## Eligibilitity Criteria

Hierarchical eligibility criteria were developed to screen abstracts and then full texts. Eligibility criteria to select studies for inclusion were:

1. *The paper must be available in English.* It is understood the Cochrane Handbook of Systematic Reviews for Interventions (Higgins & Green, 2011) recommends that non-English studies are included in meta-analyses and that the exclusion of good quality non-English studies may be detrimental to reviews (Egger, Juni, Bartlett, Holenstein, & Sterne, 2003). Where papers were found in another language, attempts were made, via internet searches and contact with authors, to obtain an English translation to allow application of the criteria. However, given the language expertise of the authors, where this was not possible the study was excluded as the necessary information to allow reliable application of the criteria could not be confidently extracted.
2. *The paper must be an original study NOT a review.*
3. *Participants must be human.*
4. *The paper must investigate a child, adolescent or youth population* (reported *either a* maximum age = 21 years and/or mean age < 18 years).
5. *Primary focus must be on typically developing children*. Children with atypical development (i.e. premature, experienced abuse) or those with a developmental disorder, for example autism spectrum conditions, may have particular propensities to anxiety and/or may have particular patterns of information processing that would influence their interpretation of ambiguity, as such papers which focused on these populations were excluded.
6. *A sound and standardised measure of anxiety or fear should be used for all participants* i.e. “a measure of state anxiety should conceptualise state anxiety as an aversive emotional and motivational state occurring in threatening circumstances” (Eysenck, Derakshan, Santos, & Calvo, 2007, p.336) while trait anxiety should refer to the “disposition to experience anxiety across multiple time points” (Bishop, 2007, p.307). The measure should conceptualise clinical anxiety as “excessive feelings of anxiety and fear, where anxiety is worry about future events and fear is a reaction to current events. These feelings may cause physical symptoms such as a racing heart and shakiness.”(DSM V; American Psychiatric Association, 2013). The measure should conceptualise fear as “a specific and immediate emotional reaction to a specific and well-defined class of stimuli or situations, such as spiders or needles” (Van Bockstaele et al., 2013, p.683).

To be a sound and standardised measure of clinical anxiety, interviews could be semi-structured or structured and completed by child, parent or both. Any questionnaire had to show internal consistency of at least 0.7 and show evidence of construct validity when compared to other measures of anxiety/fear. Finally, the age range of participants must be appropriate for the measure used. ‘Appropriate’ was defined as including children + or – 1 year of the suggested age range. Questionnaires completed by either child, parent or teacher were accepted.

1. Where participants were pre-screened into high and low anxiety groups: *Papers should determine high anxiety by either: i) a clinical diagnosis via a standardised diagnostic interview; ii) All participants in high anxiety group must score more than 1SD above a normative mean on a standardised measure of anxiety or fear; iii) All participants in the high anxiety group must score above a cut-off recommended by the authors of the measure used (sensitivity analysis must have been conducted to validate this cut-off) and no differences in age and gender were found between the high anxiety group and the corresponding comparison group.*
2. *The sample should not represent a restricted range of anxiety.* Where a correlation was conducted, studies must include the full range of anxiety scores (i.e. not a restricted range of anxiety scores). Those including only clinical/high anxious or at risk samples were excluded because the full range of anxiety may not be represented, leading to little variance in anxiety scores and consequently an underestimation of the association between anxiety and interpretation of ambiguity.
3. Papers using cognitive bias modification were included if *a relationship between interpretation bias and anxiety was assessed pre-manipulation of either the bias or anxiety*.
4. *If a correlational design was used the paper was included as long as the other criteria were met. However, where anxiety groups were formed on the basis of an arbitrary cut-off* (*e.g. a median split), the paper was included only if a continuous measure of anxiety could be extracted to provide a correlation* (Field, 2013; McClelland, Lynch, Irwin, Spiller, & Fitzsimons, 2015; Rucker, McShane, & Preacher, 2015)*.*
5. *The measure of interpretation bias captured the extent to which participants interpreted ambiguity as threatening or negative and/or the child’s readiness to perceive threat i.e. Reduced Evidence for Danger (RED) outcome*. For example studies were included that used threat interpretation, threat threshold and/or threat frequency as dependent variables as these capture the likelihood of ambiguity being interpreted as negative or threatening[[1]](#footnote-1).
6. *Where open-ended interpretations of ambiguous scenarios were coded, inter-rater reliability must be at least .7 for inclusion,* unless both open ended and forced choice format were used and open-ended responses were significantly associated with forced choice answers.
7. *Full text access must be available to be able to code and extract all the information necessary for the meta-analysis*. This criteria was applied after every effort had been made to first obtain the full text.
8. *Appropriate statistics regarding the relationship between interpretation bias and anxiety should be available*. If these were not immediately accessible from the paper authors were contacted. Six authors were contacted on this basis and three were able to provide the necessary additional information.

A paper was excluded at each stage of the screening process (detailed below) on the basis of a ‘no’ response to any of the eligibility criteria, and the first criteria that was not met was recorded as the reason for rejection. Where criteria were coded as unclear (in the absence of any ‘no’ codes) at the abstract stage, papers went through for full text screening. Where particular criteria were not applicable they were not coded.

1. After discussion between authors, any paper utilising the Children’s Negative Cognitive Errors Questionnaire (Leitenberg, Yost, & Carroll-Wilson, 1986) were excluded from the analysis given the interpretation of ambiguity could not be directly extracted from the measure. [↑](#footnote-ref-1)