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Analysis of Case Records to Identify Setting Events to Challenging Behaviours in People with Learning Disabilities

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Introduction

Dealing with challenging behaviours is an important part of the work of clinical psychologists specialising in learning disabilities. Examination of the literature shows that the bulk of studies on the reduction of challenging behaviour are behavioural in nature (c.f. Whitaker 1993) and, at least loosely, based on Applied Behaviour Analysis which assumes that the challenging behaviour functions to get rewards or avoiding aversive events. There is good evidence that some challenging behaviour is functional, the work over the last few years on experimental functional analysis has demonstrated that the motivating factors for a challenging behavior can be identified and a successful treatment procedure designed based on this (c.f. Carr, Newsom and Binkoff 1980; Iwata et al 1982; 1994). However, Wahler and Foxx (1981) have suggested that this traditional behavioural approach, with its emphasis reinforcing events that occur immediately after the behaviour, may be to limited to deal with a lot of challenging behaviours and that a correlation analysis should also be used to identify the "stetting events" to challenging behaviours. Setting events are those events that effect the probability of the behaviour in some way. Although they could be concurrent with the behaviour this need not be the case, for example a temper outburst may be made more likely in the afternoon if the client was reprimanded by staff in the morning. The intermittent pattern of many challenging behaviours suggest that setting events are an important detriment of most challenging behaviour encountered in clinical practice (c.f. Emerson 1993) particularly when the behaviours are low frequency. To date there are only a few examples in the literature of setting events being identified. Kennedy and Itkonen (1993) found that setting events occurring before school had a strong influence on the challenging behaviour shown in school by two young women, in one case this was staying in bed to long and in the other it was the bus stopping too many times on the way to school. Touchette, MacDonald and Langer (1985) report a case study of a young man for whom the presence of a particular member of staff was a setting event for self-injurious behaviour. In both these studies the setting events were identified by directly observing the client to see under what circumstance the behaviour occurred, using a scatter plot (c.f Touchette et al 1985) and other observational methods described by O'Neill et al (1990). However, if the behaviour is very low frequency, of the order of once or twice a month and apparently unpredictable it may not be practical to observe the client directly for long enough to obtain sufficient data to identify setting

events. An alternative method, that so far has received little attention in the literature, is to analyse the recorded incidences of the challenging behaviour in the clients case records.

Possibly one reason why case record has not been reported on as a source of information as to the setting events of challenging behaviour is that there is usually no way of retrospectively verifying how reliable the records are and there are a number of source of error in the recording of incidents of challenging behaviours, notable:

- Carers not recording all incidents.
- If the behaviour is not clearly described,
  different cares recording slightly different
  behaviours.
- If carers are not given continued supported by senior
  staff for recording data then there may be a gradual
  reduction in the proportion of incidents recorded
  (c.f. Woods and Cullen 1983) which could give the
  impression of an apparent reduction in the rate of the
  behaviour over time.

However, we would like to argue that uncertain reliability need not prevent us from using this data to obtain clinically useful information. We feel that it is often possible to assume the following with regard to this data.

First records of low frequency and highly intense challenging behaviour are likely to be more accurate that those of high frequency behaviours. This is because it will be less ambiguous to carers that the behaviour has taken place, the organisation that cares for the client will be more likely to have a policy of recording these types of incidents that would be monitored by senior staff and staff may feel more of a need to record the incident.

Secondly although data may not be accurate in absolutes terms it may be accurate in ordinal terms. For example, if a clients records show the following number of incidents of self-injurious behaviour (SIB) on consecutive days: 3, 12, 0, 5, 10, 15, 3, 8, 20, 0, 8, then, although we may not be able to assume that on day two 12 incidents occurred, depending on the nature of the recording error, we may be able to assume that there were more incidents on day two than on day five when 10 incidents were

recorded, which may also be more than on day seven when 8 incidents were recorded and so on. If this was the case then the data could be analysed using nonparametric statistics.

Thirdly if correlations are used then errors in the data will increase the chances of getting false negative results rather than false positives and so we could still have confidence in significant correlations even if we were unsure of the accuracy of the data.

We therefore feel that it is legitimate to make use of data from case records and that there are a number situations in which they can provide clinically useful information, particularly in the following areas.

Obtaining a baseline

If one suspects the rate of the challenging behaviour fluctuates over time it is important to get a long baseline showing several of these rate fluctuations before evaluating an intervention, otherwise there is a danger that one could falsely attribute a reduction in the target behaviour, that was a natural fluctuations in the rate, to a treatment effect. If we are dealing with relatively low frequency behaviour it may not be practical to get this baseline by direct observation. However, provided records of incidents have some indication of when they occurred, then it should be possible to plot the frequency of the behaviour over time, in say number of incidents per week or month. This graph can then be used to check for trends in the data to indicate whether the behaviour is getting more or less frequent or fluctuates over time. Although trends may be clear from visual inspection but could be demonstrated using simple nonparametric statistical methods such as those described by Morley and Adams (1989;1991) for time series data.

Identifying setting events

If there is a variation in the rate of the behaviour, identifying situations or times of the day associated with high or low rates may indicate the setting events to the behaviour. This can be done in two way. First by correlating the time series against other events that vary over time, for example:

- If the client shows more than one challenging behaviour then a significant correlation between two behaviours would suggest that they were not independent and may be members of the same behaviour class

(motivated by the same reinforcer) and/or were effected by a common setting event.

- If a positive correlation is found with another variable, it may indicate that that variable is a setting event, which may help in developing hypothesis as to why the client is showing the challenging behaviours. For example a positive correlation between a challenging behaviour and the number of bank (irregular) staff could indicate that the behaviour was in part a function of inconsistent staff behaviour or disruption to routine.

Secondly, depending on the information that is regularly recorded about incidents, it may well be possible to calculate the percentage of incidents that occur in particular situations for example particular rooms in a unit, in the presence of particular staff, on a particular days of the week or times of the day. If the behaviour appears to be much more probable or much less probable in a particular setting this could be indicative of possible setting events.

To give two brief examples of the use of case records to identify setting events. The first is young man with profound learning disability who showed severe aggression. When psychology first got involved had lived in a group home for nearly four years, for the first 2 years he attended a school for children with severe learning disabilities, however, since leaving school he had not had any regular organised day-time activates. It was apparent from his notes that concern had been raised at the time of him leaving school that he should be given day care when he left school, however, this could not be provided. Plotting the incidences of aggression since he came to live at the group home revealed an average rate of 2.5 incidents per month (SD=1.6) with no trend in the data up until the time he left school. However, once he left school there was a gradual increase in number of incidents of aggression culminating in a mean rate of aggression of 14 recorded incident per month in the six months before we became involved with him.. We found the increasing trend to be significant using Kendall's tau (tau= 0.55 P< .001) a method suggested by Morley and Adams (1989). Eventually he was admitted to a special unit where it was demonstrated empirically that regular activates decreased the rate of his aggression.

The second case is a man who lived on the same special unit who showed SIB and Aggression. It was noticed that when one of the residents, with whom he had live for many years, was away from the unit in hospital the

rate of his challenging behaviour dropped considerable, suggesting that the presence of this resident may be a setting event for his challenging behaviours. Further evidence was found by checking the recorded incidents of his aggression over the past few years which revealed that when the other resident was on holiday there was also a reduction in the rate of challenging behaviours. We are currently trying to get these two residents separated.

Discussion

We have argued is that data from case records can be used to generate hypothesis as to the determinants of challenging behaviours. These hypothesis could then be tested via an experimental functional analysis (c.f. Iwata et al 1984) or, if this was not practical, an experimental intervention set up on the basis of the hypothesis. However, we need to keep it clearly in mind that most information from case records lacks reliability and so any deductions made from the analysis of this information can only be at the level of a hypothesis and alternative explanations may exist. Therefore we should continue to look at the circumstances in which the behaviour occurs and be prepared to change our formulations as to why the client shows the challenging behaviour, part of this should involve setting up a more reliable recording system.

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