A systematic review of behavioral experiments vs exposure alone in the treatment of anxiety disorders: a case of exposure while wearing the emperor's new clothes?

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CRD summary
The review cautiously concluded that there was some evidence that behavioural experiments were more effective than exposure alone, but methodological limitations of the included studies precluded definitive conclusions. The conclusion reflected the evidence presented, but some caution should be exercised due to lack of reported review process and the possibility of publication bias.

Authors' objectives
To compare the relative effectiveness of behavioural experiments and exposure alone in the treatment of anxiety problems.

Searching
Embase, MEDLINE and PsycINFO were searched without language restriction up to December 2008. Search terms were reported. Manual searches of references and a citation search were conducted. There were no restrictions on publication type.

Study selection
Randomised controlled trials (RCTs) and single case series that compared a behavioural experiment (exposure designed to test a cognition) with exposure alone in treatment of anxiety disorders in a working-age adult sample. No restrictions were made in terms of measures used or outcomes. A behavioural experiment was operationalised as exposure designed to test a cognition. A clinically plausible form of exposure was required for the comparator condition (exposure alone), defined as in vivo exposure for all anxiety disorders apart from post-traumatic stress disorder where imaginal exposure was also considered appropriate. Treatments that involved a variety of cognitive and behavioural techniques (such as multi-factorial Cognitive-Behavioural Therapy interventions) were excluded.

Two studies used a behavioural experiment condition that involved exposure preceded by a cognitive rationale; in all other included studies this was supplemented with an additional component designed to enhance the effectiveness of the cognitive test. Most studies used an exposure alone condition in which exposure was preceded by some form of rationale for the approach. Social phobia was the most common anxiety disorder studied; other anxiety problems included obsessive compulsive disorder, panic and specific phobia. More than half of the studies used analogue samples (non-clinical sample selected on the basis of scoring above a cut-off point on a particular anxiety measure). Where reported, mean age ranged from 18.6 years to 36.5 years. Studies included a greater proportion of female participants, where reported. Studies were conducted in UK, South Korea, USA and Canada.

One reviewer screened all titles and abstracts for inclusion. A second reviewer independently screened 40% of all citations. Two reviewers independently selected studies from the full papers and any disagreements were resolved by discussion.

Assessment of study quality
Studies was assessed against a modified checklist (Ost 2008). Quality assessment for the exposure alone condition included appropriate peak level of anxiety during exposure and sufficient duration and termination based on a reduction in anxiety. Quality assessment of the behavioural experiment included whether idiosyncratic cognition was elicited, whether exposure was framed to test the idiosyncratic cognition and whether the participant was encouraged to reappraise the cognition after the exposure. Additional criteria included equal duration of therapist contact, equal duration of exposure, coding of expectancy effects, use of directly observed measure of behaviour change and statistical power.

The authors did not state how many reviewers assessed study quality.
Data extraction
The authors did not state how data were extracted for the review.

Methods of synthesis
The authors conducted a narrative synthesis; results were grouped by anxiety disorder.

Results of the review
Fourteen studies were included in the review (n= 644); 11 between group study designs and three single-case series.

One study met all the quality criteria for the exposure conditions. Four studies met all quality criteria for the behavioural experiment conditions. Only one study met all of the criteria for both the exposure and the behavioural experiment conditions.

Obsessive compulsive disorder (one case series, n=8): Meta-cognitive rationale was found to improve subjective ratings of anxiety, belief and urge to neutralise in a clinical sample who met diagnostic criteria for obsessive compulsive disorder. No difference was found in overall usefulness of the intervention.

Panic (three between-group studies, n=109): One good-quality study found that framing exposure as a cognitive test improved outcome relative to exposure alone on a clinical sample. No significant difference was found in the other two studies.

Social phobia (six between-group studies, two single-case series, n=428): Safety behaviour and attention manipulation studies found that behavioural experiment conditions were more effective than exposure-alone; in all cases the duration of exposure was brief. All studies except one used an analogue sample.

Specific phobia (two between-group studies, n=99): Limited evidence was found that favoured behavioural experiments in a student sample with claustrophobia fears.

Authors' conclusions
There was some evidence that behavioural experiments were more effective than exposure alone, but methodological limitations of the included studies prevented definitive conclusions.

CRD commentary
Inclusion criteria were defined in terms of study design, participants and interventions. The search encompassed a number of databases and was unrestricted by publication type. No specific attempts were made to locate unpublished papers and so the possibility of publication bias could not be ruled out. Only one reviewer screened initial search results, which raised a possibility of reviewer error and bias. It was unclear whether appropriate methods were used to extract data and assess study quality. A narrative synthesis was appropriate given the differences between the included studies.

The authors acknowledged a number of limitations that precluded robust interpretation of the results and their cautious conclusion reflected the evidence presented; the possibility of publication bias and the lack of reported review process should be borne in mind.

Implications of the review for practice and research
Practice: The authors suggested that the results of the review, although tentative, indicated that as part of treatment for anxiety problems exposure will be maximally effective when it is set up to challenge cognitions as occurs in behavioural experiments.

Research: The authors stated that it would be useful to systematically vary the conditions of the behavioural experiments (for example, content and detail of cognitive rationale, presence of therapist during exposure and their role in modifying the situation and what the participant was asked to do to test out the belief) in order to identify the optimal combinations of techniques.
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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.