayne & Drury, 2008). The absence of a gender difference further supports the efficacy of this method for use with both boys and girls who are experiencing symptoms of psychopathology.

Following on from Patterson and Hayne (2009), we also asked it children preferred to draw or tell in clinical interviews to examine possible motivational factors that may influence
the facilitative effect of drawing. Children in the present study did not indicate a clear preference to draw in clinical interviews despite previous research indicating that children say they like to draw (Yuen, 2004; Patterson & Hayne, 2009). Similarly, to examine other possible factors that may be associated with drawing, we asked children how easy it was for them to talk about their presenting problem. Our finding that there was no difference between the number of children who reported the task as easy or not easy as a function of condition indicates that children do not perceive drawing as making the task of talking about their presenting problem easier.

**Interviewer Prompting**

A number of hypotheses have been proposed to explain the efficacy of draw and tell interviews including hypotheses about potential social, cognitive and communicative mechanisms that might explain the efficacy of the drawing technique. Despite a growing body of research on drawing, the reason that drawing works is not well understood. One consistent finding, however, is that drawing increases the number of prompts that interviewers make which, in turn, increases the amount of information that children report (Willcox, 2004; Patterson & Hayne, 2009). Consistent with that prior work, we also found that drawing influenced the interviewers’ prompts. That is, interviewers in the draw condition used more minimal responses as prompts when compared with interviewers in the tell condition. Minimal responses occur when the interviewer paraphrases something the child has said (e.g., “you were frightened when you were left alone”) or communicates verbal support (e.g., “that sounds very difficult for you,” or “yep”). Minimal responses are considered part of optimal interviewer behavior that creates a supportive interpersonal style and an interview context that is helpful for the child (Salmon; 2006; Pipe & Salmon, 2009). Research on optimal interviewing practice recommends that the interviewer ensures that the child is not becoming stressed by environmental or interpersonal aspects of the interview (Greenstock & Pipe, 1997; Sutherland & Hayne, 2001) and minimal responses may reduce
such stress. Previous researchers (Willcox, 2004; Brooks, 2005; Rollins, 2005) have proposed that the increased use of minimal responses signal to the child that the adult is attending, interested and understanding what the child is telling them. Minimal responses therefore, may convey support and reassurance to a child in an interview setting. In this way, the increased use of minimal responses that interviewers use in the draw condition may have a protective effect in interviews. When a child experiences a supportive context, in which they feel listened to, they will be more likely to feel at ease, which may help them to provide a self report (Lamb et al., 2009; Pipe & Salmon, 2009).

**Optimal Interview Practice**

The use of open ended prompts has been recognised as an important and optimal interview technique. Research from forensic settings recommends that interviewers use open ended, free recall prompts in order to elicit accurate information from children (Orbach & Lamb, 2001; Lamb, Orbach, Sternberg, Esplin & Hershkowitz, 2002; Lamb, Orbach, Hershkowitz, Horowitz & Abbott, 2007). These open ended prompts should be simple and clearly worded (e.g., “tell me everything you can about your worries?” Lamb et al., 2009). This style of prompting tells the child that ‘first hand’ information is being sought and allows the child to self-select responses, rather than taking the lead from the adult. Allowing the child to self select responses has been considered optimal. Self selected referents mean the child starts the reporting by talking about what is predominately salient about their experience. For instance, a child reporting their experience of worry will report on the most salient aspect of their worry (e.g., fear of abandonment). Self selected referents may be essential memory cues for the child (Larson & Lamb, 2008).

Closed, leading or suggestive questions are not considered optimal. Closed questions demand a convergent ‘yes’ or ‘no’ answer and do not permit any contextual information to be given. Leading questions contain implicit cues that the interviewer has incorporated into the question. Closed questions can limit the amount of information a child provides and may
also lead to inaccuracies (Lamb et. al., 2009; Lamb & Fauchier, 2001; Larsson & Lamb, 2008). Leading questions may affect the accuracy of what the child reports as the child is likely to acquiesce to what the adult has implicitly suggested (Lamb et. al., 2009; Lamb & Fauchier, 2001; Pipe et. al., 2004).

In the present study, there was no difference in the number of open ended prompts interviewers used across the two conditions (i.e., in either the draw and tell or tell only condition). Further, we found no difference in the amount of closed or leading questions that interviewers asked in either the draw or tell condition. The use of a semi structured interview protocol may have assisted the interviewer in both conditions to adhere to optimal interviewing practices (i.e., asking predominantly open-ended questions) and protected against negative interviewing practices such as large numbers of closed or leading questions. Anecdotally, interviewers in the present study reported that the semi structured interview protocol made them aware of the types of questions they were asking and ensured that they asked open ended questions.

**Limitations and Methodological issues**

The results of the present study need to be considered in relation to the following limitations and methodological issues. Recruiting a clinical population takes time and the number of children that were recruited to the study in the available time period was small, the children were from a broad age range (i.e., 5- to 12- years of age), as well as having a wide range of presenting symptoms or disorders. Although we found no association of age or type of presenting symptom on the amount of information children reported, a larger sample size may have revealed such differences (e.g., see Patterson & Hayne, 2009 for the effect of age on the amount of information children provide). This study is therefore preliminary, and requires a larger sample size before definitive statements about the effect of drawing on children with differing symptomatology or diagnosis can be made.
Another methodological issue of conducting this research in a clinical setting was the difficulty of implementing an experimental paradigm into an actual clinical assessment. In the present study we recruited interviewers (i.e., practicing clinicians) from 4 child mental health centers. Initially 8 interviewers expressed an interest in being part of the study but when the interview protocol was explained fully, at least 3 clinicians declined to participate further. Based on discussions with the clinicians, we perceived that incorporating a new interview protocol into established routines was not appealing, and that changing their typical interviewing format was perceived as difficult, especially if the clinician was use to using drawing in a psychotherapeutic way. Difficulty with recruiting clinicians to participate in the research makes it more difficult for such research to be carried out.

All of the clinicians who participated in this study were qualified clinicians with a wealth of experience in assessment interviews. Previous research in draw and tell has usually employed research assistants who may or may not have had much experience in interviewing children about their experiences. Because of potential differences in interviewer skill level across studies, we considered whether drawing would continue to facilitate more information from children in a clinical setting due to the proficiency of experienced interviewers. That is, experienced interviewers may be able to elicit similar amounts of the necessary clinical information, irrespective of the techniques or tools used. The present study found children in the draw condition provided more information about their presenting problem when interviewed by an experienced interviewer who was following a semi structured interview protocol. However, the present study did not examine whether skilled interviewers elicit more information about a child’s presenting problem by using their usual interview methods rather than using a semi structured protocol. Future research could answer and address this question.

Another methodological issue encountered in this study was how to obtain a recording of the interview. We used auditory recording equipment only and did not obtain a
visual DVD recording of the interview. Auditory recording equipment was less intrusive and cumbersome to incorporate into the environment. We were concerned that children may have been more self-conscious or distracted if a camera had been used, due to the novelty of filming. The use of audio recording equipment limited the amount of detail we were able to retrieve about the interview. For instance, we could not see any non-verbal gestures or movement. It may be beneficial that future research uses both video and auditory recordings. The use of video and auditory equipment might help to identify elements of the draw condition that result in increased yield of information and desirable interviewer prompting. For instance, a video recording could show the seating positions that were taken by the interviewer and child. Typically, when an adult and child draw together, they will sit beside each other. Conversely, when a verbal interview is conducted it is standard practice that interviewer and child will sit opposite each other. Sitting side by side eliminates eye contact and the ability to observe facial expression. This may help children who are shy or embarrassed about what they are reporting. Researchers have stated that drawing eases the social demands of an interview as the adult and child both focus their attention on the drawing (Butler et al., 1995; Rollins, 2005). The use of video recording may reveal more information about seating positions, non-verbal communication and the social interactions that occur in draw and tell interviews and provide additional information identifying mechanisms that contribute to the facilitative effect of drawing.

Finally, and most importantly, the present study is limited in that we did not assess the accuracy of the information children reported. Prior research on draw and tell has taken place in experimental contexts and researchers have been able to employ techniques for assessing the accuracy of the information the children reported. In the present study, we were asking children to report on experiences that were unique, subjective and phenomenological, and it was therefore not possible for us to establish the accuracy of their reporting. Seeking parental estimates of accuracy may not be reliable given the discrepancy between child and
caregiver accounts, (Hawley & Weisz, 2003; Levine et al., 1999; Rutter, 1997). However, it is important to emphasize that the clinical interview of the child is aimed at obtaining the child’s account of the difficulties (or not) that they are experiencing, irrespective of whether their perception of what is occurring is accurate or not. That is, one of the clinician’s primary roles in the child interview is to facilitate the child to report their version of their individual experience. In the present study, the draw and tell method certainly facilitated this discussion by increasing the amount of information children communicated about their symptoms and problems. Further, previous research suggests that drawing about past events or experiences does not increase inaccuracy as long as optimal interviewing practices are used (i.e., open ended question, no suggestive or misleading influences, (Lamb, Orbach, Hershkowitz, Horowitz, & Abbott, 2007; Lamb, Orbach, Sternberg, Esplin, & Hershkowitz, 2002; Larsson & Lamb, 2008; Orbach & Lamb, 2001). In the present study, interviewers did use optimal interviewing practises, for the most part. The question of accuracy, however, is important and becomes paramount in some interview settings (e.g., forensic interviews, interviews conducted by governmental agencies). Consideration needs to be given to any effect on accuracy when introducing techniques of tools to facilitate children’s self report.

**Future uses of Draw and Tell in Clinical Settings**

The present study provides a formative investigation of the use of draw and tell in clinical interviews. The main hypothesis of the study has been substantiated, and children do provide more information about their presenting problems when they draw and tell in a clinical interview rather than just tell. This finding now opens the way for further research. One pathway for future research is to examine if a more efficient child interview (i.e., one that yields more information such as draw and tell) would result in a reduced need for diagnostic testing. That is; would the use of draw and tell interviews in formative assessments yield sufficient information for diagnosis? Formative assessments that result in adequate amounts of information can reduce protracted assessment processes. A sufficient
yield of information from the child, along with multi informant information, can enable a clinician to make a diagnosis without the need for further diagnostic testing. After an expedient diagnosis, follows the commencement of a treatment regime. When effective, this leads to the rapid remediation of the child’s symptoms. In addition, reduced diagnostic testing could help services save money on the cost of specialised diagnostic resources and the administration of extensive testing. If draw and tell interviews resulted in a reduced need for additional diagnostic testing, this finding could add weight to health and human rights policy development (UNCROC, 1989; MoH, 1998) that advocates for children’s voices to be heard directly and in the first instance.

Future research might also investigate if draw and tell could be used to re-assess children in a clinical setting. Once a provisional diagnosis has been made, it is usual practise for a treatment plan to be devised and implemented. In order to assess if the treatment is effective, clinical reviews are conducted at regular intervals. The reviews are conducted to assess the reduction in symptoms and improvement in function. Previous researchers have found that when a child was able to re-visit a drawing after a delay (i.e., to establish what the child could recall), not only did they repeat their previous information, they also provided 78% of new information about the event (Gross & Hayne, 1999). Could draw and tell then be a useful tool for re-assessing children after a treatment intervention by reminding them of what they have previously reported and eliciting new information about the child’s previous and current status (i.e., symptoms and function)? If the draw and tell method was found to be efficacious for re-assessing children, it would enable clinicians to be aware of any changes in the child’s mental state, as reported by the child, and respond accordingly by reviewing or discontinuing ineffective treatments.

In addition to the benefits for children, draw and tell has benefits for service providers. When service providers use draw and tell in interviews they can show that they are integrating policy directives into their clinical practice. The use of developmentally sensitive
tools, such as drawing are recommended by health and human rights policy makers (MoH, 1997; UNCROC, 1989). Health policy is often generated from new research findings. The present study has provided empirical evidence that drawing does help children to talk about their presenting problems. These findings may add support to the existing policies that advocate for hearing the child’s voice directly, and the implementation of developmentally sensitive tools in clinical settings. Drawing is an easy and cost effective resource to provide for children. Furthermore, it is a very familiar media for children to use in clinical interview settings.

In conclusion, the present study provides preliminary information, about the use of draw and tell in clinical interview settings. Draw and tell is a developmentally sensitive tool clinicians can use. Draw and tell has benefits for the child, clinician and service providers. This research is moving away from the traditional, Freudian style work on drawing, which investigated drawing as a tool to access unconscious mental processes. Contemporary research paradigms focus on utilising drawing as a method to facilitate and augment child’s self reports. The present study shows that the draw and tell method is effective and facilitates the emergent capabilities of children between 5- to 12 years of age.
References


that work with children and adolescents: Prevention and treatment (pp. 31-47). John Wiley and Sons Ltd.


Appendix A

Cover Letter
3 March, 2009

Dear Parents or Guardians,

Re. study: Does drawing increase the amount of clinical information children report?

This project is being conducted under the direction of Dr Tess Patterson in the Department of Psychological Medicine at the University of Otago. The aim of our project is to explore the effect of drawing on children’s ability to talk about the difficulties that have bought them along to the Service. We invite your child to participate in the project.

Enclosed, please find an Information Sheet describing the details of our study. If you are willing to have your child participate, please sign the enclosed consent form and return it to the Clinician or to the administrator of the Service.

If you have any questions regarding this particular project, or would like to talk with the researcher about the project prior to giving consent, please feel free to call either Dr Tess Patterson on 474-7007, extn 7362.

Sincerely,

Dr Tess Patterson, PhD
Department of Psychological Medicine
University of Otago
Does drawing increase the amount of clinical information children report?

INFORMATION SHEET FOR PARENTS OR GUARDIANS

We invite you and your child to take part in this project. Please read this information sheet carefully before deciding whether or not to allow your child to participate. Participation is entirely voluntary (your choice). Your child does not have to take part in this study. If you decide to let your child participate, we thank you. If you decide not to participate, we thank you for considering our request and there will be no disadvantage to you or your child of any kind. Your child will continue to receive the standard treatment and care available, now and in the future, whether your child participates in this study or not. You have as much time as you need to decide whether or not your child participates in the study. However, as the study occurs within the screening assessment, if you want your child to participate, we need to know this in time to conduct the study prior to your child beginning the screening assessment process.

You may have a friend, family or whanau support to help you understand the risks and /or benefits of this study and any other explanation you may require. If you need an interpreter, one can be provided.

What is the aim of the project?

We are interested in the effect of drawing on the amount of information children report about the difficulties or problems that bought them along to this Service for assessment.

We are also interested in what children think about drawing during an assessment interview.

Who is being included in the study?

We are inviting children referred to this Service, 5- to 12-years of age, to take part in this project. We are hoping to have as many as 40 children take part in this study. Children will
not be included in the study if they cannot physically carry out the procedures described (i.e., drawing) due to illness or injury.

**What will my child be asked to do?**

As part of the usual screening assessment process that is being carried out at this Service, your child will be asked by the clinician to talk about the difficulties or problems they have been referred for. If your child participates in this study your child will be asked about their presenting difficulties/ problems in one of two ways: 1. Some children will be asked to tell about their presenting difficulties or problems. 2. Some children will be provided with paper and felts and asked to draw a picture and to tell about their presenting difficulties or problems. The way in which your child is asked to talk about their presenting difficulties or problems (i.e., whether your child is asked to just talk about their presenting difficulties or problems, or asked to draw and talk) is selected by chance. This part of the assessment interview will be audio-taped so that we can record what your child says. We will transcribe your child’s description of their presenting difficulties or problems word-for-word. In addition, we will also ask your child whether it was easy to talk about their difficulties or problems, whether they would prefer to talk about these issues or draw and talk about them, and for those children who drew and told about their problems, we will ask what they thought about drawing (e.g., was it helpful?). The whole process on average will take approximately 20 minutes and will provide information to the clinician that will be helpful in the assessment of your child.

Parents/ caregivers may be present during the interview if the child would like them to be present, or if the parent/ caregiver would like to be present, or if this is the usual practise of the Service. Because we are interested in what children tell us about their experiences, and we do the interview in a standardised way (e.g., we ask all children the same questions in a similar way) it is preferable that if a parent/ caregiver is present, that they act as observers of what occurs rather than participants.
Can my child change their mind and withdraw from the project?

You or your child may withdraw from participation in the project at any time for any reason. If you withdraw from the study this will in no way affect your child’s care, either now or in the future.

What data or information will be collected and what use will be made of it?

These data will be collected for research purposes only. All data will be securely stored in such a way that only those researchers directly involved in the project will have access to them. Results of this project may be published but any data will not be linked to any individual participant. That is, no material which could personally identify you or your child will be used in any reports of this study.

Additional data we will gather is your child’s age, gender, ethnicity, current medications, reason for referral to the Service and any diagnoses made. We will obtain this information from the Service or from yourself if the Service cannot provide this information.

Results

At the end of the study, if you request it, we will send you a summary sheet of the main findings of the study. There may be a delay of up to 2 years between collection of the data and publication of the findings.

Benefits, risks and safety.

No harm should result to your child as a result of this study. Your child will be asked by a clinician about their presenting difficulties or problems as a usual part of the screening process whether the study is being carried out or not. As the person exploring these issues is a trained, experienced clinician, they will have the skills to respond appropriately if your child does become upset. Further, if a child does become upset, the clinician can stop the
assessment process as deemed appropriate. However, children often feel better after talking
to someone about their difficulties or problems and children usually enjoy the drawing and
talking aspects of this study. Management and staff of this service have been fully consulted
about this study and support the study being carried out.

**What if I have any questions?**

If you have any questions about our project, either now or in the future, please feel free to contact:

Dr Tess Patterson

Primary Investigator

Department of Psychological Medicine

University of Otago

Phone 4747007 extension 7362.

If you have any queries or concerns regarding your rights as a participant in this study you may wish to contact a Health and Disability Services Consumer Advocate, telephone: (03) 4790265 or freephone 0800 37 77 66 or freefax 0800 2787 7678 (0800 2 SUPPORT) or email advocacy@hdc.org.nz If there is a specific Maori issue/ concern please contact Linda Grennell at 0800 377 766.

In the unlikely event of a physical injury as a result of your child’s participation in this study, your child will be covered the accident compensation legislation with its limitations. If you have any questions about ACC please feel free to ask the researcher for more information before you agree to take part in this trial.

This study has received ethical approval from the Lower South Regional Ethics Committee
Appendix B

Consent Form
Does drawing increase the amount of clinical information children report?

CONSENT FORM FOR PARENTS OR GUARDIANS

REQUEST FOR INTERPRETER

<table>
<thead>
<tr>
<th>Language</th>
<th>Request in Language</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>I wish to have an interpreter.</td>
</tr>
<tr>
<td>Maori</td>
<td>E hiahia ana ahau ki tetahi kaiwhakamaori/kaiwhaka pakeha korero.</td>
</tr>
<tr>
<td>Cook Island</td>
<td>Ka inangaro au i tetai tangata uri reo.</td>
</tr>
<tr>
<td>Fijian</td>
<td>Au gadreva me dua e vakadewa vosa vei au</td>
</tr>
<tr>
<td>Niuean</td>
<td>Fia manako au ke fakaaoaga e taha tagata fakahokohoko kupu.</td>
</tr>
<tr>
<td>Samoan</td>
<td>Ou te mana’o ia i ai se fa’amatala upu.</td>
</tr>
<tr>
<td>Tokelaun</td>
<td>Ko au e fofou ki he tino ke fakaliliu te gagana Peletania ki na gagana o na motu o te Pahefika</td>
</tr>
<tr>
<td>Tongan</td>
<td>Oku ou fiema’u ha fakatonulea.</td>
</tr>
<tr>
<td>Other</td>
<td>Other languages to be added following consultation with relevant communities.</td>
</tr>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Maori</td>
<td>Ae</td>
</tr>
<tr>
<td>Cook Island</td>
<td>Ae</td>
</tr>
<tr>
<td>Fijian</td>
<td>Io</td>
</tr>
<tr>
<td>Niuean</td>
<td>E</td>
</tr>
<tr>
<td>Samoan</td>
<td>Ioe</td>
</tr>
<tr>
<td>Tokelaun</td>
<td>Ioe</td>
</tr>
<tr>
<td>Tongan</td>
<td>Io</td>
</tr>
</tbody>
</table>

I have read the Information Sheet concerning this project designed to examine the effect of drawing on the amount of information children report about the difficulties or problems they are experiencing, and understand what it is about. All my questions have been answered to my satisfaction. I understand that I am free to request further information at any stage. I have had the opportunity to use whanau support or a friend to help me ask questions and understand the study. I have had the opportunity to discuss this study with the researcher involved and have had time to decide whether or not my child takes part in this study.

I know that:

1. My child’s participation is entirely voluntary;
2. My child is free to withdraw from the project at any time and this will in no way affect my child’s current/ continuing/ or future care;
3. I know who to contact if I have any questions or concerns about the study;
4. The raw data upon which the results of the project depend will be retained in secure storage for at least 10 years from my child reaching 16 years of age, after which they may be destroyed;

5. My child’s participation in this study is confidential and that the results of the project may be published but my child’s anonymity will be preserved.

6. My child’s interview will be audio-taped and I will be sent a copy of the results of the study if I request results of the study.

7. You will gather information about the age of my child, gender, ethnicity, reason for referral, diagnoses, and any current medications my child is on, from the Service or from myself, if the Service is not able to provide this information.

I understand the compensation provisions for this study.

**I agree to allow my child to take part in this project.**

………………………………….……………………

……………………………………….

(Name)                                                                 (Child’s Birth Date)

…………………………………………………

……………………………………….

(Signature)                                                                       (Date)

Address ...........................................................................……………………………

Phone Number ………………………………

**This project has been explained to my child and my child consents**

Child’s name ……………………………………………

Signature or note of oral consent ………………………………..  Date

………………………

This study has received ethical approval from the Lower South Regional Ethics Committee.
Talking to children about their problems
INFORMATION SHEET FOR CHILDREN

There is a study going on at this Service to find out what helps boys and girls talk about their problems. Can we tell you some more about that?

First of all, every child who comes here gets to talk to me about their problems, whether they are in the study or not.

But in the study, instead of just talking to me, children might also get to draw a picture about their problem.

In the study, we will ask you some questions about drawing. Also, we will ask you how easy or hard it was to talk about your problems.

Your mum/dad/guardian think it is o.k for you to be part of this study, but you don’t have to if you don’t want to.

After the study is finished, we will write a report and let others know what helps children talk about their problems.

You can stop being part of the study at any time if I want to.

Do you have any questions about the study?

Do you want to be part of the study?
Appendix D

Question Sheet
Child Clinical Assessment: Draw and Tell Study.
Question Sheet.

- Please read these questions to children and invite them to select an answer.
- Please circle the answer the child has selected.
- Fill in interviewer code.

**Question 1.**

Telling me about (Presenting problem PP) is very important. There are two ways of telling me about (______ PP ____________ )

**You can talk to tell me about PP**

**You can draw to tell me about PP**

Which one would you rather do when telling about PP?

**Question 2.**

How easy was it for you to tell me about ( PP )?

Not easy  Easy  Very

Easy.

**Interviewer code and number _____/____ Date:__/__/__**
Appendix E

Interview Protocol Flow Chart
Interviewer protocol flowchart– tell/draw and tell.

Basic assessment information- Education, health, family.

Consent forms- adult and child.

Experimental phase begins.

Time in with child.

Tape on.

Rapport building – recreation, hobbies, preferences, etc.

1. Do you know why you have come here to see me today?

   Yes - Name PP & go to step 3.  
   No - Prompt & go to step 2.

2. No- Direct prompt. “I heard that you came along here today because… (PP)”.

3. Open ended free recall. “Id like you to tell/draw and tell me everything you can about PP”.

4. Encouragers and prompts.
   - “Can you tell/ draw and tell me anything else about PP?”
   - “You said-------- tell/ draw and tell me everything you can about that”

5. Are there any other problems that you could tell/draw and tell me about?

Repeat
   - Encouragers and prompts.
   - Until no further information supplied.

Question sheet.

Draw- 2 Q’s

Experimental phase complete.

Continue as usual.