

# SEEING BUT NOT PERCEIVING: INATTENTIONAL BLINDNESS AS A CAUSE OF MISSED CUES IN THE GENERAL PRACTICE CONSULTATION

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## Introduction

The definition of a cue within healthcare was reached at a consensus meeting held in Verona in 2008<sup>1</sup>, with the agreed definition being 'verbal or nonverbal hints, which suggest an underlying unpleasant emotion and that lack clarity.' Recognising and responding to cues is such an important skill for GPs to acquire that it is a requirement for GP training<sup>2</sup>, and yet there is clear evidence that doctors frequently fail to pick up on such cues<sup>3,4</sup>.

It can easily be assumed that doctors notice the cues, but choose not to respond to them for a variety of reasons - such as time pressure or a perceived lack of the skills needed to deal with the cue - but a previously unconsidered possibility is that doctors observe the cue, but fail to properly notice it due to their attention being focussed on other demands within the consultation.

The psychology literature gives a plausible mechanism for this possibility - the well studied phenomenon of *Inattentional Blindness* (IB), made most famous in the Invisible Gorilla experiment of Simons and Chabris<sup>5</sup>. In this oft repeated study, participants are asked to observe a video recording of two teams passing a basketball, one team dressed in white, the other in black. Participants are asked to count the number of passes between the white players. During the recording, one black player leaves the scene and is replaced by someone in a gorilla costume who walks across the scene, beats their chest and then leaves. Strikingly, the consistent finding is that around 50% of participants are so focussed on the cognitive load of counting passes that they completely fail to notice the gorilla.

The concept of cognitive load is inherent to Roger Neighbour's description of a GP having 'two heads'<sup>6</sup>, the responder head - which would pick up on cues - and the organiser head, which can cause cognitive load as the GP grapples with the challenges of managing the consultation.

This study aimed to test the hypothesis that the cognitive load of formulating a diagnosis and management plan could cause sufficient IB to result in missed cues. A secondary question was whether trainees would be more subject to the effects of cognitive load than trainers, and so more susceptible to IB. The study therefore set out to compare the rates of missed cues between trainers and trainees.

There is very little literature on the presence of IB within medicine, and to the best of the authors' knowledge, it has not been previously studied in a primary care setting.



Over 50% of participants completely missed the presence of someone dressed in a gorilla costume in Simons and Chabris' famous *Invisible Gorilla* study<sup>5</sup>.

## Method

A pre-recorded video of a GP consultation was made using a trained simulator. The patient complained of headaches, and made two cues which were not picked up by the doctor:

Cue 1 – 'Killed cue'	
<b>Doctor:</b>	'How long have you had these headaches?'
<b>Patient:</b>	'They started soon after <i>my mother was killed</i> '

  

Cue 2 – 'Work cue'	
<b>Doctor:</b>	'So how is this affecting you?'
<b>Patient:</b>	'It's starting to <i>cause me problems at work</i> '

Participants in the study were asked to consider the diagnosis and management of the patient's problem while they watched the video (thus providing cognitive load) and completed a questionnaire immediately after watching. The questionnaire asked about the diagnosis and management, and then asked participants to record what the patient had said about her mother, and whether or not she had mentioned her job.

Cues were deemed to have been observed if the participants used the word 'killed' in relation to the patient's mother for Cue 1, and that the headaches were affecting her work for Cue 2. The higher emotional content of the 'Killed' cue suggested it might be noticed more frequently than the 'Work' cue.

Two groups of participants were included in the study - trainees and trainers from the Guildford GP Training scheme - and their results were compared using the Chi-Squared test.

## Results

The main findings were that the 'Killed' cue was missed by 40% of GP trainees and 24% of trainers (Table 1); while the 'Work' cue was missed by 45% of trainees and 53% of trainers (Table 2).

Table 1: Observed and missed cues for the 'Killed' cue

'Killed cue'	Cue Observed	Cue Missed
Trainees (n=20)	12 (60%)	8 (40%)
Trainers (n=17)	13 (76%)	4 (24%)
Total (n=37)	25 (68%)	12 (32%)

Table 2: Observed and missed cues for the 'Work' cue

'Work cue'	Cue Observed	Cue Missed
Trainees (n=20)	11 (55%)	9 (45%)
Trainers (n=17)	8 (47%)	9 (53%)
Total (n=37)	19 (51%)	18 (49%)

There were no significant differences between the trainees and trainers for the 'Killed' cue ( $p=0.138$ ) or the 'Work' cue ( $p=0.63$ ).

## Unexpected Findings

Somewhat unexpectedly, 3 of the participants gave answers that were either completely, or partially false; all related to the 'Killed' cue. They made bold statements that were entirely untrue (untruths in italics):

'Mother died 2 years ago. *Patient asked if headaches could be related to this*'

'*Her mother suffered with headaches*'

(her mother) '*died in a car accident*'



The patient suffered from headaches; unexpectedly, three study participants completely fabricated facts about the case, including the idea that the patient's mother had also suffered from headaches.

## Conclusions

The finding that 32% of the total study participants failed to observe an important cue about a patient's mother being killed, and 49% missed the cue about her symptoms affecting her work, suggest a high degree of IB within the consultation, and that failure to notice cues may be one of the most significant reasons why doctors frequently do not respond to them in practice. Indeed, since direct observations of GPs have yielded rates of failure to respond to cues of 47-79%<sup>3,4</sup>, IB could be the largest single reason for missed cues.

The lack of any difference between trainees and trainers might be due to a lack of power in the study, or that experience and training could be weak factors in the susceptibility to IB - in which case the important question arises: is it possible to train GPs so that they are less susceptible to IB?

The unexpected findings demonstrate powerfully the potential discrepancies that can arise between what is seen and heard, and what is recalled - the participants made plausible assumptions (eg that the mode of her mother's death was in a car accident or that her mother also had headaches), and mis-recorded these as facts. Whether this - and indeed the rest of the study findings - are a failure of observation, or a failure of memory and recall, is an important question to consider in future research.

Since this is the first time IB has been studied in primary care, the study findings should be repeated before firm conclusions can be drawn about the presence of IB in the consultation. The advantages of using a video recording are its low cost, and the ease with which the study population could be expanded for such purposes, but the use of role-play simulation could enable a more real-life setting for future study.

## References

- Del Piccolo L, Finset A, Zimmermann C. Consensus definition of cues and concerns expressed by patients in medical consultations [Internet]. Verona; 2008 [cited 2017 Mar 14]. Available from: <http://www.each.eu/research/r-activities/signs/verona-coding-system/>
- Royal College of General Practitioners. The Consultation Observation Tool: Detailed Guide to the Performance Criteria [Internet]. 2015 [cited 2017 Jan 31]. Available from: <http://www.rcgp.org.uk/-/media/Files/GP-training-and-exams/WPBA/COT-Detailed-Guide-to-the-Performance-Criteria.ashx?la=en>
- Levinson W, Gorawara-Bhat R, Lamb J. A study of patient clues and physician responses in primary care and surgical settings. *J Am Med Assoc*. 2000 Aug 23;284(8):1021-7.
- Riley R et al. A comparison of GP, pharmacist and nurse prescriber responses to patients' emotional cues and concerns in primary care consultations. *Patient Educ Couns*. 2013;91:65-71.
- Simons DJ, Chabris CF. Gorillas in our midst: sustained inattention blindness for dynamic events. *Perception*. 1999;28:1059-74.
- Neighbour R. *The Inner Consultation*. 2nd ed. Oxford: Radcliffe Publishing; 2005.