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Investigating naturally occurring variability in challenging behaviour – the Ecological Interview

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Abstract

Background: This article presents the Ecological Interview (EI), a measure of variability in challenging behaviour, and includes some brief information on its development and research.

Method and materials: The EI was developed as part of a research project on naturally occurring variability in challenging behaviour. Drawing from previous measures, it gathers information from carers on the relative likelihood of challenging behaviour across a range of antecedent situations and events.

Results: Research carried out to date suggests the EI provides reliable, moderately valid and potentially generalisable data.

Conclusions: The EI may have a range of uses in clinical practice and research. Further study of its validity is warranted.

Keywords: Intellectual disability, challenging behaviour, antecedent influences, assessment.

Development of the EI

The Ecological Interview (EI) was developed in 1995 as part of a research project funded by the UK National Health Service Research and Development Programme for People with Physical and Complex Disabilities. The project was managed by Peter McGill and David Hughes. Kerry Teer and Lynne Rye were employed as Research Workers. The project was focussed particularly on increasing understanding of the relationship between challenging behaviour displayed by people with intellectual disabilities and the service environment by investigating naturally occurring variability in such behaviour. At the time of the project there were no suitable measures for investigating the relationship between environmental events and variability in challenging behaviour. The process of developing the EI drew on existing instruments as far as possible (especially those developed by O'Neill et al, 1990 and Wahler & Cormier, 1970).

Content, structure and administration of the EI

The interview initially establishes that respondents are familiar with the intellectually disabled individual's previously identified behaviour and agree with its definition. Respondents are then asked to rate both the average frequency, duration and intensity of the behaviour and the extent of variation (from minimum to maximum) in these dimensions. Respondents are then asked to state whether the identified behaviour is more or less likely (or 'makes no difference', or 'not applicable') across a range of prevailing situations or events. These are organised into categories as follows: physical setting (12 items, e.g. 'living room'); time of day (9 items, e.g. 'first thing'); day of week (7 items, e.g. 'Monday'); time of year (6 items, e.g. 'at Christmas time'); weather conditions (6 items, e.g. 'stormy'); activities (13 items, e.g. 'eating or drinking'); the presence of other service users (number of items equivalent to number of other service users in setting); the presence of particular staff (number of items equivalent to number of staff in setting); social context (9 items, e.g. 'alone'); personal context (14 items, e.g. 'when he or she is ill'). Categories were

identified that sampled, as far as possible, all elements of the 'immediate setting containing that person' (Bronfenbrenner, 1977, p.514) with individual items informed, in some cases, by previous research suggesting that such items were associated, for some individuals, with more or less likelihood of challenging behaviour.

In our own use of the EI we have typically administered it as an interview. To speed up administration the questions about likelihood of the identified behaviour have been organised as a card sorting task. For example, the respondent will be given cards for each of the physical setting items and asked to consider if the identified behaviour is more or less likely in the situation or in response to the event described on the card. The respondent then places each card in piles which are headed 'less likely', 'makes no difference', 'more likely'. Where the circumstance described on a card does not apply (e.g. 'when he or she is short of cigarettes' but the individual does not smoke), the respondent returns the card to the interviewer. The card sorting procedure allows the interview to be completed more quickly and a record of responses to be made after the interview from the piles of cards. The interview concludes with some general questions concerning the circumstances the respondent sees as related to the likelihood of the identified behaviour – as a way of trying to identify any unusual circumstances which may not have been covered during the card sorting task.

Research using the EI

McGill et al (2003) reported the findings from the original usage of the EI. Overall average temporal reliability was 79 per cent (range: 66–86 per cent across categories). Many of the events rated obtained clearly differentiated responses in which a significant majority favoured one category rather than the others.

Barratt et al (2012) used an adapted version of the EI (minus the items previously found to be largely rated as 'makes no difference'). They reported good test-retest reliability (weighted kappa of 0.64) and moderate convergent validity with the *Contextual Assessment Inventory* (McAtee et al, 2004). They found a correlation of 0.79 between ratings made of individual items in their and McGill et al's earlier study, with considerable overlap in the items rated by more than 50 per cent of respondents as being more likely to be associated with challenging behaviour.

Uses and limitations of the EI

In recent years there has been growing interest in the influence of context on the challenging behaviour displayed by people with intellectual disabilities (e.g. Carr et al, 2008; Embregts et al, 2009; Joosten et al, 2012). Measures of such influence may, therefore, have a range of uses in clinical practice and research. We are aware of the use of the EI in clinical practice though it should be noted that it was developed primarily as a research instrument. In principle, however, it may be used by practitioners to identify settings/circumstances which contribute to variability in an individual's challenging behaviour. Such information may then be further validated (e.g. by direct observation) and be used to develop antecedent-based strategies for preventing or reducing such behaviour. At a broader level, the findings that particular circumstances are highly likely to be associated with increased likelihood of challenging behaviour across individuals may be used to inform the development of general preventative strategies in a manner analogous, for example, to the development of school-wide positive behaviour support strategies.

Users of the EI should be aware that the extent of its validation remains limited. It is important that future research looks at the relationship between EI ratings and other, more direct measures of variability in challenging behaviour (e.g. direct observations). The issue of inter-rater reliability also remains somewhat problematic. Data on this has not been reported but, given the likelihood that levels of challenging behaviour will vary according to the presence of different staff (e.g. Magito-McLaughlin & Carr, 2005) it is not entirely clear what low or high inter-rater reliability would mean. Variation in challenging behaviour in the presence of different staff and other individuals with intellectual disabilities remains an area of considerable research and clinical interest.

Note

The EI is free to researchers and practitioners for non-commercial use. Copyright is held by Peter McGill. Please ensure that an appropriate citation is included in any publications using the EI.

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Ecological Interview

Date	
Interviewer ID	

Staff ID	
Participant ID	

We are interested in the way that challenging behaviour differs in various circumstances. We would like to consider one particular behaviour which we have been told that X displays. (*give definition*)

Clear definition of Target Behaviour *(Completed prior to interview by researchers)*

1. Would you say that X displays this behaviour in the way described *Yes – continue;* *No – record their definition and continue using their definition;* *No – behaviour does not occur - end interview*

(Frequency)

2. How often does – *describe target behaviour* – occur?

Minimum	
Maximum	
Average	

(Duration) **3.** How long does – *describe target behaviour* – last when it occurs?	
Minimum	
Maximum	
Average	

(Intensity – with force if relevant) **4.** How much damage and disruption (if any) does – *describe target behaviour* – cause? *(Prompt if required – disruption/damage to other clients; staff; environment; routines; activities.)*	
Average	
Minimum	
Maximum	

Card Sorting Task

5. Variation across physical setting

We are interested about challenging behaviour across various settings.
Most of the cards that you will be shown will apply to the settings or activities that X experiences – if the card does not apply please hand it back to me.

Do you think that the – *describe target behaviour* – is more or less likely in the following settings?

	Less likely	Makes no difference	More likely	Not applicable
Bedroom				
Toilet				
Bathroom				
Living room				
Dining room				
Kitchen				
Garden				
Car/minibus				
Public transport				
Day centre				
Shops				
Other public place (please specify)				

6. Variation across time – times of day

Do you think that the – *describe target behaviour* – is more or less likely at the following times?

	Less likely	Makes no difference	More likely
First thing			
Breakfast time			
During the morning			
Lunchtime			
During the afternoon			
Evening meal			
During the evening			
Last thing			
During the night			

7. Variation across time – days of the week

Do you think that the – *describe target behaviour* – is more or less likely at the following times?

	Less likely	Makes no difference	More likely
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

8. Variation across time – holidays/seasons

Do you think that the – *describe target behaviour* – is more or less likely during the following times of the year?

	Less likely	Makes no difference	More likely
Holidays			
At Christmas time			
Spring			
Summer			
Autumn			
Winter			

9. Variation across weather conditions

Do you think that the – *describe target behaviour* – is more or less likely during different types of weather?

	Less likely	Makes no difference	More likely
Sunny			
Rainy			
Windy			
Dry			
Stormy			
Other (please specify)			

10. Variation across activity

Is – *describe target behaviour* – more or less lilkely during the following activities?

	Less likely	Makes no difference	More likely	Not applicable
Eating or drinking				
Getting dressed				
Washing/bathing/brushing teeth etc.				
Watching TV				
Doing household chores				
Leisure activities in the house (e.g. reading or looking at books)				
Leisure activities out of the house (e.g. swimming)				
Doing nothing				
Waiting for an activity to begin				
Towards the end of an activity				
Just after an activity ends				
Doing tasks which they find difficult				
Doing tasks which they find easy				

11. Social context – other clients

Do you think that – *describe target behaviour* – varies in the presence of different clients?

If so please specify:

Client name	Less likely	Makes no difference	More likely

12. Social context – staff/carers

Do you think that – *describe target behaviour* – varies in the presence of different staff?

Staff name	Less likely	Makes no difference	More likely

13. Social context – other

Is – *describe target behaviour* – more or less likely during the following situations?

	Less likely	Makes no difference	More likely	Not applicable
Alone				
1-1 situation with staff/carer				
With other clients but no staff				
Only client with a group of staff				
In a small group of staff and clients (less than 6)				
In a large group of staff and clients (more than 6)				
In a crowded room				
When there is a lot of noise				
When there are visitors present				

14. Personal context

Is – *describe target behaviour* – more or less likely when the following apply?

	Less likely	Makes no difference	More likely	Not applicable
When his/her medication has been changed				
When he or she is ill				
Around the time of seizures				
When his or her sleep has been disturbed				
When his or her eating routine is changed				
When he or she is on a diet				
Around the time of the menstrual period				
When he or she is short of cigarettes				
When he or she has been drinking alcohol				
When he or she has difficulty in making himself or herself understood				
When he or she has difficulty understanding others				
When he or she is tense or anxious				
When he or she is in a bad mood				
When he or she is depressed or sad				

Summary Questions – now that the card sorting is completed …

15. Under what circumstances do you think that – *describe target behaviour* – **is most likely to occur?**

16. Under what circumstances do you think that – *describe target behaviour* – **is least likely to occur?**

17. How would you explain the differences in X's – *describe target behaviour* – **across different circumstances?**