

Do autistic children have obsessions and compulsions?

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Autistic children are frequently reported to show obsessions and compulsions. This terminology implies that such behaviours in autism are similar to those seen in obsessive-compulsive disorder. However, these autistic behaviours fail to satisfy the definitions of either obsessions or compulsions, because essential subjective data (relating to unwantedness, distress, resistance, senselessness and egodystonia) are not available in the case of autistic children. Recent cognitive evidence suggests that this is because autistic children are unable to contemplate or talk about their own mental states.

Because of this state of insufficient evidence, it is suggested that the terms obsession and compulsion should be used with considerable caution to describe autistic behaviours. In this paper, the more descriptive term 'repetitive activities' is used. To gain a better understanding of such repetitive activities in autism, functional analyses are needed. Examples of such analyses are discussed, and predictions from a social-cognitive deficit theory of repetitive activities are specifically considered. The paper aims to encourage research into this neglected area.

Autism is a pervasive developmental disorder with an onset before 36 months of age (DSM-III-R, 1987; ICD-9, 1978). It is characterized by three main symptoms. The first is a failure to develop social relationships (Kanner, 1943; for a review, see Baron-Cohen, 1988) and the second, nowadays widely seen as a consequence of the former, is a delay or deviance in the development of communication (for a review, see Tager-Flusberg, 1989). The third is obsessional or stereotyped behaviour. Whilst the first and second symptoms have received a great deal of research attention, this last symptom has received almost none. This neglect is rather odd, given the importance of obsessions in adult psychiatry (Rachman & Hodgson, 1980).

Numerous references to autistic children's obsessions and compulsions exist, both in Kanner's (1943) early case histories and running all through the subsequent literature (DSM-III-R, 1987; Kolvin, 1971; Lindley, Parks, Philpott & Snowden, 1977; Prior & MacMillan, 1973; Rutter, 1985; Rutter & Lockyer, 1967; Simons, 1974; Wing & Gould, 1979). Indeed, reference to obsessions in the autism literature is so prevalent that today it appears to be an almost unquestionable fact that autistic children have obsessions. Thus Rutter (1985) wrote that

Ritualistic and compulsive phenomena are very common [in autism]. In early and middle childhood these usually take the form of rigid routines, but in adolescence it is not infrequent for

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them to develop into *frankly obsessional* symptoms, with touching *compulsions* and the like (pp. 548–549, italics added).

On closer examination of the literature it is clear the term is used to describe three features of autism: (i) repetitive, stereotyped actions (in autistic children's play, their language and elsewhere); (ii) 'need for sameness' or 'resistance to change' (Kanner, 1943); and (iii) repetitive interest in certain very narrow topics. These three features overlap to some extent; indeed, they may be the same phenomenon manifested at different levels (e.g. behaviour, speech, social interaction, etc.). Examples of these are given below.

(i) *Repetitive and stereotyped play*

Three-year-old Timmy, situating himself in the middle of the playroom, proceeded to accumulate visible and invisible wires or strings which he then attached to every possible object in sight. All chairs had to be wired or 'plugged in', and any avoidable interference brought on unsubiding screams and yells of the highest possible intensity (Simons, 1974, p. 6).

(ii) *Need for sameness*

The [autistic] child's behaviour is governed by an *anxiously obsessive desire for the maintenance of sameness* that nobody but the child himself may disrupt on rare occasions. Changes of routine, of furniture arrangement, of a pattern, of the order in which everyday acts are carried out, can drive him to despair. When John's parents got ready to move to a new home, the child was frantic when he saw the moving men roll up the rug in his room. He was acutely upset until the moment when, in the new home, he saw his furniture arranged in the same manner as before... Once blocks, beads, sticks have been put together in a certain way, they are always regrouped in exactly the same way, even though there was no definite design... If someone removed a block the child struggled to get it back, going into a panic tantrum until regaining it, and then promptly and with sudden calm after the storm returned to the design and replaced the block.

... A great part of the day was spent in demanding not only the sameness of the wording of a request but also the sameness of the sequence of events. Donald would not leave his bed after his nap until he had said 'Boo, say "Don, do you want to get down?"' and the mother had complied. But this was not all. The act was still not considered completed. Donald would continue, 'Now say "All right"'. Again the mother had to comply, or there was screaming until the performance was completed. All of this ritual was an indispensable part of the act of getting up after a nap (Kanner, 1973, pp. 36–37).

(iii) *Repetitive and narrow interests*

... He was very restless and showed considerable pressure of talk, which had nothing personal in it but consisted of obsessive questions about windows, shades, dark rooms, especially the X-ray room. He never smiled. No change of topic could get him away from the topic of light and darkness (Kanner, 1973, p. 24).

This paper addresses one small question: Should such phenomena be called 'obsessions' and 'compulsions'? That is, do they meet the definition of these terms as used in obsessive-compulsive disorder (DSM-III-R, 1987; ICD-9, 1978)? This may be of importance for a number of reasons. If the terms are appropriate, then current research into obsessive-compulsive disorder may have some relevance for our

understanding of autism. On the other hand, if the terms have been inappropriately applied to autism, this may have hidden the real nature of the phenomenon.

The aim here is to open debate into this neglected area. In the first part, some definitional problems are discussed. The latter part of the paper discusses the need for a functional analysis of the phenomena that have been called obsessions and compulsions in autism.

The definition of 'obsessions'

Let us consider three authorities on the subject of defining obsessions: one is an early influential writer, and the other two are more recent widely quoted sources. Schneider (1925) defined obsessions as:

contents of consciousness which, when they occur, are accompanied by the experience of *subjective compulsion*, and which cannot be got rid of, though on quiet reflection they are regarded as *senseless* (translated by Aubrey Lewis, 1935, p. 325, italics added).

The subjective features of this definition (italicized here) are also present in the other two definitions. Rachman & Hodgson (1980) define an obsession as:

an intrusive, repetitive thought, image or impulse that is *unacceptable and/or unwanted* and gives rise to subjective *resistance*. It generally produces *distress* (p. 10, italics added).

Finally, DSM-III-R's (1987) definition reads as follows:

Obsessions are recurrent, persistent ideas, thoughts, images or impulses that are experienced, at least initially, as *intrusive and senseless*... The person attempts to ignore or suppress them with some other thought or action. The person recognizes that the obsessions are *the product of his or her own mind*, and are not imposed from without (p. 245, italics added).

The criteria these three definitions share are that obsessions are mental phenomena (thoughts, images or impulses) and as such are unobservable and are therefore covert; they are also repetitive; and they are negatively evaluated subjectively (as distressing, unwanted and senseless).

Do the autistic phenomena described earlier meet these criteria? They are repetitive, but as readily observable behaviour they are not necessarily covert, nor is it apparent that they are negatively evaluated subjectively (unwanted, distressing, etc). Indeed, there are no data available relating to the autistic child's subjective evaluation of these experiences, and recent cognitive evidence (Baron-Cohen, Leslie & Frith, 1985, 1986) suggests that there never will be, as autistic children seem unable to conceive of their own or other people's mental states. Thus, the autistic phenomena do not meet two of the three criteria in the definition of obsessions. Are they, instead, compulsions?

The definition of 'compulsions'

Rachman & Hodgson (1980) define compulsions as:

repetitive, stereotyped acts. They may be wholly unacceptable or, more often, partly acceptable, but are regarded by the person as being excessive and/or exaggerated. They are preceded by a *subjective sense of compulsion*, and provoke *subjective resistance*. They generally produce *distress*. A compulsive ritual is a prescribed style of performing some activity. Although the activities are

within the person's voluntary control, often the urge to carry out the acts is exceedingly strong, and hence the person experiences *a sense of diminished volition* (p. 11, italics added).

Again, subjective criteria are a feature. In addition, Rachman, de Silva & Roper (1976), Foa & Tillmans (1980) and others emphasize that compulsions often function to reduce the anxiety/distress that obsessions have produced. In this respect compulsions are often caused by an obsession. Subjective criteria (italicized in the following quotation) are also present in DSM-III-R's (1987) definition of compulsions:

Compulsions are repetitive, purposeful, and intentional behaviours that are performed in response to an obsession, according to certain rules or in a stereotyped fashion. The behaviour is designed to neutralize or to prevent discomfort or some dreaded event or situation. However, either the activity is not connected in a realistic way with what it is designed to neutralize or prevent, or it is clearly excessive. *The act is performed with a sense of subjective compulsion that is coupled with a desire to resist the compulsion* (at least initially). The person recognizes that his or her behaviour is excessive or unreasonable (this may not be true for young children and may no longer be true for people whose obsessions have evolved into overvalued ideas) and *does not derive pleasure* from carrying out the activity, although it provides a release of tension (p. 245, italics added).

As in the case of obsessions, the autistic phenomena meet one of the criteria for compulsions in so far as they are often repetitive, stereotyped, ritualistic *acts*. However, as Reed (1985, p. 10) argues, repetition alone cannot constitute a diagnostic criterion if recurrent thoughts, tics, habits or stereotypies are to be excluded. And in the absence of self-report data from autistic children, we can have no way of verifying if the subjective criteria of resistance, distress or senselessness are met.

Why is it so crucial to know if the candidate behaviour is carried out against the individual's wishes and is resisted? The significance of this lies in the pivotal role these features play in differential diagnosis. If the repetitive thought or action is *egosyntonic*, it may reflect a personality trait or an overvalued idea (DSM-III-R, 1987) rather than be a sign of obsessive-compulsive disorder. Reed (1985) points out that one other differential diagnosis that must be ruled out is psychotic delusional somatic passivity in which the source of the feelings of compulsion is felt to be an external agent, rather than internal to the individual, as in compulsions. Stern & Cobb's (1978) study found that resistance was of less importance than the recognition of the senselessness of the ritual. But, to reiterate, such subjective appraisal is not available from autistic children.

Do the autistic phenomena perhaps share the other feature of compulsions, that of being anxiety reducing (Foa & Tillmans, 1980)? Despert (1965) interpreted a wide range of compulsive behaviours in autism (such as spinning and twiddling) as anxiety reducing, but again in the absence of self-report measures from the children it is difficult to evaluate this interpretation. Physiological measures of anxiety might be of assistance here, but to date no studies have reported looking at this.

The above problems arise because diagnostic criteria of obsessions and compulsions are, as Lewis (1935) stresses, phenomenological rather than behavioural: if the individual cannot report the experience as *egodystonic*, unwanted, distressing and senseless, the individual cannot by definition be diagnosed as having obsessions and compulsions. Under such constraints, animal behaviour can never be termed

compulsive, and for similar reasons nor can the behaviour of autistic children. Many autistic children can talk fluently about the physical, outer world, but lack concepts of mental states necessary to be able to talk about the inner world (Baron-Cohen *et al.*, 1985, 1986).

We have reached an impasse: autistic children may have obsessions and compulsions, but we cannot establish this with any confidence. One possible solution is to compare the autistic phenomena with obsessions and compulsions in terms of their *content**. In obsessive-compulsive disorder in children (Adams, 1973; Judd, 1965; Rapoport, 1986) and in adults, common compulsions include checking and hand washing, but such behaviours are rarely found in autism. Thus, even on the basis of content, the behaviours in the two disorders appear quite different.

Both because of failure to satisfy definitional criteria and dissimilarity in content, we propose that, in reference to autism, the terms obsession and compulsion should be used with considerable caution. Lorna Wing (personal communication) instead proposes the term 'repetitive activities' should be used, and considers this might comprise seven possible classes: (a) stereotyped repetitive postures or bodily movements; (b) stereotyped repetitive activities related to bodily functions or sensations; (c) preoccupation with objects, regardless of their function; (d) maintenance of sameness of environment; (e) maintenance of sameness of routine; (f) restricted and repetitive patterns of interest of a verbal or intellectual kind; (g) absence of spontaneous activities. All of these behaviours are frequently present in autism (Prior & MacMillan, 1973). Using this more descriptive term, we now turn to the question of the *function* of repetitive activities in autism.

A functional approach

One of the earliest explanations for the function of repetitive activities was proposed by Hutt, Hutt, Lee & Ounsted (1965). They proposed an 'arousal' theory, and argued that autistic children use repetitive activities to regulate their abnormally high levels of central neurophysiological arousal. Repetitive activities, they argued, achieve this by reducing the quantities of sensory input. Despite the vagueness of the term arousal, there are some data to support this theory: stereotypies (e.g. rocking, hand flapping, etc.), increase as the quantity or complexity of stimulus input increases (Colman, Frankel, Ritvo & Freeman, 1976; Hutt & Hutt, 1968; Hutt *et al.*, 1965). Stereotypies in autistic children may also relate to abnormally low levels of arousal, since there is also evidence that physical exercise leads to a reduction in stereotypies (Kern, Kiegel & Dunlap, 1984; Watters & Watters, 1980).

The arousal theory thus makes some sense of stereotypies, and more research in this area is clearly needed. It may also have relevance to repetitive self-injurious behaviour present in some autistic cases (Durand & Crimmins, 1988). Indeed, these authors identify social attention, escape from unpleasant situations and sensory consequences as other reinforcing variables for self-injury. To date, no studies have carried out such functional analyses of the more complex repetitive activities seen in

*The use of a content analysis here is purely heuristic. It is usual practice to define obsessions or compulsions by formal criteria alone.

autism – activities such as repetitive conversational topics, repetitive pattern arrangement in play, etc., and this would appear to be an important next step.

A theory which specifically considered the more complex phenomena was put forward independently by O’Gorman (1967) and Rimland (1964). They argued that the complex repetitive activities are autistic children’s way of coping with an environment they are unable to understand, by allowing them to concentrate repetitively on aspects of the environment which they can control, making the environment less frightening. For example, Rimland (1964) wrote:

The obsessive preoccupation with mechanical objects and household appliances almost universally reported for autistic children may readily be understood as a type of corollary to the resistance to change. Mechanical objects are highly consistent in their behaviour and characteristics.

This theory predicts that autistic children will show strong preferences for objects or events which are highly predictable (i.e. ‘consistent in their behaviour and characteristics’), as these are more readily understood. It further predicts that physiological measures of anxiety should increase just prior to the repetitive activities, and that repetitive activities should reduce anxiety. Finally, it argues that the anxiety stems from a lack of comprehension of the environment, i.e. from a cognitive deficit.

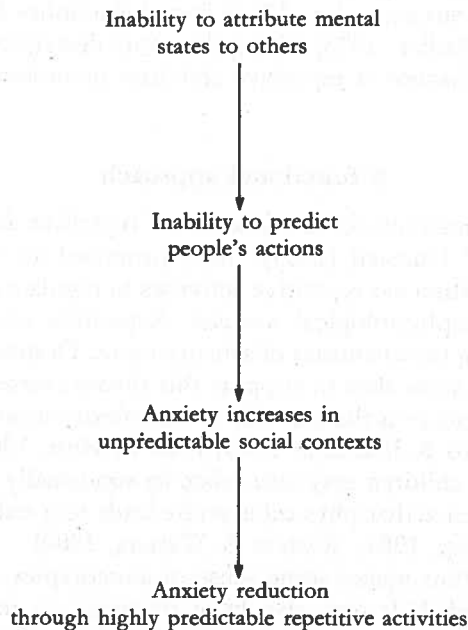


Figure 1. Testable assumptions of a social-cognitive theory of repetitive activities (arrows denote causal relations).

As yet there is no evidence available with which to assess the role of anxiety in complex repetitive activities in autism. However, evidence that autistic children do have cognitive deficits is now well established (Frith, 1970*a, b*, 1972; Hermelin &

O'Connor, 1970; Rutter, 1983). In particular, it is the *social* environment that autistic children have severe difficulty comprehending, and as mentioned earlier this has been traced to a specifically social-cognitive deficit in attributing mental states (such as beliefs) to others, and predicting other people's behaviour on the basis of their beliefs (Baron-Cohen *et al.*, 1985, 1986; Dawson & Fernald, 1987; Leslie & Frith, 1988).

Integrating the Rimland-O'Gorman theory with recent findings, we might further predict that the frequency of repetitive activities should be higher in social settings, especially those social settings which lack a predictable, script-like structure and which therefore require attribution of mental states to others (Nelson, 1981; Schank & Abelson, 1977). Conversely, they should be less frequent in non-social, more predictable settings. These predictions are summarized in Fig. 1.

This paper has not presented any data with which to assess these theories of repetitive activities, although we are currently engaged in testing them. We are hoping to encourage research into the theoretical and empirical issues surrounding this much neglected area.

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