

UNDERSTANDING AND RESPONDING TO BEHAVIOURAL CHALLENGES: An Investigative Approach

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1 CHALLENGING BEHAVIOUR

Some people who are learning disabled can behave in ways that create significant problems for themselves, and / or those that live with them or who support them.

Zarina repeatedly puts her finger between her eyelid and her eyeball, and then pulls her finger so her eyelid slaps back against the eyeball. She has frequent infections of the surface of the eye which seem to increase the rate at which she puts her finger in her eye. She does this maybe twenty times an hour on average. Some of the time she wears a splint on her arm to keep it straight. This prevents the behaviour, but restricts other activities and staff at the day centre are concerned that this restraint might be illegal and unethical. Zarina uses a wheelchair and also has limited vision.

Gordon bangs his head forcibly against his knee. He seems to do this more when waiting for something to happen. He does the same thing more forcibly and screams whenever he is unable to obtain something he desires. Gordon walks for short distances, and is described as profoundly learning disabled.

Moira continually regurgitates her food. She had a hiatus hernia, now repaired, but also seems to enjoy the activity of regurgitating and swallowing her food again. She loses a lot of her food this way, and is painfully thin. She sometimes uses her fingers to stimulate the regurgitation reflex. Moira is hearing impaired and cannot walk.

Felix is reluctant to engage in any activities. He is severely visually impaired, and is unable to walk. He appears very frightened of intrusion into his immediate space and then he will often lash out at the person who is trying to engage with him. One member of staff received considerable bruising when Felix's hand struck her cheek bone.

Definitions

The way we talk about something can shape the way we think about it. The way we describe people who are impaired, for example, seems to influence the image that we

have about them, the expectations we have of them, and what we see as their proper place in the community. It is for this reason that terms like ‘mental subnormality’ ‘mental deficiency’, ‘mental retardation’, have been replaced by terms such as ‘learning difficulty’, ‘learning disability’, or ‘intellectual disability’.

In the 1980s the term ‘**challenging behaviour**’ emerged to describe the often puzzling and difficult behaviours of people with significant intellectual disabilities. It replaced a whole host of terms such as ‘aberrant behaviour’, ‘problem behaviour’, ‘disturbed behaviour’, ‘abnormal behaviour’, and ‘disordered behaviour’. The idea behind the use of the term ‘challenging behaviour’ was to emphasise that these behaviours were not inherent in the person, but presented a challenge to services and those who support the person. Unfortunately, the term has sometimes become used as if it was another diagnosis: ‘Brian has challenging behaviour’, rather than ‘Brian sometimes presents behaviour that can challenge us because we don’t understand how to help him reduce it’.

Challenging behaviour has been defined as follows:

Behaviour of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit or deny access to and use of ordinary facilities.

Emerson, Cummings, Barrett, Hughes, and Toogood (1988)

Behaviours meeting this definition might include violence or aggression to others, self injurious behaviour, behaviour destructive of the person’s environment, disruptive or antisocial behaviour, and stereotypic behaviours. However, they would have to be sufficiently serious as to be unsafe, or to lead to such rejection by others that access to the community was threatened.

Social construction

Challenging behaviour is sometimes described as ‘socially constructed’. All behaviour happens in a social context. Its meaning depends on others’ perception and understanding. How we understand the behaviour of another person depends on

- general cultural norms and values
- our understanding of the particular situation

- our expectation of what is usual in the situation
- our understanding of the identity and characteristics of the other person
- our expectations of the other person

It is the same for behaviours that might be viewed as challenging:

General cultural norms and values will define what behaviours are generally acceptable and unacceptable. For example, different cultures have different views of belching, of men holding hands, of grooming in public.

Our understanding of the particular situation and our expectation of what is usual in the situation will define the limits of acceptable behaviour in that setting. For example, it is inappropriate to touch one's genitals in public.

Our understanding of the identity and characteristics of the other person will also depend on the assumptions and expectations we have about the particular person. For example, we might make allowances for a person who has difficulty controlling their saliva when they occasionally spit in our direction. We might make allowances for a person with Tourette's syndrome when they swear in church. Conversely, it seems that in some service settings, young black men may more likely to be regarded as challenging than other people with learning disabilities: some unconscious stereotypes and expectations are surely at work here.

So challenging behaviour is connected with the social world - it is in a sense 'socially constructed'. This does not mean that it is only in the imagination of others, but

Judging a behaviour to be 'challenging' depends on a variety of assumptions and expectations that we make as a result of our experience as social beings.

Another meaning of 'socially constructed' is that the behaviour can be caused by aspects of the person's social environment. If the social environment did not have certain characteristics, then the behaviour would not occur. This issue will be explored in a later section.

Both senses of 'social construction' have an important lesson for us. Challenging behaviour is not something that a person 'has', like a sensory impairment or an illness.:-

- Firstly behaviour is something that comes about in particular circumstances.
- Moreover, behaviour is defined as challenging, by people, in particular social circumstances.
- Finally, the way the behaviour is dealt with also depends on these social circumstances.

Understanding this can help us to work effectively to reduce behavioural challenges, and to avoid some common mistakes that can arise when we are confronted by what can be perplexing and distressing behaviour patterns.

Prevalence - or how much challenging behaviour is there?

Different studies have identified different proportions of people who behave in challenging ways. This is not surprising, since different studies have been conducted with somewhat different definitions, within different cultural and service contexts, and with varying degrees of success in identifying the total population of people with learning disabilities of whom those presenting a challenge are a proportion.

Two of the best conducted studies are by Kiernan and colleagues (Kiernan and Qureshi, 1993; Qureshi, 1994) and Borthwick-Duffy (1994). The Kiernan group carried out their research in the North West of England, while Borthwick Duffy surveyed the population served by the California (USA) Department of Developmental services.

Emerson (1996) summarises these results, also combining some unpublished work by himself and Bromley using the same methods, again in the North West:

Behaviour	N.W. England (based on 5,200 people) <u>Behaviour recorded as current and serious management problem</u>	California, USA (based on 91,164 people) <u>Behaviour recorded as present</u>
Physical Aggression	1.9%	2.1%
Self-injury - frequent and severe	1.3	2.2
Self injury - frequent	cnu*	9.3
Property destruction	1.4	7.1
Other	3.3	cnu*
Total	6.1%	14%

* category not used in study

Q. Why do the totals at the bottom of the table not equal the sum of the separate behaviours?

A. Because some people display behaviour in more than one of these categories. For example, in the Californian sample 25 per cent presented behaviour in more than one of the areas of aggression, self -injury, and property destruction.

Q. Why was the total so much higher in North America?

A. (Among other reasons) because this study included the category of self injury, present (but not severe).

What factors predict a higher rate of challenging behaviour? Review of the literature (Emerson, 1996) suggests that overall prevalence is increased

- among males compared to females,
- in certain syndromes (for example self injury occurs more frequently in Lesch-Nyhan, Rett, Cornelia de Lange, Riley-Day and Fragile-X syndromes)
- with increasing age during childhood
- between ages 15 and 35
- among people with more severe intellectual impairments
- among people with additional sensory impairments
- among people who have limited communication
- among people in larger residential settings (the behaviour might have led to admission rather than the setting causing the behaviour).

Recent unpublished work by the Kiernan group, and a study of people who self-injure in South East England (Oliver and Head, 1990) suggests that people who behave in challenging ways are not particularly likely to receive effective interventions to help them reduce these behaviours. Indeed, both studies suggest that major tranquillising

drugs are the most likely treatment, despite the health risks involved and their lack of long term effectiveness.

Just what might be effective intervention will emerge as this module unfolds!

Assumptions of this course

The previous sections have defined ‘challenging behaviour’, established the term as a social construction but the phenomenon as real and troubling, and explored the size of the problem and risk factors for it.

That sets the scene for stating the core assumptions of this module. These assumptions will be explored in greater depth throughout the module.

Assumption

Challenging behaviour can be understood in terms of the same explanatory frameworks as any other behaviour.

Explanation

Challenging behaviour can appear bizarre and perplexing. Nevertheless, the kinds of things that cause it are much the same as the things that cause other behaviours to happen. We do not need a different type of explanation from the types of explanation developed in the human and behavioural sciences for any other classes of behaviour. This assumption is important for two reasons: It affirms our common humanity with people who present behavioural challenges, and it asks us to keep on looking for ways of understanding why the behaviour might be happening. Eventually we arrive at an understanding that helps us enable the person to behave in less damaging ways.

To help reduce challenging behaviour we need a systematic framework for analysis and intervention

If we are to find out why the behaviour is happening, then we need an organised way of investigating the problem. Just as in any other investigation (science, detective work, archaeology) we need tools for observing what is happening and revealing what is not apparent at first sight, ways of storing and organising information, ways of making decisions and planning what to do, and making sure that what we have decided to do really happens. Finally we need ways of checking our conclusions and the effectiveness of the 'solutions' we have tried to put in place. In all this we need to retain a clear focus on the interests of the people concerned (the person challenging and the people being challenged).

To find causes and design effective interventions we require a broad based approach rather than just one or two theories or pet explanations

We would not attempt to understand our own behaviour in terms of only one factor (e.g. social approval, or the pay cheque, or our hormones). Similarly we would be naive to try and explain challenging behaviour in terms of only one factor (attention, menstrual cycle, noise levels) or one theoretical framework (e.g. behavioural, biomedical, social, developmental). Instead we need to understand how different causes act together, and how the theories that describe their action can be integrated with one another.

Behavioural challenges are often exhibited by persons in extreme circumstances

It seems unlikely that engaging in challenging behaviour is often a pleasurable experience. Even when it is motivated by some kind of gain for the person it looks like a clumsy way of obtaining what is wanted. Very often we can infer that the person is in a state of distress / pain / discomfort / anxiety / confusion / loss / desperation etc. and engages in the behaviour which we find challenging in the absence of other ways to exert control on what is happening to them.

If we are to help rather than add further difficulties to the people we care for and support, we will need to retain a humanity and empathy in all our dealings with them.

We need to be vigilant about our own practice and that of others: it is easy for good ideas to get distorted, for sensible practices to drift into unacceptable, even abusive ones. Behavioural challenges are just that: challenging. They can make people despair, take short cuts, look for easy answers, and try to suppress and contain the behaviour without understanding it. All this is perfectly human, but it is essential that at all times we remember that the person we are supporting is also another human being, made of the same stuff as us, and experiencing the same range of feelings.

Issues of power and control

The writer once led a review visit to a mental handicap hospital. On arriving at one of the villas where people lived, the visitors were concerned to see a woman being dragged, struggling and screaming, across the floor of the day room. On enquiring

why this was happening, the staff explained that the woman had poor table manners and the staff had been working to improve them: when she used her fingers rather than the knife and fork she would be led away from the table. This had deteriorated into a repeated series of struggles. It seems that this all started because staff wanted the woman to experience eating out in restaurants, for which a minimum standard of table manners was deemed necessary.

This example, although in an extreme institutional environment, illustrates what can often happen in work with people with learning disabilities. What begins as a well intentioned attempt to improve someone's quality of life deteriorates into a power struggle, where dignity is the first casualty.

Lovett (1996) reviews many examples of the abuse of power in work with people who present behavioural challenges. He argues that the common problem is an emphasis on changing the person, rather than accepting them and trying to understand why the behaviour is happening.

In work with people who present challenges, the following questions should be constantly asked:

- For whom is this behaviour a problem?
- What power does the person concerned have, and how can they exert influence over their situation?
- How is power being used in relation to them? Is it 'power with' them, or 'power over' them?
- What safeguards are there to prevent the abuse of power and the drift from good intentions to damaging practices?

2 RESOURCES FOR UNDERSTANDING: EXPLANATORY CONCEPTS

There is nothing so practical as a good theory

Kurt Lewin

If we are to understand why challenging (or any other) behaviour happens, then we need some ‘tools’ to investigate with. We can divide these into explanatory concepts, usually organised into theories, and investigative methods, to be used with individual people.

This section is about the first of these: theories of behaviour as applied to behaviour that is challenging.

‘Theory’ perhaps sounds a bit abstract, rather impractical, and unlikely to help in the difficult situations described at the start of this module. However, in keeping with the quotation from Lewin at the top of this section, the argument is presented here that theories can be highly practical, because they illuminate causes of behaviour, and enable us to create interventions that work.

‘Theory’ also sounds rather grand, something for scientists and philosophers: not for us. In this module we will consider two types of theory:

‘grand theory’ or ways of trying to understand things in general, and

‘specific theory’, that we can use to understand a particular phenomenon.

To illustrate, there is the grand theory of neurotransmitters, which tries to explain nervous activity and behaviour in terms of the chemical substances that make connections from nerve cell to nerve cell and from nerve cells to muscles. This theory has given rise to the specific β -endorphin theory of self injury, which suggests that this particular neurotransmitter is released during self injurious behaviour, and that it creates a state of euphoria, a kind of addictive process. Finally, this specific theory can be used as a guess or hypothesis about the causes of self injury in a particular person. This, of course, is just one example of a theory.

This section considers several general theories of behaviour, and their more specific applications to challenging behaviour.

It should become clear that

theories can help us improve our practice - the best ones are practical, and no one theory has all the answers.

This second point probably seems obvious, yet it is surprising how easily people can forget it. Until recently the care of people presenting challenges seemed to be characterised by a conflict between very different theories. If you used a behavioural approach you 'had to' reject the 'medical model'. If you used a developmental theory, then you rejected behavioural approaches. If you emphasised social approaches, you gave short shrift to the other ones. In recent years it has become more usual for practitioners to draw upon several theoretical frameworks. This is healthy, for it is most unlikely that all challenging behaviour has the same cause.

In using theory, practitioners illustrate a further point: we are all theorists. We use 'home made' theories to understand the behaviour of others. These theories work very well most of the time. With more unusual behaviours, however, we need a bit of help from 'scientific' theories. But we continue to be practical theorists as we weave together our own understanding with that we derive from other theories.

'Pre-scientific' theory

There are some 'pre-scientific' theories of behaviour. Examples include ideas about the soul as the driving force in people, about the influence of the stars on behaviour, or about the influence of certain bodily characteristics (e.g. the shape of the person's head influencing their personality).

Applied to challenging behaviour these pre-scientific ideas occasionally crop up in theories of challenging behaviour as possession by spirits, about the behaviour being worse under particular planetary influences, or about the behaviour being an inevitable part of the person's learning disability.

However, pre-scientific ideas can also be a source of helpful practices and explanations. Acupuncture, herbals remedies, massage, and meditation, are all examples of pre-scientific approaches that have some validity. It is important to retain a critical approach to any theory and its associated practices - that means trying to evaluate its usefulness fairly rather than either blindly accepting or rejecting it. (A later section looks at the testing of explanations for behaviour).

Biology

Here we are concerned with two types of biological causes:

causes linked to a particular disabling condition, and

causes that could arise irrespective of the disabling condition

Syndrome-specific biological factors

People who are significantly intellectually disabled are likely to have a biological basis for their impairments. This is particularly likely for people with additional physical, sensory, or neurological impairments such as epilepsy. In some cases, the nature of the biological basis may be identified, for example as brain damage due to lack of oxygen at birth, or a particular gene or chromosome abnormality. In many cases the precise origin will not be known, although it will be apparent that the impairment has a probable biological basis.

It is not surprising that attempts have been made to identify links between biological factors such as these and particular behavioural patterns.

Example: Lesch Nyhan Syndrome

Lesch-Nyan Syndrome (Lesch and Nyhan, 1964; Nyhan, 1994) is a rare disorder in which one enzyme (hypoxanthine-guanine phosphoribosyl transferase - HPRT) is deficient. This lack of enzyme activity leads to a build up of uric acid and hypoxanthine, in the body. This seems to lead to a disturbance in the balance of transmitter substances in the central nervous system. Dopamine is the main transmitter that is underactive in people with the syndrome.

The above findings actually followed the identification of the syndrome in 1964. Lesch and Nyhan had identified similarities among people who had the following characteristics:

abnormal motor development, spastic cerebral palsy, and involuntary movements

(none can walk or stand unaided);

impaired intelligence in most cases;

increased muscle tone;

impaired speech production;

self-injurious biting in most, and some other self injurious behaviour in others; and

increased levels of uric acid.

People with the syndrome have normal sensations: they typically scream in pain when they injure themselves, and may direct aggression towards others at these times. Loss of parts of the lips, tongue, and/or fingers is common, and this loss of tissue is the feature by which the syndrome is often identified.

A further feature of the syndrome is its resistance to treatment. Behavioural approaches, which are often helpful with people who injure themselves, generally seem either ineffective or to make the behaviour worse. Similarly, drug treatments have had little effect. One drug trial (published in 1980) attempted to influence the relevant neurotransmitters directly, and this produced a reduction in self injury - that lasted no longer than a few weeks. Since then there has been no significant progress in treating the disorder. Management of the behaviour is therefore orientated to reducing the risk, for example via extraction of teeth.

The Lesch Nyhan syndrome is a good illustration of a biologically caused form of challenging behaviour. It is an extreme example, because

the behaviour is extreme

there seems to be little effect of environmental factors in its development.

Luckily such a clear and direct relationship between a biological factor and challenging behaviour is most unusual. It is nevertheless important to be aware of this syndrome and related ones (such as Cornelia de Lange syndrome) since lack of awareness can lead to inappropriate management, and preventable injury (as in the case of the child with the syndrome treated with 'extinction' - which led to further damage to his fingers).

Other biological factors

Physical illness

Carla usually liked the company of others. Although she only used three words, she was able to interact and establish rapport with staff in her house. Gradually she became withdrawn, and refused to participate in the games and other interactions she had previously enjoyed. She would sometimes vigorously push other people away, and on one occasion nearly overturned the wheelchair of one of her two house-mates. She would also moan to herself. Eventually an X-ray revealed a tooth

abscess. This was treated, initially with antibiotics and then by extraction. Carla gradually became herself again, but it took three months before her confidence was fully restored, such was the trauma she had been through.

Physical illness and its manifestation as discomfort can lead to behaviour that is challenging. The basic problem arises if the person is unable to understand what is happening to their body, is unable to communicate the discomfort, or does not understand the approaches being taken to investigate or treat the illness. Some examples follow:

Headache, arising from migraine, tension, sinus congestion, or referred pain from other sources. Sinus congestion is more likely to occur among people with allergies, or people who live in stuffy conditions. Excessive carpeting and central heating in bedrooms can provide a fertile breeding ground for the house dust mite, a very common source of allergy. Unusual formation of the head and face, or previous damage (e.g. from self hitting in the facial area) is also likely to contribute.

Earache, arising from middle ear infection, or impacted wax in the outer ear. Tinnitus (ringing in the ears) is common among people with hearing loss, and hearing loss is very common among people with severe learning disability.

Toothache is relatively likely given the likelihood of relatively poor dental hygiene, especially in people who resist having their teeth cleaned. Abnormal gum growth and inflammation is a side effect of some anticonvulsant drugs and this might also contribute to discomfort.

Muscular pain, from rheumatism, cramp (for example from sitting for long periods in poorly designed seating).

Abdominal pain, from indigestion, from constipation, as a result of eating inedible substances, or from a more serious problem (e.g. ulceration).

Acute infections (e.g. virus infections) can also lead to considerable discomfort and be relatively difficult to detect.

Menstrual pain and pre-menstrual tension may go unnoticed unless careful observation is made over several months.

The above examples can lead to behaviour that is challenging in the following ways:

The person may lash out at others if they request activity or impose other demands, or try to examine the affected body part.

The person may hit the affected part of their body, or rub it so vigorously that damage to the skin ensues.

The person may bite themselves. There is some suggestion (e.g. Lovett, 1996) that the site of the biting often reflects pressure points that the person has discovered to relieve pain. The web between thumb and forefinger contains the pressure point for headache and dental pain - sustained pressure there for fifteen seconds can give relief - this is an area that people are often observed to bite.

The person may not do any of the above, but be generally irritable. This is perhaps more likely as a result of a general malaise than a localised pain. Activities that the person usually likes are rejected, sometimes violently; the person is less tolerant of the proximity of others, of noise, etc.

Specific pain may lead to specific behaviours: cold drinks that stimulate toothache might be thrown, for example.

The above examples are reminders of the importance of trying to identify illness before proceeding to other possible causes of challenging behaviour. As was asserted above: behaviour that challenges is not usually engaged in lightly, and it can help us identify health problems. The cost of not doing so is enormous: imagine having to live with untreated earache for months.

In unclear cases it might be worth seeing if a painkiller such as paracetamol (be alert to potential allergy, overdose) makes a difference to the behaviour.

Nutritional issues

It has been suggested that some instances of **pica** (eating inedible substances) may result from specific mineral deficiencies. The person corrects this by finding other sources of minerals.

Psychological disorders

A variety of psychological disorders can lead to behaviour that is found to be challenging. Some of these disorders (e.g. depression, psychosis) go under the much debated term 'Mental illness': others (such as addiction or anxiety) do not.

Some strange views are still held about psychological disorder/mental illness and people with learning disabilities. In the last three years the writer has heard the following expressed or reported:

'People either have learning disability or mental illness, not both.'

'Learning disability is a form of mental illness.'

'People with learning disability do not have the same range of feelings as others.'

'Because someone engages in challenging behaviour they must have a mental illness.'

None of the above is true. Some people with learning disabilities experience psychological disorder or mental illness. The presence of challenging behaviour may indicate an underlying disorder but does not necessarily. Just because someone cannot express themselves does not mean that they cannot experience the same range of emotional states as anyone else.

Some specific disorders will be considered.

Depression

Depression appears in various guises, for example with or without agitation, with or without withdrawal, with or without obvious signs of sadness (e.g. weeping), with or without disturbed sleep, and with or without swings in mood. It is particularly difficult to identify in people with significant learning disability (Matson and Barrett, 1993).

Typical signs include

lack of interest in things that the person used to enjoy

lack of previous signs of enjoyment

less activity than previously

changes in sleep pattern, appetite

obvious distress, that might include crying, new repetitive behaviours.

In all the above the key is the change from a previous non-depressed state. If the person has always been like this it is less likely that this is an episode of depression (although there is still the possibility of a long standing depression). Recently introduced drugs can be helpful in depression. So are changes in life circumstances, although it is important to recognise that depression is not just a form of unhappiness.

Psychosis

Psychosis is the term used for those mental disorders where the person loses touch with reality. The best known example is that of 'schizophrenia'. A recent definition (American Psychiatric Association, 1987) requires the following:

A) Presence of characteristic psychotic symptoms in active phase: either (1), (2), or (3) [below] for at least a week (unless the symptoms are successfully treated).

Two of the following:

- a) delusions
- b) prominent hallucinations (throughout the day for several days or several times a week, each hallucinatory experience not being limited to a few brief moments);
- c) incoherence or marked loosening of associations;
- d) catatonic behaviour
- e) flat or grossly inappropriate affect.

Bizarre delusions (i.e. involving a phenomenon that the person's culture would regard as totally implausible, for example thought broadcasting, being controlled by a dead person).

Prominent hallucinations (as defined in 1b above) of a voice with content having no apparent relation to depression or elation, or a voice keeping a running commentary on the person's behaviour or thoughts, or two or more voices conversing with each other.

B) During the course of the disturbance, functioning in such areas as work, social relations, and self-care is markedly below the highest level achieved before onset of the disturbance (or when onset is in childhood or adolescence, failure to achieve expected level of social development).

C) 'Schizoaffective Disorder' and 'Mood Disorder with Psychotic Features' have been ruled out [rules out manic depressive or manic disorders.]

D) Continuous signs of the disturbance for at least six months. [the manual goes into detail about criteria for this].

E) It cannot be established that an organic factor initiated and maintained the disturbance.

F) If there is a history of Autistic Disorder the additional diagnosis of schizophrenia is made only if prominent delusions or hallucinations are also present.

(American Psychiatric Association, 1987)

The reader will readily identify some problems with this in relation to people with substantial intellectual and other disabilities. For example:-

For people with limited communication, it is very difficult to know if they harbour delusions or experience hallucinations.

It is difficult to compare changes in social behaviour (including self care) in a person who has little or none of this repertoire in the first place.

Given the likely existence of some organic factors (e.g. brain damage, metabolic problems) it can be difficult to rule out organic causes for the problems.

It therefore becomes difficult to establish what a psychotic condition would actually be like in someone with limited concept of self and others, little or no language, and unusual patterns of brain functioning. Whatever underlies psychotic phenomena in people who are not very disabled may also occur in people with profound and multiple disabilities: it is just difficult to identify what is going on.

Beyond this, there is a further problem. Even with the non learning-disabled population, the concept of schizophrenia (and related psychoses) is under question from people so labelled and from researchers.

Serious questions remain about whether it is one condition or several, about whether clear dividing lines can be found between schizophrenia and normal functioning or even between schizophrenia and other kinds of mental disorder.

Bentall, 1990

Compared to a syndrome such as autism, where if anything recent research has helped to refine and strengthen the validity of autism as a concept, schizophrenia increasingly

looks rather like a 'rag bag' concept. As a result it is difficult to identify any common phenomena that might underlie psychotic symptoms, and which could be used as an alternative way of identifying a psychotic disorder with a profoundly disabled person.

Nevertheless, the phenomena described under this label undoubtedly exist, and can be related to severe behaviour problems. Again it is critical to establish whether the person has always shown these signs, or whether they began at a particular time, with a clear change in behaviour and functioning. In the general population, drug and other treatment is helpful for a proportion of those with these symptoms.

Anxiety

We all experience anxiety, but for some people the level and persistence of anxiety creates serious difficulties.

Felix was described at the beginning of this module. In his case the world was a source of unpredictable events. Because of his sensory and intellectual impairment he could make little sense of them, for example, in terms of what an event might mean; what might happen next, would it be nice or nasty? He therefore learned that almost any event was likely to be a threat, and therefore reacted in a fearful way to each of them.

It is usual to distinguish between **fear** - that is **anxiety** that is related to a particular stimulus - and anxiety, which is a more generalised experience, that may be 'free floating', as it were waiting to be attached or associated with any stimulus.

Anxiety and fear serve important functions in helping us protect ourselves from danger. In some people they get out of proportion. Some examples of anxiety problems follow:-

phobia: This is fear of a particular object or situation. Some phobias are simple (e.g. fear of going in a car, but not of anything else), while others are multi-component - (e.g. fear of medical equipment, hospitals, the smell of disinfectant, and people in white coats or nurse's uniforms).

generalised anxiety: This characterised by is an abnormally high level of anxiety, not linked to any particular stimuli. The free floating anxiety may become associated with particular things or situations, leading to a phobic reaction. A key feature of more generalised anxiety disorders is the 'fear of fear' or of panic. As a result the person

learns ways of avoiding situations and experiences in which their anxiety might be raised.

obsessive-compulsive disorder: This is characterised by repetitive thoughts or actions. They appear to have the effect of reducing immediate anxiety levels, but their performance means that they have to be repeated, as it were to prevent the return of high levels of anxiety.

Some challenging behaviour appears closely related to anxiety states. In states of 'blind panic' a person is likely to lash out - which may enable escape from the situation that is frightening. This aggression is unlikely to be carefully targeted at the other person: typically there is no intent to cause harm, but the person has learned that this behaviour reduces or removes the source of anxiety. Alternatively the person may engage in self injurious behaviour: this seems to have the effect of increasing predictable stimulation, and blocking out the threatening stimuli.

A variety of psychological interventions is available for the various anxiety based disorders, and for behavioural challenges based on anxiety. These can be adapted for people with significant intellectual and other impairments.

Addiction

Addiction, or dependence on some substance or activity, is a common human phenomenon: indeed many of us show some level of dependence on a chemical such as caffeine, nicotine or alcohol. Gambling is an example of an addictive activity, but it has also been suggested that activities as diverse as sexually abusing others, and engaging in very high levels of exercise, can be addictive in nature. It seems that a very wide range of things can become the basis for addictions.

Among people with learning disabilities caffeine and nicotine addiction are common. Caffeine addiction can be manifest in drinking excessive amounts of cola or coffee, and through eating instant coffee. People with more severe learning disability are unlikely to smoke, but eating discarded cigarette butts is quite common and can reach toxic levels if not controlled. For some people this becomes an all consuming activity. Other dangers include mistaking sharp or poisonous objects for cigarette ends, and infection and infestation from eating contaminated butts. The increasing introduction of smoke free environments does not only benefit people's respiratory

health, but also helps reduce ingestion of nicotine. Use of nicotine replacement therapy, for example with nicotine skin patches, has been helpful with some people.

The above addictions require a certain level of mobility and skill. There is also evidence to suggest that some types of self injury have an addictive component.

Tissue damage causes the release of opioid substances related to morphine: endorphins (endogenous Morphine). This helps the body control pain, but as opioids they are also likely to cause some euphoria. Some studies indicate that treatment with an opioid antagonist can reduce the level of self injury, but this is not so for everyone treated, (see King, et. al., 1991; Thompson et al., 1994; Emerson, 1995 for reviews).

Another unusual addictive behaviour that can reach challenging levels is excessive drinking of water.

Behavioural theory

Introduction

Today, the behavioural approach is probably dominant as a way of trying to understand behavioural challenges. Indeed sometimes it is suggested that it is the basis for the most effective interventions available. The view of the writer is that this is to simplify the issues, and to over-emphasise published academic research literature at the expense of the experience of clinical and educational practitioners. However, the behavioural approach has a lot to offer, both in terms of identifying fundamental processes by which behaviour changes and is maintained, and by providing a variety of tools for the investigation of behavioural challenges.

Characteristics of the behavioural approach

The behavioural approach has the following characteristics:

It is based on:

theories of learning	where it considers the process of acquisition of behaviour
the analysis of relationships between behavioural and environmental events	where it considers the acquisition and the maintenance of behaviour
on functional analysis (to be defined below)	where it considers the operation of multiple causes for a behaviour

It emphasises observable behaviour - not inner thoughts, feelings, attitudes, intentions, etc.

It emphasises behaviour-environment relationships

It has an action orientation, focusing on what can be changed: indeed it was an important contributor to the post war change in expectations about people with major intellectual disabilities.

It uses a scientific model (actually an empiricist model), seeking causes, lawful relationships and explanatory principles.

This unit will present the 'classical' applied behavioural model as developed from the fundamental work of B.F. Skinner and associates (e.g. Baer Risley and Wolf, 1968, 1987; Emerson, 1996; Owens and MacKinnon, 1993). It will cover the definition,

measurement and categorisation of behaviour; some tools for understanding behaviour - environment interactions; and some basic behavioural processes.

'Bad press' for behavioural approaches

The behavioural approach has had something of a 'bad press' at times in the recent past. There are three aspects to this:

Issue	Response
<p><u>The indiscriminate application of techniques:</u> Behavioural techniques have been applied irrespective of the interests of the person.</p>	<p>From the mid 1980s (and earlier, on the part of some writers and practitioners) there has been a renewed emphasis on behaviour <u>analysis</u> rather than behavioural techniques: interventions are determined by the analysis of the behaviour, not by its superficial form. That is the approach that will be adopted here.</p>
<p><u>Behavioural work relies on the exercise of power and control:</u> behavioural approaches have their origins in experimental science where control is used to isolate effects. Because behavioural approaches analyse the control of behaviour by environmental stimuli, treatment tends to capitalise on the controlling aspects of the situations where vulnerable people spend their time.</p>	<p>The approach here will emphasise the enhancement of people's appropriate behavioural repertoires, including those of choosing and controlling. Behaviour analysis is one useful tool to use in working towards this goal.</p> <p>The analysis of power and control presented earlier will underpin the approach.</p>
<p><u>Behaviour analysis tends to be 'imperialistic', often denying the importance of other causes of behaviour.</u> Early behaviourists emphasised environmental determinants of behaviour and tended to minimise the importance of organic, internal, cognitive and wider social influences.</p>	<p>There is no need to deny the importance of other causes and processes. Here behaviour analysis is seen as one necessary part of the assessment and analysis of challenging behaviour.</p>

Defining and measuring behaviour

One of the main contributions to the behavioural approach has been a framework for defining, measuring and categorising behaviour. Although the usefulness of this is not restricted to the analysis of behavioural challenges using behavioural theory, it will be explored here because it is integral to the 'behavioural way' of thinking and working.

What is a behaviour?

Exercise:

With a colleague or friend, record the behaviour of another person. This can be someone on television, someone who agrees for you to record what they do, or someone you are providing a service to. Do this for five minutes. Compare notes before reading on.

You probably found some similarities and some differences in what you recorded. You will probably differ in the amount of detail you recorded, in the kinds of things you recorded, and the ways (notation, labels, descriptions, categories) that you used to record them. None of that is surprising, you were given no rules or methods for recording, but it illustrates the arbitrariness of our definitions of behaviour.

It is useful to think of behaviour as a continuous stream. Regarding behaviour as a continuous stream means we have to define units of analysis and measurement. We have to divide the behaviour stream into manageable chunks that we can study together and separately.

In looking at the behaviour stream it helps if we do not regard behaviour as the same as activity. Inactivity can also be regarded as behaviour, and indeed it seems amenable to many of the same principles of analysis and tactics of intervention. Other things that we can regard as behaviours include occupation of a particular area, the time between actions, and less obvious behaviours such as looking, hearing, attending, and according to some behaviour analysts (e.g. Skinner, 1969), such private events as seeing and thinking. For the purposes of this unit, we will focus on observable behaviour.

Aspects of behaviour

Behaviour can be described in terms of various dimensions. For behaviour regarded as challenging, the following are relevant:

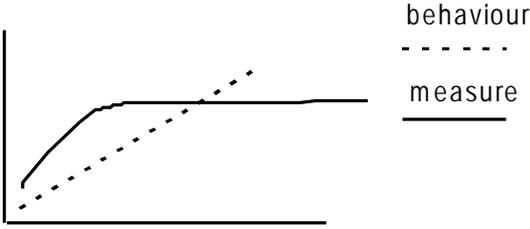
- Frequency: How often does the behaviour happen?
- Duration: For how long does it last?
- Intensity: How forceful is the behaviour?
- Collateral behaviours: What else does the person do, either while engaging in the problematic behaviour, or when not engaging in it?

Severity of a challenging behaviour is sometimes defined in terms of the product of the first three aspects. However, the issue of collateral behaviour can also be important. Someone who screams while banging their head is likely to be regarded as having more severe behaviour than someone who does it quietly. What really matters, however, is the consequence of the behaviour - in this case, how much damage does the person do? Attempts to define severity in mathematical terms are probably doomed to failure!

Issues in recording behaviour

When recording a behaviour, the following issues are important:

accuracy	Does the recording reflect what happened? Did the observer record what s/he saw?
reliability	Is the same behaviour recorded the same way by different people for different service users on different occasions in different places at different times of the day, and so on

<p>validity</p>	<p>Is the recording a fair measure of the behaviour? Does it reflect the behaviour of interest? e.g. 'the number of occasions of soil discovered in pants', although it may be easy to agree on (reliability), may not reflect the severity of soiling (quantity? collateral behaviour such as smearing? consistency of motion? degree of unpredictability? etc.).</p> <p>Does the measure vary with the behaviour? e.g.:-</p> 
<p>practicality</p>	<p>Are there the <u>resources</u> (e.g. people, graph paper, collation and computing) ? <u>time</u> to record ? to analyse the recorded data ? <u>experience</u> of the people being asked to make recordings ? <u>motivation</u> to record ? and is it <u>convenient</u> in use ?</p>
<p>reactivity</p>	<p>To what extent does actually recording the behaviour change it? This might happen for a variety of reasons, for example, the staff doing the recording might become more aware of the behaviour, and therefore it appears to be increasing, or the person becomes aware of the interest the behaviour is creating, and either increases or reduces the behaviour as a result.</p>
<p>subjectivity</p>	<p>This issue is two edged: Traditionally, subjectivity was seen as something that got in the way and made recordings inaccurate and unreliable: e.g. staff judgements about the unacceptability of a behaviour might influence the number of occasions they record. Subjectivity is also an important part of life, so including some recording of how staff feel about a behaviour can give important insight into what it will take for them to help the person reduce the behaviour: it also helps make a judgement about whose problem the behaviour is.</p>

Measuring behaviour

There are some technical methods available for the measurement of behaviour, and these are covered in some texts about behaviour analysis and challenging behaviour (e.g. McBrien and Felce, 1992). They can be useful on some occasions, where a particular precision is needed. Such methods include, event recording, duration recording, and momentary time sampling. However these methods have mostly been

developed as research tools, and practitioners need more practical approaches. One difficulty with them is that they give different pictures of the behaviour in question, recording as they do different aspects of it, with varying degrees of accuracy, reliability and validity.

There are some practical methods for making potentially useful recordings of behaviour:

ABC charts

ABC charts record the antecedents of the behaviour (what happened before), the behaviour itself, and the consequences of the behaviour. They are probably the most used tool for recording behaviour, yet they often provide little in the way of useful information!

Exercise: ABC charts.

Consider:

In what circumstances might you use an ABC chart?

What might it tell you?

Why might it fail to give this information?

What are the advantages and disadvantages of these charts?

ABC charts often give poor descriptions of the behaviour, its consequences, and especially its antecedents. They require the person recording the behaviour to make a judgement about the chunk of the behaviour stream that is to be recorded as a unit (e.g. each head bang or each cluster of head banging?): this can be specified on the sheet, but there will still be some room for discretion in recording. They require the person to identify the consequences of the behaviour for the person engaging in the behaviour, without necessarily making a judgement about their role in motivating the behaviour: this can be difficult, and often interpretation of the person's intention in behaving in this way can creep in. Finally, ABC charts require the person recording to select relevant antecedents: without an understanding of the basics of behaviour analysis this can be difficult. Statements such as, 'for no reason', 'no antecedents', 'he had been out to the park [3 hours ago]', are common, and make the job of the person interpreting them difficult.

However, there are ways of improving on ABC charts:

Precise instructions can be given about what to record: e.g. ‘record what happened to the person, a) as soon as the behaviour started, and b) as soon as it finished’.

Other information can be recorded: including a column asking ‘what behaviour would have been appropriate at this time?’ can give the analyst clues about what behaviours might be used to replace the challenging one, what activities might be successfully avoided by engaging in the behaviour, and about how well the setting creates a context for the person to behave in purposeful and engaging ways.

Common antecedents can be specified for the recorder to tick: e.g. noise, request to take part in an activity, mealtime, no staff member interacting, transition between activities, etc. etc.

Scatter plots

A scatter plot of frequency of behaviour against time of day can be useful in detecting patterns in the behaviour.

Winston engaged in ruminative vomiting. A scatter plot was made of the times at which he vomited at school. The chart presents the total for three weeks.

	9-10	10-11	11-12	12-1	1-2	2-3
Mon	XX		X	X		
Tue	XXXX	X			X	X
Wed	XX	X		XX		
Thur	XXX				X	
Fri	XXXX			X		X
Total	15	2	1	4	2	2

Vomiting was particularly likely during the first hour of the day. This led to the possibility that his vomiting was partly influenced by what he had had for breakfast.

Similar plots can be made comparing behaviour frequency across settings, or in relation to particular events (e.g. the hour before swimming, versus the hour after).

Permanent products

Permanent products are the physical results of a behaviour: they needn't really be permanent. Examples include

size of patch of urine on bed sheets (measured to record progress in night time continence)

number of clothes destroyed (e.g. per week, or per month, depending on severity of destructive behaviour)

size of area of tissue damage (as a measure of self injury)

Permanent products are reliable, they may not always correlate well with the behaviour of interest. In the last example above, the size of the tissue damage will lag behind the actual frequency of self injurious behaviour.

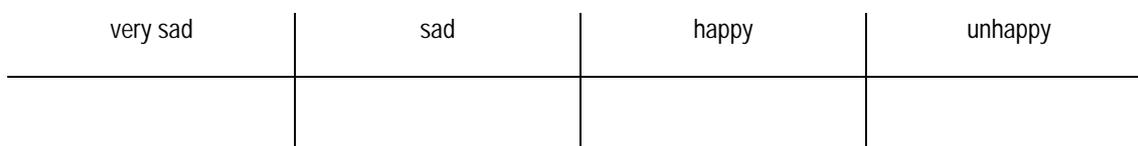
Rating scales

Simple rating scales can be constructed to provide a common basis for a group of staff to assess a behaviour, for severity, for example. Simple rating scales are known as Likert scales.

Considerations in constructing behavioural rating scales:

How many points? An odd number of points allows there to be a mid point, which is usually useful, unless you specifically want to ensure raters decide on either side of a scale,

e.g.



Here the rater has to judge whether the person was more or less sad, or more or less happy.

Five points usually allows enough variation, while seven can ask raters to make judgements that are too fine grained to be reliable. If raters will be unlikely to use the end points, then a 7 point scale can be useful, used as a five point scale.

anchors: Scales are easier to use, and all the points are likely to be used if each point is defined, rather than just some of the points. The end points are the anchors, and care should be taken in balancing the need to capture the full range of ratings likely, and ensuring that all points on the scale are likely to be used.

Multidimensional scales should be avoided. A multidimensional scale measures more than one thing along its length:

more than one outburst per fifteen minutes, no co-operation	more than one outburst per half hour	more than one outburst per hour	less than one outburst per hour, generally co-operative	no outbursts, very co-operative

In the above scale, the rater is invited to make a judgement of the person's degree of co-operativeness as well as the frequency of outbursts.

Exercise

Construct a rating scale to describe severity of assault. It will be used in conjunction with a frequency recording of number of incidents of assault, in order to give a picture of both frequency and severity (it is suspected that the person is engaging in aggressive behaviour at the same frequency as in the past, but the severity has decreased).

Hint: you could make two separate scales a) making judgements of intensity and b) rating the consequences to others of the assault.

Categorising behaviour

The above sections have dealt with ways of defining and measuring behaviour. In the behaviour analytic approach it is also usual to categorise behaviour as a basis for deciding on priorities for intervention (or further analysis).

Excesses - Deficits - Assets

Kanfer and Saslow (1969) distinguished between **behavioural excesses**, **behavioural deficits**, and **behavioural assets**. This simple categorisation helps in the planning of interventions.

Excesses are behaviours described as problematic because they are :

too frequent

too intense

go on for too long

occur where they are not inappropriate.

Exercise:

Scratching one's head might be seen as appropriate when puzzled. However, if it occurred 200 times a day, with great vigour, for 40 minutes at a time, or while preparing food, it would be described as a behavioural excess.

For each of the above types of excess, think of an example of a behaviour in a person with profound or multiple disability that would be appropriate, if it could not be described by one of the above descriptions.

Deficits are behaviours described as problematic because they are:

too infrequent

not intense enough

not in an appropriate form

not occurring when expected.

exercise:

Identify a behavioural deficit occurring in a profoundly disabled person meeting each of the above conditions.

Behavioural assets are non problematic behaviours: behaviours that are performed appropriately, or well, in the right place and at the right time.

exercises:

Identify five behavioural assets occurring in some multiply disabled people.

Now classify the following:

Hitting others

Hugging strangers

Banging windows

Incontinence

Eating non-food items

Regurgitating food

Throwing food

Self-mutilation

Repetitive speech

Now, for each item you identified as an excess, define the corresponding deficit.

This way of thinking, where excesses are reinterpreted as deficits is close to the approach known as the **constructional approach**.

The Constructional Approach

The constructional approach is an orientation whose solution to problems is the construction of repertoires (or their reinstatement or transfer) rather than the elimination of repertoires.

Goldiamond, 1974

The basic idea is to establish new behaviour, or to enable existing behaviour to occur appropriately, in place of behaviour that presents a challenge. Goldiamond's insight, that traditional therapeutic approaches are generally focused on getting rid of repertoires, is the philosophical basis for approaches that will be discussed later: positive programming, and the reinforcement scheduling methods such as differential reinforcement of incompatible behaviour. The constructional approach asks practitioners to use their ingenuity in devising, teaching and supporting alternative repertoires of behaviour to those that are challenging.

Exercise

Consider this situation:

Leila is seventeen and lives at home. Her mother wakes her at 6.30 a.m. and takes her to the bathroom. Each time this happens, Leila begins to bite her arms and scream.

Once in the bathroom her mother begins to wash Leila's face and hands. Leila resists again by again injuring herself.

Leila's mum dries Leila's face and hands. Leila's response is repeated self-biting and screaming until this daily task is over.

What would you suggest, from a constructional point of view to make Leila's washing less stressful for her and her mother?

What would you suggest that Leila could be encouraged to do? What might her mother do differently?

Of course for examples like this, the information provided is limited, but the following could be tried:

Is this behaviour Leila's way of saying 'I'm not ready yet'? - try giving Leila a few minutes between waking and washing.

Is it Leila's way of saying 'I want breakfast' - try giving Leila something to eat first.

What might be an appropriate repertoire for Leila while being washed? - would it be feasible to encourage her to hold the towel? this might help her feel more in control of the situation, give her something else to do with her hands, and help build the skill of drying herself.

Does Leila like or dislike the various stimulus qualities of washing: the water, smell of soap, temperature, etc. - might it be possible for her to engage more with the water in the basin, perhaps she likes to play with the water. Could she find the smell of the soap, etc. enjoyable: could smelling the different soaps become part of the washing routine?

and so on.

The constructional approach starts from the question: what could the person be doing instead? It can:

Try to replace a problematic behaviour with a more appropriate one that has a similar function for the person;

e.g. vigorous rocking damaged a person's bed. He was given alternative activities that gave similar vestibular stimulation: use of a swing and rocking chair.

Try to transform a problematic behaviour:-

By making it less inappropriate: a man used to squat on the pavement when out for walks. When the staff member sat down on the kerb too it looked more natural, and meant that sitting down was accepted as resting rather than becoming an issue around which a struggle took place.

By shaping it into another one: Felix, described before, hit out at people when they came near him. One member of staff found that by putting his hand so Felix's met

his, a clapping sound was made, and Felix enjoyed it. Clapping became established, and then the staff member made his hand move with that of Felix, so Felix became used to sustained contact. Soon it was possible to change the contact between hands so Felix could be physically guided to do a variety of table-top tasks.

Constructional approaches are not restricted to behavioural interventions: approaches based on developmental theory also tend to be constructional in nature (see Nind and Hewett, 1994).

Goldiamond developed the constructional approach in response to concerns about the abuse of power in applying behavioural interventions. Because it has a broader agenda than the mere elimination of behaviour deemed inappropriate, it does help, but there is still a requirement to ensure that engaging in the replacement repertoires is in the person's interest.

The context of behaviour

The behavioural approach is above all one that emphasises understanding behaviour in relation to its context. It is useful to distinguish between the immediate behavioural context, described with the ‘three term contingency’ and the broader contexts of setting events and ecological conditions.

The rest of the unit on behavioural approaches introduces the ‘three term contingency’, uses that to describe the fundamental behavioural processes that underpin the behavioural approach, and then broadens the account to consider the ‘ecology of behaviour’.

The three term contingency

In considering the ‘three term contingency’ behaviour analysis could be said to be ‘zooming in’ on behaviour and its immediate context.

We have already considered ABC charts, which consider the behaviour, its antecedents, and its consequences. This section considers these three terms as they act together, with rather more precision of analysis.

Notation:

To help with the description it is helpful to use a standard notation.

Behaviours are identified with the symbol: **R**, which stands for response.

Both antecedents and consequences are stimuli, so they are identified with the symbol **S**. Consequences are distinguished by the superscript: **R**, e.g. **S^R**, because they are produced by the **R**.

The basic unit for behaviour analysis then is depicted as:

$$\mathbf{S: R \Rightarrow S^R}$$

We will consider relationships between each pair of the three terms.

First pair: **S: R**

The **R** is preceded by a colon. This indicates that the **S** doesn’t necessarily cause the **R** to occur: this distinction is important, because the relation between antecedent stimuli and behaviour is not an automatic, mechanical, one, where the stimulus is

inevitably followed by the response. Instead, the relationship is probabilistic. The behaviour is made more or less likely by particular stimuli.

Some everyday examples of the S: R relationship include:

S	R
dart board	throwing a dart
door handle	reaching and turning the handle
a stuffy atmosphere	opening the window
five hours since a meal	going for something to eat
a person waving	waving back

exercises

Can you think of a metaphor that goes with each of the above? Here is a list of possible ones:

signal, trigger, prompt, target, compulsion, control, releaser.

Relationships between antecedent stimuli and behaviour can take on a variety of forms. Consider the following distinctions:

Background factors versus immediate stimuli

Natural versus arbitrary stimuli (how does the environment tell us what to do?)

Public versus private stimuli

Simple versus complex

Time characteristics: (duration) short versus long, (latency) immediate versus delayed, (patterning) episodic versus continuous.

Last pair: $R \Rightarrow S^R$

The arrow indicates that the S^R depends on the occurrence of the behaviour. With no behaviour there can be no consequence. Some everyday examples of the $R \Rightarrow S^R$ relationship include the following:

S	R
----------	----------

pressing a door handle	door opens
looking at someone	person smiles
putting food in mouth	taste the food

However, again the relationship is not always straightforward.

Consider the following permutations

R and S^R occur together.

$R \Rightarrow S^R$ sometimes

$R \Rightarrow S^R$ always

R always precedes S^R but doesn't actually produce it

R increases the likelihood of S^R happening

R prevents S^R from happening

R reduces the likelihood of S^R happening

R precedes S^R but there is a delay between them.

Outer pair: $S \dots S^R$

Not only are there relationships between the adjacent terms of the contingency: the likelihood of particular consequences, given a behaviour, can be signalled by antecedent stimuli.

Claire had learned to make a particular sound to indicate that she wanted a drink. In the busy day centre that she attended she rarely made this sound, while at home she would do so two or three times each evening. Claire had learned that the sounds of the day centre signalled that it was unlikely that her sound would be followed by someone bringing her a drink, while in the quieter environment of home, where she was the only disabled person, it was much more likely (because someone would be more likely to hear her).

Significance of the three term contingency

It is this variety of relationships between the three terms of the three term contingency that has made the analysis of behaviour on the basis of these simple relationships

possible. To really make the three term contingency ‘come to life’, however, requires an understanding of the fundamental behavioural processes.

Behavioural processes

Some widely used texts on the behavioural approach provide little fundamental understanding of the principles on which it is based. Without some understanding of its fundamentals, mistakes can be made in applying it, which does those who engage in challenging behaviour a disservice.

The basic behavioural processes were identified in laboratory research. It is important to recognise the difference between this situation and the far more complex environments of real life. The distinction can best be made in terms of that between ‘closed systems’ and ‘open systems’. In the laboratory, stimuli and their presentation can be controlled, and other factors screened out. Real life settings, on the other hand, are open to a huge variety of influences, so the regularities of the laboratory are not often observed. As a result the relationships between behavioural and environmental phenomena can become difficult to detect. Those working in the behavioural tradition see the basic behavioural processes described here are akin to scientific laws. A good example is Newton’s first law of motion. This holds that an object will either continue to travel in a straight line at constant speed (or if not moving will continue to stay where it is) until some force is applied to it. Now conditions on earth mean that we rarely see an object moving in this way: objects are usually accelerating or slowing down (or are still). However, that is consistent with the operation of other forces (gravity, air resistance, etc.) on them. Moreover, the first law of motion, taken with other principles and laws, helps to explain many phenomena in the physical world. It is not the last word in physics as many twentieth century developments have superseded it, but it has a usefulness for many phenomena and situations. The basic behavioural processes, then can be regarded as somewhat hidden processes that, in a complex interplay with other factors, generate patterns of behaviour and behaviour - environment relationships.

Operant strengthening

The basic idea of operant strengthening will be familiar to most people, but its subtlety may not have been apparent in previous contact with the principle. The following table sets out operant strengthening in detail.

Name:	Given: i.e. starting conditions	Procedure: i.e. what is done	Process: i.e. how the behaviour changes	Result: i.e. the end state of the process	Example: (these examples are not therapeutic recommendations!).
Operant strengthening	<ol style="list-style-type: none"> 1. A behaviour at a frequency greater than zero (i.e. at 'operant level'). 2. An effective reinforce 	<p>The delivery of the reinforcer is made dependent on the occurrence of the behaviour.</p> <p>$R \rightarrow SR^+$</p>	<ol style="list-style-type: none"> 1. The behaviour increases in rate, relative to its operant (baseline) level. 2. The behaviour increases in rate, relative to other behaviour. 3. The pattern or sequence of the behaviour changes - to a more predictable loop that is repeated. 4. The behaviour becomes less variable in its form. 	The behaviour is established at a new, and higher frequency.	<p>Every time Maggie screamed, someone gave her a cuddle to comfort her. Mary's screaming increased in frequency.</p> <p>Every time Joe raised his head at mealtimes he was given a taste of his preferred food. The proportion of time Joe looked up increased.</p>

Several points should be made about the relationships between an operant, responses, and reinforcement.

The 'operant' is actually a class of responses that share the same relationship with the reinforcement S^{R+} (and the 'discriminative stimuli', S^D and S^Δ , that, respectively signal the availability or non-availability of reinforcement, given the appropriate response).

Responses themselves are defined by their form (topography), not by their relationships with other events.

So, multiple actions can produce the same consequence: the different responses are members of the same operant class

Naima screams, head-butts others, and bites her arm. All these responses enable her escape from certain situations. They could be regarded as members of the same operant class, (at least until they have been shown to occur under different conditions from one another).

Conversely, the same responses may serve several functions.

Alec hits his head, but on careful analysis it seems that this behaviour has several distinct consequences at different times: self stimulation, escape, blocking out other stimuli, and attention from others. Alec has few skills at present and has settled on a 'general purpose response' which gives him some control over his immediate environment.

In intervening with behavioural challenges we are concerned about responses, but actually try to change operants (This issue is explored by Owens and MacKinnon, 1993).

Operant extinction

Operant extinction is to a large degree the 'mirror image' of operant strengthening. Again it can be described in terms of a standard tabulation of its dimensions:

Name:	Given: i.e. starting conditions	Procedure: i.e. what is done	Process: i.e. how the behaviour changes	Result: i.e. the end state of the process	Example: (these examples are not therapeutic recommendations).
Operant extinction	A previously strengthened behaviour.	Reinforcement is no longer given. R →	<ol style="list-style-type: none"> 1. Usually an initial increase in rate, followed by - 2. A reduction in rate. 3. Behaviour becomes less predictable - the loop disintegrates. 4. The behaviour becomes more variable in its form. 	Behaviour reduces in frequency to near its operant level.	<p>In the above, staff stopped giving cuddles: Mary screamed more the first day but after that the time spent screaming was less each day.</p> <p>Staff stopped reinforcing Joe's looking up. At first it seemed that if anything Joe was now looking up more, but over the next few days he spent more and more of mealtimes looking down.</p>

Note:

- a) The 'extinction burst' which means that behaviour may increase before it decreases. This has obvious significance for attempts to reduce challenging behaviours through extinction. The burst could mean that the behaviour rises to dangerous levels initially.
- b) That the behaviour only declines to near its original level. It seems that once learned behaviours never entirely leave a person's repertoire.

Other behavioural processes

The following table depicts the other important behavioural processes in the same way as for operant strengthening and extinction. The framework used in the table is adapted from that in Millenson (1967).

Name:	Given: i.e. starting conditions	Procedure: i.e. what is done	Process: i.e. how the behaviour changes	Result: i.e. the end state of the process	Example.
Spontaneous recovery	An operant behaviour that has been extinguished	Some of the stimulus (setting) conditions associated with the behaviour are reinstated.	The behaviour appears again. This will be temporary unless reinforcement is again made available (contingent on the behaviour). Subsequent spontaneous recoveries are successively smaller.		Mary comes back after a holiday; nothing has changed in staff's behaviour, but there is a temporary return of the previously extinguished screaming.
Negative reinforcement	<ol style="list-style-type: none"> 1. A behaviour at a frequency greater than zero (i.e. at 'operant level'). 2. The presence of a stimulus that the person will work to remove or reduce (a negative reinforcer). 	<p>The removal or omission of the reinforcer is made dependent on the occurrence of the behaviour.</p> <p>$R \rightarrow SR-$</p>	The behaviour increases in frequency (see operant strengthening).	The behaviour is established at a new, and higher frequency.	Ann is taken to sit with others. She lashes out and is then taken into a quiet area. Soon this becomes a regular occurrence, her lashing out is reinforced by removal of the demand to be with others.

Name:	Given: i.e. starting conditions	Procedure: i.e. what is done	Process: i.e. how the behaviour changes	Result: i.e. the end state of the process	Example.
Differential reinforcement	Several behaviours at greater than zero frequency.	Reinforcement is made dependent on some of the behaviours and the rest are subjected to extinction.	<ol style="list-style-type: none"> 1. Strengthening of the reinforced behaviours. 2. Weakening of the behaviours subject to extinction. 	The reinforced behaviours are now at a high frequency.	<p>see below</p> <p>Jeff often talks very quietly. His mother only responds to him when he speaks loudly enough to be heard clearly. The proportion of Jeff's utterances that are reasonably loud increases.</p> <p>2. When Susan used the toilet she sometimes (about 10% of occasions) smeared. Staff made reinforcement dependent on the absence of smearing. The proportion of occasions where smearing took place reduced to 2%.</p> <p>Janet picks scabs on her scalp during education sessions. The skill of simple sewing is established and she is reinforced for periods of continuous sewing (she cannot both sew and pick scabs at the same time).</p>
		1: Differential reinforcement of a defined response class.			
		2. Differential reinforcement of other behaviour.			
		3. Differential reinforcement of alternative (or incompatible) behaviour.			

Name:	Given: i.e. starting conditions	Procedure: i.e. what is done	Process: i.e. how the behaviour changes	Result: i.e. the end state of the process	Example.
Satiation	<p>Previously reinforced behaviour.</p> <p>A relative lack of the reinforcer in the present environment.</p>	Reinforcement is made freely available.	Reduction or cessation of the behaviour .	The reinforcer has temporarily lost its reinforcing value.	Jasper takes other peoples' drinks. He is provided with a 2 litre flask so he can take a drink whenever he wants. Others' drinks are taken much less often than before.
Stimulus discrimination	<p>1 A behaviour.</p> <p>2 Two stimulus condition.</p>	The behaviour is reinforced under one stimulus condition (S^D), but not under the other (S^Δ).	The frequencies of the behaviour in S^D and S^Δ gradually draw apart, with extinction of the behaviour under S^Δ .	The behaviour occurs in S^D but not in S^Δ .	<p>1. One member of the clerical staff stops to chat when Doreen says 'Hello'. Another staff member doesn't. Doreen stops saying hello to the second member of staff but continues with the first.</p> <p>2. Norman has difficulty in knowing when it is night time. His residential staff play a particular record at the end of the evening. After this event, Norman is given reinforcement (praise and social contact) for going upstairs, but not for remaining downstairs.</p>

Negative reinforcement sometimes causes confusion, and this is partly because of past inconsistencies in the way in which behavioural psychologists have defined it. Today the Skinnerian definition is usually used, in which negative reinforcement involves operant strengthening by taking away a stimulus given the requisite behaviour. The following grid helps clarify this:

	present S ^R when behaviour occurs	remove S ^R when behaviour occurs
behaviour increases in frequency	positive reinforcement	negative reinforcement (escape or avoidance)
behaviour decreases in frequency	punishment	no agreed term (used in time out from positive reinforcement / response cost)

Operant behaviour then is

controlled by its consequences: $R \Rightarrow S^R$

in specific situations: $S: R \Rightarrow S^R$

We can use the basic unit of analysis, the three term contingency, with the basic behavioural processes, in order to understand some patterns of behaviour.

Understanding the ‘stimulus control’ of behaviour is at least as important as understanding its reinforcement dynamics. Analysis of stimulus control will often enable guesses to be made about why behaviour happens in certain places, at certain times, with certain people: what do these stimulus elements tell the person?

exercise:

Identify the likely $S: R \Rightarrow S^R$ and the changes in relations among them, in the following two cases.

Hannah keeps getting out of bed and going into her parents’ room. They establish a pattern of visits to her room, with a cuddle if she is still in

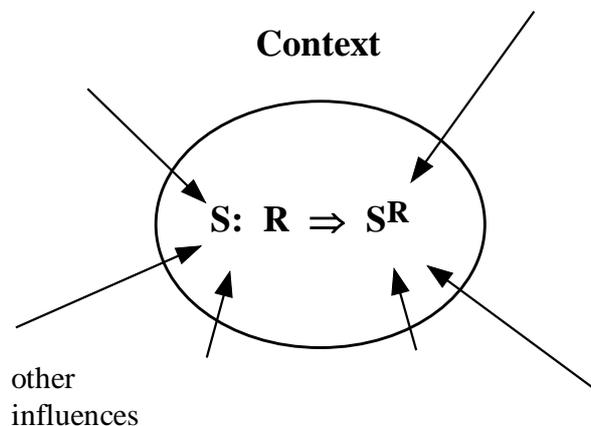
bed, until she is asleep. Over a period of 2 months they increase the interval between visits from 1 minute to thirty minutes.

Paul is fed by a lunch-time assistant. A training programme is devised where he learns to use a spoon to bring the food to his mouth. He learns to eat a whole meal that way. As the lunch time assistant begins to leave him for longer periods to get on with his meal, the new skill begins to break down and two months later Paul is again being fed.

Hint: what other reinforcement might Paul be used to obtaining in this situation?

The ecology of behaviour

Analysis in terms of the three term contingency is helpful, but it does not consider everything that might be important, even from a behavioural perspective. These 'proximal' events are themselves embedded in a wider context:



The analysis of the influence of these wider influences is known as ecological analysis.

The term 'ecology' suggests a number of things, in particular:

The interconnectedness of things in a system

The risk of unintended effects of intervening in these systems

The mutual change and adaptation of different actors (people) in the system.

What kinds of factors might we identify as possible influences in a person's environment?

Exercise

Identify elements in your current ecological behaviour context. Include:

Aspects of your current state (hungry, tired, etc.)

Prior events (a disturbance earlier in the day, getting cold earlier, etc.)

Behaviour - behaviour relationships (e.g. having had one cigarette, having another becomes more or less likely; having begun to interact, continuing to interact is more likely)

Broader aspects of the environment (illumination, heat, noise, crowding, etc.).

A potentially very wide range of factors can be taken into account in an ecological analysis - deciding which ones are relevant is sometimes difficult, but the framework for theorising cause-effect relationships in this module (see later) can help with this narrowing down. For now let's cast the net widely:

The following list is adapted from LaVigna and Donnellan (1986) and Willis et al. (1989):-

Factors to consider in ecological analysis

The nature of the behaviour under consideration.

Expectations (by the person, and others) about the environment.

Nature of the physical objects, materials.

Nature of task, if any.

Nature of preceding and following tasks or activities.

Reinforcement value of various activities and materials in the environment.

Level of difficulty of available activities.

Number of people present.

Behaviour of those present.

Opportunities for interactions with others in the environment.

Communications from those present.

Environmental pollutants: noise, smells, crowding, allergens, etc.

The person's physiological state (hunger, drugs, health, pain, exercise levels, etc.)

Changes in person's life circumstances.

Individual abilities - their match to the demands of the environment.

Variety of materials, activities available.

Environmental and organisational constraints, e.g. room size, access to other environments, staff numbers, time, skill.

Emotional tone of environment: balance between positive and negative interactions, levels of emotion expressed.

Recent changes in environment: e.g. changes in staffing, routine, activity, programmes, timetable, other clients.

The above list is probably not complete, but gives an idea of the wide range of factors to take into account.

An analysis of physical and social aspects of the environment can be found in Burton and Kagan (1982, 1995).

Exercise

Consider the factors in the above list and carry out an eco-behavioural analysis for a behavioural challenge exhibited by a person you are familiar with.

A framework for identifying sources of distress

Jean Lally suggests the following steps are followed to identify possible sources of distress (amended slightly here)..

1 Ask the person

Ask the person why they are upset. Consider differences from situations where they are not distressed. What does the person not like about this situation? What do they want that they are not getting? What do they only get through challenging behaviour? If the person can't, or doesn't, talk, go to next step.

2 Use imagination

Consider all possible reasons. Keep an open mind and don't stick to one idea.

3 Talk to people involved

What ideas do they have? Have they encountered the problem before, what patterns do they notice, and what patterns are there in the collective observations?

4 Look at the immediate situation

How might sensory, physical, specific disability affect the person's experience of this situation?

What did another person say to the person just before they became distressed? Was it understood? What did the service user try to communicate immediately before they first showed signs of distress? Did the other person not understand them?

Might the person's feelings be upset? Are they worried, sad etc.? Are they in pain or ill?

Is the problem due to interaction among others or with the person?

5 What happened a short time before?

Has the person just come from another situation where they became upset? Ask the person, check with others at the time or later.

6 Is the problem related to a long-standing problem?

e.g. physical or sexual abuse, many changes.

7 Check documentation

Have other people investigated this issue before? What did they find and recommend. Has this been forgotten or superseded by better understanding?

Mutual adaptation

When my behaviour changes that of those around me changes. Environments adapt to the behaviour of their members, and people adapt to their environments.

Exercise

Can ecological analysis help us make guesses about why the following phenomena occur?

It can be more difficult to work with the families of adults than those of children.

In small institutional settings, it seems that 'one person at a time' often presents a behavioural challenge. When one person's behaviour resolves, another begins.

The natural history of challenging behaviour typically involves a considerable reduction in frequency and severity around the age of thirty.

A final consequence of the ecological view concerns assessment and intervention. It generally makes more sense to investigate a behaviour in the environment in which it takes place. It also makes sense to design interventions to take place in such an environment. 'Lifting out' a person into an assessment environment may increase the ability to test hypotheses, but at great risk of losing any understanding of the additive and interactive effects of the natural forms, sequences, and arrangements of stimuli that make up the environment.

Social factors

Here we (temporarily) leave behind the behavioural approach, to explore some other concepts that can help us explain and understand behaviour.

Human beings are social: our humanity itself can be understood as arising from social interaction and the relationships among people. Some theories of development suggest that our basic intellectual and emotional abilities stem in large part from social interaction in early childhood. The attempt to try and understand people as individuals, in isolation from others, can be seen as something peculiarly western, and open to debate.

People seem to be ‘biologically prepared’ or ‘pre-wired’ to be social: the social smile for example, appears at 46 weeks after conception in most children. While earlier behaviourists regarded ‘social reinforcement’ as a secondary, or learned reinforcement, practice today usually acknowledges that even for those with specific social impairments (e.g. autism), a responsiveness to others and their attention (at a desirable level of intensity) is a primary quality and not something that has to be learned.

All this means that people recognise others as distinctively different from other parts of the environment, and behaviour is highly influenced and structured by the social world.

This section introduces some social psychological concepts that can help in the analysis of behavioural problems.

Exercise

List some of the social factors that shape your behaviour.

For each one, consider how they might apply differently in the case of someone who is very significantly

learning disabled

visually impaired and learning disabled

Models and imitation

Early on in life we acquire the ability to imitate. We term the person who we imitate a ‘model’. It is not surprising that we are endowed with the capacity to imitate, because

it is a highly powerful short cut in learning. Rather than learning by trial and error, or behaviour shaping, we can learn by watching a more experienced person.

Some people have yet to learn to imitate. Imitation can be taught via a behavioural training method: an action is modelled and then the same action is shaped by differential reinforcement of successive approximations. Then the process is repeated with a new action, and so on. This can help some people over the 'hump' of getting the idea of watching what the other person is doing, and then doing the same thing.

Imitation can teach both positive and negative things.

Through imitating models people can learn two types of things:

Learning how: To open a door. To throw a ball

Learning that: This object can be eaten. When I scratch my face it hurts, but someone talks to me.

Much of 'learning that' is about consequences - a link to the behavioural approach.

Imitation and modelling can present a barrier to people who find social interaction difficult.

Models can be of two broad types:

Behaviour models: The person imitates specific actions.

Role models: The person identifies with the model, taking on a whole range of behaviours and styles of behaving.

Role modelling is more complex, and will be 'out of range' for many more significantly disabled people. However, it is a feature of all social environments, and is a useful concept for understanding interaction patterns among staff, family members, non-disabled peers, etc.

exercise

In what ways might imitation lead to behavioural challenges in environments where learning disabled people are grouped together?

How could understanding modelling and imitation inform the design of services?

Roles

The idea of role is based on the ‘theatre metaphor’. We occupy different roles at different times and in different places.

Early in the module, we introduced the important idea that challenging behaviour is socially defined. Role occupancy is one of the things that helps define whether a behaviour is appropriate or inappropriate.

To explore the nature of social role try the following two exercises:

Exercises:

For yourself, choose three different social roles you occupy (e.g. parent, colleague, teacher, neighbour, etc.). Identify the following aspects:

Social Role	Role partners	Settings	What behaviours are expected of you	What behaviours are inappropriate

What roles are available to the people with significant disabilities you support? How might these be extended?

It is likely that you found it hard to identify many roles occupied by people with learning disabilities. Moreover, roles that others take on can be quite confusing in many settings, and can lead to behaviour that is interpreted as a challenge. For example, in residential services, the support workers might take on several roles, of helper, friend, supervisor, protector, and so on. It can be difficult to know which role is being adopted from minute to minute, leading to frustration when expectations are not borne out.

Rules

Roles are closely linked to rules. Role-rule contexts are a unit of social psychological analysis.

Rules can be explicit (formalised, stated) or implicit (informally interpreted and rarely stated). It is the implicit, or informal rules that are most difficult to follow, particularly by people whose understanding and experience is likely to be limited.

Rules may be seen in several different ways:

A summary of a contingency

‘If you throw your food away, you will have to wait until next mealtime’. ‘If you look at people they will smile at you’.

A short cut to learning

By identifying, or being told a rule, the process of trial and error is avoided:
'Don't point at people'.

As a carrier of culture

The rules of a community are the guidelines for behaving as a member of that community: 'Always say thank you'.

As a guide to appropriate behaviour, and a definition of what is appropriate.

'Gentlemen lift the seat' - written in railway toilets.

'Don't touch your genitals in public' - implicit rule that we learn early in life.

Understanding rules can be problematic. Consider the following situation:

Shaun had grown up in a hospital where he had lived since being a very small child. Gradually as he had got older, he had helped out with the younger children in the hospital. Shaun is now 47. He still likes the company of children and gets on very well with them. Shaun does not always distinguish between children he knows and others. Whenever he sees a group of children playing football or rounders in the park or on the waste ground behind the flats in which he lives, he happily tries to join in. Sometimes they laugh at him or call him names and ridicule him, while parents view his interest in children with concern.

It seems that Shaun thinks the rules are as follows:

Rule:	Evidence that he thinks this:
Anyone can join in games in the park	Shaun just joining in without an introduction or any preliminary conversation
It is OK for children and adults to play together;	Shaun's reluctance to consider there is anything unusual about his behaviour
Everyone should accept everyone else	Shaun got upset and did not understand why the children laughed at or ridiculed him

Exercise

Now consider someone else who behaves inappropriately. Can you infer what their understanding of the social rules might be?

Situation:

Rule:	Evidence:

Can you apply this way of thinking in the case of someone with a severe sensory impairment? How might the sensory impairment affect the person's acquisition and understanding of social rules.

Self and Identity

We are all individuals, different from one another. To the extent that we have knowledge of this, we can be said to have a self concept and an identity.

Exercise

Answer the question 'Who am I' in twenty different ways.

Now mark those that define a relationship to someone else (e.g. a sister).

Mark those that define you in relation to a social group (e.g. a singer in the choir)

Mark those that define you in terms of a social role.

What is left?

This exercise gives you some clues about the origins of our sense of self. It is embedded in our relationships with others.

How might this apply to someone currently presenting behaviour that is challenging to others? They are likely to have limited opportunities to construct an identity they can feel comfortable with. They are likely to have a very limited sense of who they are. Assuming that the person has some sense of self, they are then likely to have low 'self-esteem'.

Self esteem is based on

social reflection (i.e. association with others - difficult if you are being rejected)

social comparison (positive attributes can be noticed in relation to those of others)

a belief we can act positively and have some control (again difficult for someone habitually behaving in an extreme fashion)

a belief that we are unique.

In working with people whose sense of self and positive identity is likely to be compromised, it is important to seek identity conferring experiences and activities that enable them to express their positive uniqueness. This is possible even for people who can present very difficult behaviour.

Mary is from a Caribbean background. At mealtimes at her day service she goes to a West Indian shop where foodstuffs are bought. Staff cook a lunch from them with her participation (she can stir, with help, and she enjoys exploring the texture of the different vegetables). She then eats the meal. This expresses her positive difference from the other five people she spends the day with, and she also prefers these foods to those usually on offer.

The social approach is relevant to the experiences and behaviour of people who present challenges, and to those that support them, or who otherwise affect their lives. It has been neglected in published material on behavioural challenges, so recommending further reading is difficult. Burton and Kagan (1995) present a framework for the analysis of social skill, broadly understood, with people with learning disabilities. Lovett's (1996) analysis is a broadly social one, with an emphasis on power relationships. The collection edited by Emerson, McGill and Mansell (1994) discusses some of the broader social issues around service organisation and design. Goffman's (1961/1968) seminal work on institutions is still

worth reading: we still recreate institutional features in our special services, and these can severely compromise the social worlds of those that depend on them.

Developmental issues

Basic assumptions

While statements about developmental processes and assumptions appear to be quite widespread among practitioners, perspectives on challenging behaviour that truly draw on developmental theory are not well developed, and it is unclear whether a pure developmental perspective actually exists. However, there are some statements of what a developmental approach would look like with people who are significantly learning disabled (Khan, 1979; Hodapp, Burack and Zigler, 1990). Other writers acknowledge a debt to the developmental approach, even when they draw more heavily on behavioural perspectives (e.g. Kiernan and Jones, 1982). Hodapp et al. (1990, pp 4-9) identify the following core assumptions of classical developmental approaches:

Assumption	Meaning*
the 'organism' is active,	Rather than responding passively to stimuli, the person experiments and interprets (even at a very basic level), actively constructing their own learning and growth.
change is non randomly directed to a specific end point,	There is an order to development, which goes in a particular direction: it is not just the random accumulation of learning.
behaviour is evidence of underlying schemes,	The person changes as a result of development, and behaviour is generated by these hidden changes, which have a structure and are known in some theories (e.g. Piaget) as 'schemes'.
change can be both qualitative and quantitative in nature,	Development and change can mean learning more, doing more of a particular thing, but there are also jumps in development that are more than just a steady increase in learning: this kind of change is 'all or nothing' rather than gradual.
development is not reducible to a simple function of the passage of time, and	Development does not just happen as a result of increased age: it requires active involvement from the person

* as interpreted by the author of this module

One recent approach (Nind and Hewett, 1994) to work with people with very significant disabilities is based explicitly on the study of child development in the

care-giver relationship. However, the ‘sensory approach’ or ‘sensory-developmental approach’ has had predominance in the field where developmental notions are used to justify exposing people to a wide range of sensory stimulation, often with little theory of how this might promote development and change in practice.

Application to behavioural challenges

How might a developmental approach apply to understanding behavioural challenges?

Challenging behaviour as a developmental step

Some behaviours that are challenging can be understood in developmental terms.

They are developmental steps for young children, but because the person is no longer an infant they become problematic.

When babies are first beginning to explore their immediate environment they put things in their mouths, presumably as a way of assessing their qualities. This is usually a passing phase, but in someone who develops very slowly, it can go on for many years, and if their other development (e.g. mobility) outpaces their intellectual development, then this can become a serious danger. Some so called ‘pica’ is probably no more than exploration of objects according to a developmental ‘universal’.

Guess and Carr (1991) proposed a theory of self injury which integrated developmental and behavioural theory. They propose three levels:

Repetitive movements, similar to those seen in the foetus and the young infant.

Some of these movements take on a regulatory, homeostatic, function, in which they adjust the person’s level of arousal, both up and down to a comfortable level.

Some of these actions will be self-directed and may cause low levels of self-injury.

Some of these movements are reinforced by the actions of others. Some of these actions will be seriously self-injurious.

Stuck development

Other behavioural challenges may be better understood as ‘stuck development’. Here the person’s development in certain areas ceases, perhaps because of other limitations, or perhaps because of a lack of appropriate external facilitation. An example might be a person’s fixation on a particular preferred activity, hand watching, for example, which effectively blocks out other environmental opportunities for development, and

leads to aggression when the behaviour is interrupted or thwarted. Some other repetitive actions, such as twirling, repetitive questioning, may have a similar origin for some people.

Mismatch between demand and skill

Sometimes development leads to a gross mismatch between demand and skill. A person's mobility and ability to perform simple tasks might be in advance of their capacity to make discriminations between objects, for example. When someone tries to teach the person a sorting task, the demand is well above that which the person is currently capable of, and a very anxious reaction follows. For some people these mismatches can be in the area of spoken communication.

The developmental approach probably has a greater relevant contribution to make than the rather sparse literature suggests. Thinking developmentally about the person in question can be done in conjunction with other frameworks. Burton and Sanderson (in press) explore the possibilities of this combined approach in relation to people with profound intellectual disability.

Communication

In recent years, it has been suggested that much challenging behaviour can be understood in terms of communication. Because many people with significant learning disability have limited expressive communication, they may learn other ways of expressing to others what they want.

Speake and Kellaway, (unpublished) found 31 per cent of users of adult learning disability services in the South Manchester area had no verbal communication, while figures of between 50 and 89 per cent have been reported as the proportion with some kind of communication difficulty (Van der Gaag and Dormandy, 1993). These severe communication difficulties lead to considerable difficulties in recognising the individual needs of many people with learning disabilities, which could contribute significantly to the problem of challenging behaviour. It has been found that there is an association between challenging behaviour and unmet individual need (e.g. Kiernan and Qureshi, 1993; DoH, 1993).

However, this 'communicative hypothesis' has led to some more sophisticated approaches to assessment and intervention with people who present behavioural challenges.

There has been a widespread use of the 'communicative hypothesis' concerning the function of much challenging behaviour (Carr and Durand, 1985), which suggests that behavioural challenges occur because the person is unable to express their needs and wants through verbal means and that highly noticeable behaviours substitute for verbal means of eliciting support, changing stimulation levels, terminating or initiating an activity, etc. In some ways this way of thinking is not dissimilar from the analysis of operant reinforcement, and the assumption of intention that communication requires is sometimes questionable. Rooted in behavioural psychology, much of this work (Durand, 1990, Carr et al., 1993) has not been informed by a contemporary systematic analysis of communication (cf. Calculator and Bedrosian, 1988; Kiernan, Reid and Goldbart, 1987).

Workers in the Manchester Joint Learning Disability Service have developed a second communicative hypothesis:

challenging behaviour may occur when communication towards the person with a learning disability does not match their receptive communicative competence (capacity to understand).

Some of the common problems with understanding speech are:

Difficulty with or inability to understand negatives, e.g. no, not, n't

Difficulty in understanding word endings, e.g. 'ed' for past events, 's' for plurals

difficulty in dealing with large amounts of information

a restricted vocabulary

problems understanding words and phrases for passage of time

difficulty in identifying information that is not explicit from speech, e.g. idioms, irony, sarcasm, jokes.

(from Jolliffe, unpublished, 1994)

On a person by person basis, we find that a significant proportion of problem behaviours take place when care givers do not communicate in ways that the person with a learning disability can understand: as a result communication and the verbal environment is likely to be experienced as confusing, anxiety arousing, overwhelming and/or threatening

Taken together, the original communicative hypothesis and our second hypothesis, suggest that much challenging behaviour occurs as a result of a mismatch between the communicative competence of the person with a learning disability and the strategies used to communicate with the person and to mediate environmental events. This mirrors the analysis of social skill as the joint competence of individual and social setting (Burton and Kagan, 1995).

In the absence of a strong body of research, we can provide the following illustrations from our work:

A man with autism has a good vocabulary and speaks clearly. He has difficulties in decoding pragmatic aspects of communication, which lead to him habitually assuming that conversations refer to him - so when someone else is asked to make coffee he also goes to do so, entering into conflict with staff who have already asked him to carry out a different task. He is

confused when asked to return to his seat, because as far as he is concerned he has just been asked to get up and make coffee.

A woman understands the word 'no', but does not interpret utterances involving 'not' (or n't) as negatives. As a result she often experiences having been told (as far as she is concerned) that something is going to happen, and then becoming frustrated when it does not.

A woman uses the word 'Coke' to mean any cold drink. She asks for 'Coke', receives it and throws it on the floor.

A man has a varied life in the community having been resettled from a mental handicap hospital. On one outing by rail he expects a train to stop but it goes on through the station. Staff do not have a way of explaining that this is not the train they are waiting for, and he hits one of them.

A man with severe learning disability has a small vocabulary and can understand simple utterances. When people direct more complex utterances at him he becomes highly stressed, striking out and hitting his head.

Note: The above vignettes involve some speculation, but interpretations are consistent with what is known about the communicative abilities of the people concerned, and similar sequences of events have been noted on several occasions for each person.

Jolliffe (1996) has drawn on current understanding of syntactic, semantic and pragmatic aspects of communication (e.g. Peccei, 1994; van der Gaag and Dormandy, 1993; van der Gaag, 1988) to develop a rigorous assessment schedule. It yields practical guidance to caregivers on appropriate ways of communicating with the person who may exhibit challenging behaviour, for example using photographs, object cue systems, or altering the vocabulary and syntax used in speech. This communicative analysis also provides a basis for building on the person's pre-communicative and communicative repertoire, enabling important wants and needs to be recognised.

Further information can be found in Lally and Jolliffe (1997a, b).

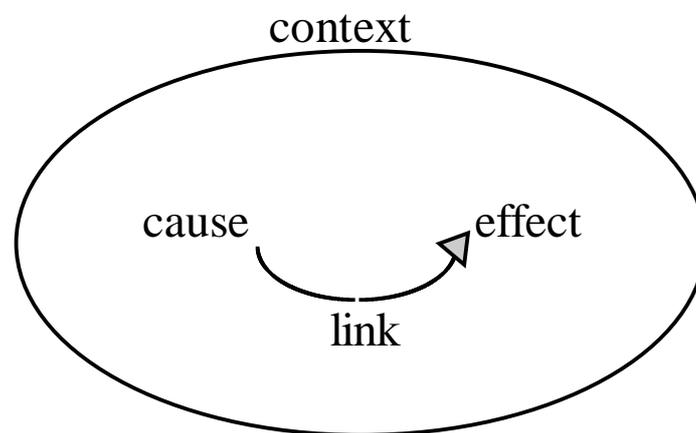
3 RESOURCES FOR INVESTIGATION: ANALYTIC TOOLS

The section on the behavioural approach covered a variety of methods for defining, categorising, recording and measuring behaviour. This section is concerned with how to formulate and test theory about individual instances of challenging behaviour.

The nature of causation

We need to understand how behaviours are caused if we are to design interventions that help people behave in ways that are less challenging.

The idea of ‘generative’ mechanisms was introduced on page 41. The idea can be depicted as follows:



Under particular conditions (the context), certain causes produce certain effects. We can also specify the link between cause and effect. The cause and link together can be thought of as the ‘rather hidden’ generative mechanism. The (considerable) complication is that multiple causes often operate: it is often convenient to consider some of these as contextual in nature. A common error in suggesting why behaviours are occurring is a vagueness in specifying causes and how they are linked to the effects. Often the link is not specified at all. This ‘lack of precision’ means that ideas about the causes of behaviour are poorly tested and interventions may be irrelevant.

This section is intended to help improve clarity in this work of hypothesis generation and testing. A clear description of the nature of causation in real social settings (using rather different terminology) can be found in Pawson and Tilley, 1997.

Causal analysis and hypothesis testing

We are often in the position of trying to identify causes of behaviour, in order to apply an appropriate intervention, and are faced with a multitude of possibilities. The task is to decide which ones operate.

Exercise

Consider the following statements in turn. Using a piece of paper to cover the next lines, write down your best guess about the cause of Fred's grumpiness, given the information given.

Fred is 48 years old. He is grumpy today	Why?
Fred missed his dinner	why is he grumpy?
Fred missed his dinner because he went to the dentist	why is he grumpy?
Fred had an injection at the dentist	why is he grumpy?
The dentist said he might need to go to hospital for treatment	Why is Fred grumpy?
Fred got a tax bill this morning	Why is he grumpy?
Fred had a row with his son five minutes ago	why is Fred grumpy?

Your best guesses probably changed as you obtained more information. Did you incorporate the earlier information in your final guess, or did you drop it as a red herring?

Usually we start with several pieces of information at once. Here our own biases can influence us and mislead us.

The following exercise explores this: you will need to do it with someone else.

Exercise

Gil, 6 years old, is the only child of two successful professionals. He is the tallest boy in his class. He seems bright and shows interest in lots of things. However, at times his behaviour can be very difficult - hitting other children, tantrums when thwarted. He seems to suddenly become a different person. This is most likely to happen in the late afternoon.

Write down your best three guesses as to the causes of Gil's behaviour.

Now write down your best guesses about the three most likely causes of challenging behaviour among people with severe learning disability.

Compare with your colleague(s).

What does this tell you about your biases - your preferred explanations - for behaviour that is problematic?

We all tend to have our preferred ways of explaining behaviour and our pet theories about why it occurs. This is inevitable - it reflects our experience and the way we have learned to negotiate the world of others. It is important to be aware of these biases when trying to seek explanations for puzzling and difficult behaviour patterns.

Hypotheses can be used to help overcome biases, and to guide the gathering of information.

Hypotheses can be stated in terms of the model of cause presented above: identify -

a cause

an effect

the link between them

and the conditions under which this linkage operates

Example:

Melanie reacts violently when she is prompted to reach for objects unless they are across a table.

Hypothesis: When leaning forward Melanie feels unsteady when leaning forward because she has impaired balance. When this happens she becomes frightened and lashes out at the instigator of the frightening situation. This does not happen when she can steady herself with a table.

So:

Cause	impaired balance
Link	feeling of unsteadiness and panic
Effect	aggression to person instigating situation
Context	absence of something to steady herself with.

Two types of information can be sought to establish the likelihood of the hypothesis:

Supportive information: information consistent with the hypothesis.

Disconfirming information: information inconsistent with the hypothesis

Can a hypothesis actually be confirmed? Views on this differ.

One view emphasises the superior power of disconfirming information. Suppose there is an animal called a krat. It is blue. The hypothesis is that all krats are blue. 10 blue krats are discovered. 2,000 blue krats are discovered. Eventually 35,891 blue krats are discovered. It looks like the hypothesis has been confirmed. Then a red krat is discovered, only one, but this is enough to prove the hypothesis wrong.

The other view emphasises real discoveries. Mendel proposed the existence of genes as (generative) entities underlying inherited diversity. Many years later DNA was discovered and gene sequences identified. In a real sense his hypothesis was confirmed.

It is worth emphasising two possible errors:

Type 1: Rejecting the hypothesis when it is true.

Type 2: Accept the hypothesis when it is false.

Exercise

For a person you know who presents difficult behaviour, formulate two hypotheses that include cause, effect, link, and context.

What information would you seek in order to choose between these two hypotheses.

What might be the consequences of making a type 1 or type 2 error?

Complex explanations: not only but also

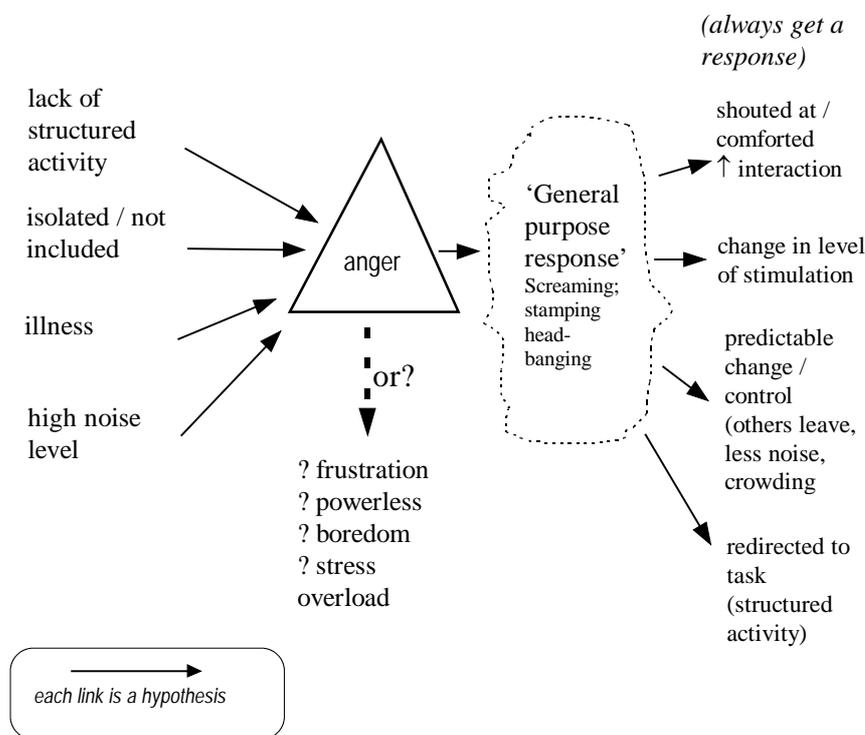
It has been acknowledged above that behaviour is often the result of a combination of influences. Consider the following two hypotheses and three pieces of information.

	Information 1	Information 2	Information 3
Hypothesis A	supports	irrelevant to	refutes
Hypothesis B	irrelevant to	supports	irrelevant to

We can rule out Hypothesis A, assuming that the information really enables us to refute it. We can't accept hypothesis B, although some information is supportive.

It is possible that a third hypothesis C is better supported than B, and might include aspects of it.

One way of trying to work out what is going on is to construct a picture that depicts the relationships. The term 'rich picture' (Checkland and Scholes, 1990) can be used to describe such diagrams that depict multiple influences, perhaps uniting several hypotheses that describe part of the story. The following is an example used by Alison Wren and the author in some work with a woman whose behaviours of head banging, stamping and screaming seemed to have a common function, and to be under a variety of influences.



Hypothesis testing

Hypotheses can be tested by collecting supportive and disconfirming information in relation to what the hypothesis predicts (e.g. there is a physical illness causing this behaviour). One way of doing this is to try out interventions that the hypothesis suggests would help. It will help to have a way of measuring the behaviour before and after the intervention.

At each stage the acid test is, 'does the distress/behaviour diminish? if not, keep on trying'.

Functional analysis ?

So far nothing has been said about 'functional analysis'. This term is used widely in this field, but its meaning is rather confused. The different meanings are:

An analysis of the purpose that the behaviour has for the person (the function of this behaviour is to escape from the situation)

An analysis of causes of behaviour (behaviour happens 'as a function of' a number of variables)

An analysis of the maintaining factors for a behaviour through their experimental manipulation.

It is typically used to mean a thorough and systematic analysis of all the possible factors that contribute to this behaviour by this person, in this situation. That is what this module is about.

5 INTERVENTION STRATEGIES

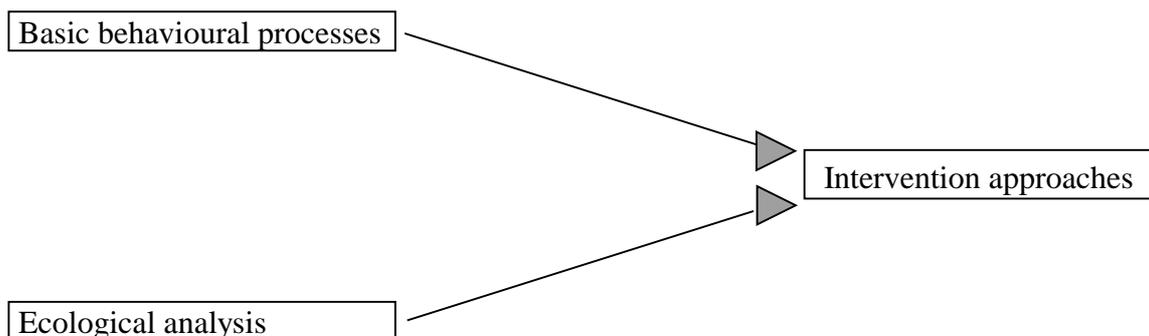
The foregoing sections reviewed theories of behaviour, methods of recording and measurement, and the generation of specific theory, or hypotheses. That sets the scene for designing and implementing interventions, which should flow directly from an understanding of the causes of the behaviour.

It is still the case that many interventions are not grounded in either general or specific theory of why challenging behaviour is happening. A good example is the extensive use of phenothiazine drugs with people with learning disabilities. These drugs are the most common intervention with adults with severe learning disability and challenging behaviour (Kiernan and Emerson, 1997) yet there is no therapeutic justification for their use. As antipsychotics they are not indicated, and as major tranquillisers they have at best a short term effect. They also have a variety of serious short and long term side effects. It is incumbent for all staff to question treatments that are given: no competent professional will be threatened by constructive questioning.

Behavioural interventions

Behavioural interventions follow from the behavioural principles already described. They have two origins, those based on the basic behavioural processes, analyses via the three term contingency, and those that involve altering the broader eco-behavioural context.

In what follows only positive interventions will be described. La Vigna and Donnellan (1986), and Donnellan et al. (1988) give good accounts of these methods.



Altering setting conditions and stimulus control

At its most basic, the idea here is to alter the conditions that give rise to the behaviour in question. So a stimulus that triggers the behaviour could be removed from the environment, where this is feasible. However, more sophistication can be brought to bear on setting conditions and antecedents.

I Altering setting conditions

1. Physical setting conditions

Various dimensions of physical setting conditions can be altered:

temperature

A man who had 'neuroleptic malignant syndrome' (a side effect of phenothiazines, causing problems of control of body temperature) was taught to sit by a fan. Later he was taught to switch it on. This reduced and later prevented his distress and destructive behaviour.

illumination

A man with Usher's syndrome (which involves deterioration of the retina) showed a marked reduction in aggressive outbursts at home when the rather subdued lighting in the family living room was replaced.

smell

noise

space / dimensions

A man who felt threatened in a group setting was given his own defensible space, where he could see people coming and going.

3. Social setting conditions

(Note: changing some of these draws as much on social psychology as behaviour analysis).

Dimensions include:

crowding

attitude / expectation of others

lack of contact

inconsistency / unpredictability

punitive regime / control

criticism

What is the balance between positive and negative statements made to the person? Are they anxious about succeeding and failing?

excess social contact

relationships among carers

It is a sad fact that sometimes relationships in staff teams are so poor that they have to be improved before practical interventions can be carried out with the people they support!

staff or family morale

II Altering stimulus control

Strategies here attempt to change the relationship between the S^D and the R and S^R .

1. Reducing stimulus occurrences

Simply restricting the number of times that a 'trigger' stimulus occurs can lead to a significant reduction in behavioural challenges.

Brendan is very disturbed by the site of matches. While these cannot be totally avoided, staff reduce the number of chances that he has to see them unnecessarily. They have also considered a programme to reduce his sensitivity to them (desensitisation) but are seeking technical help with it.

2. Narrowing stimulus control

The idea here is to reduce the range of stimuli that effectively trigger the behaviour. Masturbation can be brought under the control of the stimuli found in the bedroom, for example (simply by interrupting other attempts and taking the person to the bedroom): this reduces public occurrences.

By bringing an inappropriate behaviour under narrow stimulus control, the likelihood is reduced of inadvertently reinforcing it.

Caution:

This method is rarely feasible with very destructive (aggressive, self injurious, environmentally destructive) behaviours.

III Stimulus change

This refers to major, novel stimulus change.

Sometimes a complete change of environment can enable someone to reduce their behavioural challenges while other approaches take effect. Outside their usual environment, the usual behaviour - environment relationships no longer hold, so the problematic behaviour will sometimes be suspended temporarily. Holidays, a change of classroom or similar changes, can sometimes help 'buy time' in this way.

LaVigna and Donnellan (1986) describe using this approach pro-actively, by changing the furniture, staff clothes and style of interaction, and thereby obtained a temporary reduction in assaults that allowed other strategies to be applied.

On a more immediate basis, sudden stimulus change can sometimes help stop an episode of violent or dangerous behaviour.

IV Positive Programming

'Positive programming' is based on increasing other repertoires.

Sarah used to withdraw in the day centre, spending a great deal of time in the toilet. It became increasingly difficult to encourage her out of the toilet, and she became frightened of the other areas, while staff became frightened of her reaction. A new repertoire was built up step by step over several months, beginning from activities that Sarah enjoyed. The first activity was eating toast, and this was added to by letting Sarah spread the butter herself. Over time she was encouraged to give toast to others, take it out of the toaster, pour drinks, and engage in a variety of other simple tasks. This increased the time she spent out of the toilet.

In the above example communication-based strategies were used at the same time to help Sarah become less agitated.

It is important to distinguish positive programming from the direct manipulation of inappropriate behaviours through reinforcement contingencies.

Caution:

Positive programming is not likely to work quickly, so there is often a need for more direct techniques with very destructive behaviour.

V Differential reinforcement of Alternative, or incompatible behaviour / Alternative Response (DRA / Alt-R)

The principle for this intervention was described in the table on behavioural processes. It involves positive reinforcement (operant strengthening) of an

incompatible behaviour. This approach is met with mixed success, probably due to variations in the ways it is applied.

Variants:

Non - behaviour as the Alt-R

This can be ethically dubious, leading to what LaVigna and Donnellan call ‘deadman behaviour’, i.e. doing nothing.

Topographic similarity

Compare

head - banging versus hair combing,

and

head - banging versus drawing.

In the first case, the required behaviour (combing) is rather close to head banging. It may be difficult for the person to easily distinguish between the two. On the other hand combing might serve some of the stimulatory function of head banging. As ever, it is critical to tailor the intervention to the individual person: it is not possible to generalise.

Topographic compatibility vs. incompatibility

Compare:

head - banging versus table laying

with

head - banging versus juggling.

It is not possible to juggle and head bang, but a person could bang their head while laying the table.

The 100% rule.

Do the target behaviour and the alternative behaviour make up all the behavioural possibilities in a particular situation? If not it is likely that increasing the alternative will not lead to a dramatic reduction in the problem behaviour.

Reinforcement

Is the reinforcement used to strengthen the alternative behaviour that which is thought to maintain the target behaviour?

Is the target behaviour being extinguished, or is it still producing reinforcement?

Several practical issues arise in the use of these differential reinforcement approaches:-

1 What to do when the target behaviour occurs?

Before establishing an intervention it is important to plan the response to the target behaviour. What strategy will ensure that the person can still maintain dignity while not inadvertently strengthening the target behaviour? The usual recommendation is to ignore it (i.e. don't socially reinforce), and to redirect the person to the alternative.

2 Need to evaluate the effect

It is no use using an intervention without having some way of establishing its effectiveness.

3 Maintenance of the Alt-R

Just because the alternative behaviour was strengthened in the intervention, it is not necessarily going to be maintained.

The most useful idea here is to try and 'trap' the new behaviour in the natural reinforcement contingencies of the environment. This is akin to the idea of teaching functionally equivalent behaviour. If jumping up and down is what the person does to say 'I've had enough of this activity', can other behaviours be learned that more appropriately convey this? Such a behaviour could be established with an alt-R method.

VI DRO: Differential Reinforcement of Other behaviour

DRO is distinguished from Alt-R / DRA as follows:

In DRO the absence of the target behaviour is reinforced, and the alt-R is not specified. The following parameters need to be specified:

- a) Target behaviour which must not occur, if reinforcement is to be given.
- b) The time interval that must be target behaviour free for the reinforcement to be presented. The timer could be reset after each behaviour, or there could be variable

(but specified) time intervals. There could also be an increasing criterion after each reinforcement.

DRO should not be confused with the aversive techniques of time out from positive reinforcement (signalled extinction) or response cost (reinforcements are taken away - basically a fine). In DRO, the person still has an opportunity to obtain reinforcement.

Cautions:

1. There is no defined appropriate response: another inappropriate behaviour could be inadvertently reinforced.
2. Danger of reinforcement acting as an 'all clear' signal. i.e. S^D for the target behaviour (not likely in variable time versions as described above).

VII Satiation

In the above reinforcement procedures the analyst would want to limit reinforcement to some degree - so the person has a reason to keep working for the reinforcement. Satiation makes use of the opposite relationship.

Ted took everyone else's drink in the day centre. This led to many aggressive incidents when he was thwarted. It was suggested that he be supplied with a flask of drink so that he could obtain drinks whenever he wanted.

The above suggestion was not actually adopted: what might have been the reason for the staff's resistance to the idea?

Satiation is often mentioned in the behavioural literature, but apparently rarely used: would this be to give people what they want?

Perspective on reinforcement - based approaches

All the above reinforcement - based techniques rely on identifying a reinforcer that is maintaining the person's challenging behaviour. This is not always possible, and many behavioural challenges occur for other reasons. These non-aversive techniques are of some use, but only if they actually follow from the analysis of why the behaviour is occurring.

VIII Shaping

Shaping stands in a somewhat different position than the other reinforcement approaches because it does not require identification of a reinforcer that is maintaining the behaviour, just a reinforcement that is effective for the person.

An example of shaping was mentioned above in the discussion of the constructional orientation p. 36. In another example a man's throwing down of objects on his table was anticipated, and the behaviour shaped into that of giving and taking with a member of staff. This allowed social interaction to take place with a man who usually resisted it. It is rather difficult to identify the reinforcer in this instance!

IX Additive Approaches

More than one method can be used at the same time.

Shaping could establish a new behaviour. It could be maintained while the target behaviour is reduced through a DRA/Alt-R contingency, and positive programming could also be introduced. In addition other techniques and interventions could be added, such as anxiety reduction procedures.

The difficulty with additive approaches is in evaluating which components are effective: so long as they work this is not necessarily a problem.

Exercise

Design a procedure to reduce a target behaviour in the repertoire of a person with learning disability.

Identify the target behaviour

Identify the likely reinforcer

- a) maintaining the target behaviour
- b) to use in your intervention

Write a clear set of instructions to be used for the procedure

What problems would you anticipate with your intervention?

Identify how you would evaluate your intervention (how would you know whether it was working)?

Biological interventions

As with behavioural approaches, any biological intervention will follow from the analysis of the causes of the behaviour.

In most cases where a health issue is concerned, professional help will be required to identify the cause and prescribe treatment.

Social interventions

Some categories of social intervention were described above in the section on altering setting conditions.

Other interventions will be more fundamental, and may involve intervening in the person's social world more proactively. For some people it will be enough to enable them to 'get a life'.

Grace lived in a hostel and although she had a physical disability she had a reputation for violent assault on staff and other residents. It was acknowledged that much of this was a result of her frustration with her life and the living conditions. She found being grouped with the others made her feel bad about herself and who she was.

On replacement of the hostel people moved into ordinary housing, most with 24 hour support. Grace moved into a fully adapted flat near that of another person who had moved out. They are both supported by staff, but neither need nor want more than 4 hours input most days. Grace uses the telephone and has a busy social life, much of which centres around the disabled people's organisation. Occasionally Grace needs additional help when she falls ill.

Occasionally people that knew Grace in the hostel meet her and are amazed at the transformation into a confident young woman with a social life. It is five years since Grace behaved in a challenging way.

Sometimes it is possible to be too clever, when all people need is to be taken seriously.

Burton and Kagan (1995) provide a comprehensive framework for developing the social competence of learning disabled people while encouraging their communities to be more effective in including them.

One framework that is helpful in exploring issues of role in service settings is that of Transactional Analysis (Berne, 1964).

Other social interventions concern the area of recovery from abuse. These are reviewed by Moss and Adcock (in press).

Developmental interventions

As noted above the developmental approach has not led to a specific intervention approach for behavioural challenges. However, considering developmental issues can be helpful in informing and in designing interventions. Is what is being asked of the person sensible in terms of what they might be expected to understand and learn?

The following texts provide some ideas on the use of a developmental perspective with behavioural challenges: Burton and Sanderson (in press), Nind and Hewett (1994), Waldon (1985).

Communication - based interventions

Communication based interventions have been developed as substitutes for the expressive functions of challenging behaviour (Durand, 1990). Practical guidance on both expressive and receptive communication is given by Lally and Jolliffe (1997).

A combined approach

Approaches to people presenting behavioural challenges have often been faddish. People who hurt themselves, attack others, or engage in bizarre health and safety threatening behaviours can challenge our understanding and our abilities to work in a considered and effective way. As a result, there can be a tendency to look for the 'quick fix', or at least to oversimplify the issues. As a result, one theoretical framework (e.g. behaviour analysis, communication, motor disorders, organic determinants) is followed with the neglect of others.

It is most unlikely that any one orientation provides either an adequate understanding of behavioural problems, or a universal practical approach. This means being prepared to use a variety of approaches, in an intelligent way, so they mutually support one another.

To illustrate:

Behavioural or functional analysis provides a useful framework for isolating some of the causes of behavioural challenges. It also allows the design of interventions for particular behaviours.

'Gentle teaching' provides useful ideas about establishing effective working relationships with people who challenge, and alerts us to the dangers of the abuse of power and control.

Medical approaches help us to exclude and treat physical causes of behaviour problems (such as pain, disease, drug side effects).

Developmental approaches help us understand that the person's behaviours, abilities, and experiences are linked in an ordered and structured way. For example, developmental theory can help to understand some of the difficulty a person may experience when asked to participate in tasks they find too demanding.

Communicative approaches help us to better mediate environmental events with people whose understanding and language may be limited.

Philosophies of non-violence together with the practice of self defence can help staff protect service users and themselves from physical harm.

Social and organisational approaches help us to help staff teams work together effectively in coherently supporting someone with significant needs and challenges.

Psychotherapeutic approaches help us understand the consequences of past trauma, and the impact on staff of supporting people with extreme and multiple needs.

The best practice is informed by the combination of approaches, but that this must be backed by some idea of the appropriate scope and limits of each.

The following description (from Burton and Sanderson, in press) shows how ordinary living, behavioural, and developmental approaches can be used in synergy with one another to enhance the experience and opportunity of a profoundly intellectually disabled man with a variety of behavioural problems:

Derek is a young man in his late twenties. He is described as having a profound learning disability, but he walks and we believe that his vision and hearing are unimpaired. He lives in an ordinary community house and is supported by staff 24 hours a day. Staff report that they think he enjoys swimming and walking. Left to his own devices Derek will do little, except to seek and acquire food and drink. He will occasionally get up and change his position. He can do little for himself, although he has learned spoon feeding, door opening, and masturbation in the last 15

years. He has a great deal of self stimulatory behaviour, and this shades into head banging, particularly when there is little external stimulation.

Derek's place is in our community, where he can have access to a broader variety of experience than in special segregated environments. We can extend his experience of ordinary places and activities beyond the rather limited menu of activities and places that his staff team have considered: one key to this is regularly being in places where people can come to know, understand, and like him (so no supermarket 'big shops', or large anonymous pubs). People who already know him, or who have cared about him will be encouraged and supported in renewing and maintaining regular contact

As yet Derek shows little discrimination between people, (and it does not help him if we pretend otherwise), so for now relationships are more important for what they bring to Derek, than for what they mean to him

We can try to associate different people with different activities and different salient stimuli, in order to begin the process that for us began in our first months.

We can build on this with interactive games that provide strong augmentation of his natural propensity to respond to others and to repetition of very simple activities

We see Derek's high frequency of self stimulatory behaviour as getting in the way of opportunities for incidental learning. Indeed, for Derek to 'move on' in his learning and development he will need much more intensive learning experiences than he has had access to so far. We have established that regular learning sessions, involving simple repetitive modular tasks (e.g. picking up objects, inserting them in containers, taking them out, using each hand and both hands, etc. etc.) become acceptable to him once we have 'worked through' his initial resistance, and he shows learning from session to session. He perhaps needs an hour of such activity most days in order to maintain progress, and to 'disorganise' his well practised repetitive routines

The modular nature of these tasks makes them highly generalisable to everyday functional activities in the house that are naturally reinforced.

Through both the artificial activities, and the everyday shared task performance of ordinary activities Derek is learning about his body and its relationships with sensory inputs (touch, vision, sound, proprioception), and properties of objects and three dimensional space

Specific hypotheses about the causes of Derek's head banging have been identified and we are testing these. They include medical problems (e.g. sinus congestion), self stimulation, and adjunctive - type behaviour elicited by periods of waiting for things to happen.

Each suggests various courses of action, in his case less about specific behavioural 'treatments' than about improving the quality of his environment and the support he gets from staff.

7 GLOSSARY

Challenging behaviour

Behaviour that is of such an intensity, frequency or duration that the physical safety of the person or others is likely to be placed in serious jeopardy, or behaviour which is likely to seriously limit or deny access to and use of ordinary facilities. Behaviours meeting this definition might include violence or aggression to others, self injurious behaviour, behaviour destructive of the person's environment, disruptive or antisocial behaviour, and stereotypic behaviours.

Behavioural assets

Non problematic behaviours: behaviours that are performed appropriately, or well, in the right place and at the right time.

Behavioural deficits

Behaviours described as problematic because they are, too infrequent, not intense enough, not in an appropriate form, or do not occur when expected.

Behavioural excesses

Behaviours described as problematic because they are too frequent, too intense, go on for too long, or occur where they are not inappropriate.

Constructional approach

The solution of social problems by the construction of repertoires (or their reinstatement or transfer) rather than the elimination of repertoires

Functional analysis

Has several different meanings. Primary meaning in this text is: a thorough and systematic analysis of all the possible factors that contribute to this behaviour by this person, in this situation.

Lesch-Nyhan syndrome

A rare disorder first identified in 1964, characterised by a pattern of self injurious biting that is resistant to treatment. People with the syndrome have normal sensations. The cause is an abnormality in one enzyme that leads to a build up of purines in the body: this is thought to have a specific effect on the balance of neurotransmitter substances in the central nervous system.

Permanent products

The physical results of a behaviour: they can be used as a basis for recording and evaluating the effectiveness of interventions.

Psychosis

Mental disorder where the person loses touch with reality. The best known example is 'schizophrenia', although the status of this as a diagnosable entity is contestable.

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