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The effects of verbal information on children's fear beliefs about social situations

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Abstract

Two experiments explored the role of verbal information in changing children's fear-related beliefs about social situations. In Experiment 1, 118 6- to 8- and 12- to 13-year-olds heard positive, negative, or no information about individuals' experiences of three social situations. Fear beliefs regarding each situation were assessed before and after this manipulation. Verbal information had no significant influence on children's fear beliefs. In Experiment 2, the same paradigm was used with 80 12- to 13-year-olds, but the information took the form of multiple attitude statements about the situations expressed by groups of peers, older children, or adults. An affective priming task of implicit attitudes was used to complement the explicit questions about fear beliefs. Negative information influenced both explicit and implicit fear beliefs. The source of information and the child's own social anxiety did not moderate these effects. Implications for our understanding of the socialisation of childhood fears are discussed.

(150 words)

The effects of verbal information on children's fear beliefs about social situations

Nearly three decades ago, Rachman (1977) proposed that the acquisition of fear may arise from at least two pathways besides direct conditioning, namely vicarious learning (learning through observation of others' experiences) and information (instructions, warning, and evidence communicated by other people, media etc.). Since then, a number of research studies have supported this perspective by tracing the acquisition of phobic fears back through these multiple pathways. Öst and Hugdahl (1981), for example, found that in a mixed group of social-, animal- and claustrophobics, 10% attributed the onset to information. Moreover, information has been found to be especially important in the development of fears during childhood. For instance, Muris, Merckelbach, Ollendick, King, and Bogie (2001) found that the majority of children's night-time fears were attributable to information that they had seen or heard. The identification of information as playing a role in the emergence of childhood fears is a critical step forward in understanding the lifespan development of fears, because research indicates that most adults' fears emerged in childhood (Öst, 1987).

However, it is not possible to draw many firm conclusions from such work. The greatest body of retrospective work on the origin of fears comes from Öst's group, and includes patients with a wide variety of phobic disorders, but as Öst (1987) notes, the prevalence of different modes of onset differs widely between groups of phobics of different types. The origins of social phobia have been sought in both long-term temperamental factors and in discrete events such as those suggested by Rachman (Neal & Edelman, 2003; Harvey, Ehlers & Clark, 2005). Progress has been made on describing the temperamental profile that may predispose someone towards social anxiety (Neal & Edelman, 2003; Rapee & Spence, 2004) but the role of discrete events is still being uncovered, especially with regard to Rachman's indirect pathways of verbal and vicarious learning.

Examples of studies which have considered Rachman's indirect pathways to social fear include Mulkens and Bögels' (1999) study of individuals with a fear of blushing (which can be

considered as a subtype of social phobia). They investigated direct conditioning, vicarious learning and informational learning, using both a written and an oral questionnaire. People with a fear of blushing reported higher frequencies of conditioning and vicarious learning with both versions of the questionnaire, but informational learning was only significant in the oral version of the questionnaire. The picture is not much clearer for vicarious learning either: Stemberger, Beidel, Turner and Calhoun (1995) express surprise that in their survey of people with social phobia, they did not find a significantly higher prevalence of social anxiety symptoms in the relatives of patients with social phobia than in the relatives of control participants. These results, they note, are inconsistent with other findings of a familial component to social phobia.

Harvey, Ehlers and Clark (2005) used an extensive questionnaire to assess learning history in individuals with social phobia. They asked three groups of participants (one non-patient control group, one group with social phobia and one with posttraumatic stress disorder) about parental rearing practices and also asked them to recall four social situations in detail. In addition the group with social phobia were asked about socially significant events (such as parents divorcing, loss of close confidant) that occurred around the time that the social fears began. In the parental rearing section, verbal transmission of fear was reported significantly *less* by the group with social phobia than by the control group. However, when recalling specific social situations where they were embarrassed or nervous, the social phobia group others' responses as less positive than did the other groups, suggesting that there is at least an association with feedback from others. Regarding vicarious transmission, there are similar complications: fewer participants in the social phobia group could recall a social situation in which someone else did something embarrassing or looked nervous, but those who did said that it affected them more in future social situations than did participants in the two control groups.

Despite these decidedly mixed results, there are at least two reasons to think that indirect pathways, and information in particular, may play a larger part in the development of social anxieties than these studies indicate. First, retrospective questionnaire studies are not the only tool that can shed light on the origins of phobias nor are they necessarily the most accurate.

The indirect pathways to fear may be less memorable than direct conditioning experiences and the patient's own account of the origins of their fear may even change over time (Taylor, Deane & Podd, 1999). Reliance on retrospective reports is therefore likely to produce a skewed picture of the origins of phobias.

Second, work in developmental psychology can inform us more directly about the social world of children than do the memories of adults, and within developmental psychology there are good reasons to think that the actions of parents and peers may influence the development of social anxiety. For example, with regard to peers, La Greca (2001) highlights the linkages between children's peer relationships and their levels of social anxiety. She identifies poor peer relationships as a contributing factor to social anxiety and social phobia, and notes that the development of poor peer relationships can be related to non-compliance with peer group norms. The negotiation and communication of peer group status and relationships may thus be an important factor in social anxiety. Turning to the role of parents, work on shyness has been used to identify specific parental behaviours that may contribute to the familial transmission of social phobia by inculcating a fear of negative evaluation. For example, Bruch (1989) hypothesised that both parenting practices that convey rejection and 'excessive emphasis on the importance of proper grooming, dress, manners, and other aspects of social decorum' may contribute to social phobia, and found empirical support for the role of parents' overemphasising the opinions of others.

In contrast to the general consensus on the developmental trajectory of social phobia, the role of discrete events is thus still relatively unclear and deserves further investigation. Much of the research so far has been limited by the absence of a prospective experimental design that can explain fears in terms of negative beliefs that are causally linked to prior information. The present study uses this kind of a prospective paradigm to determine whether verbal information can indeed exert an influence on children's fear-related beliefs about situations involving social interaction.

One preliminary study has already used a prospective paradigm to examine the effect of information on children's social fears. Field, Hamilton, Knowles and Plews (2003) gave 10- to 13-year-olds information about three social situations commonly associated with social fears in the clinical literature: eating in public, meeting a new group of children, and speaking in public. For each child, negative information was given about one of the situations, positive information about another and neutral information about the third. Fear-related beliefs about each of the three situations were measured before and after the information. However, the results showed an inconsistent pattern, with the change in fear-related beliefs appearing to depend on the particular situation, and on who was presenting the information. Only information about public speaking presented by a peer seemed to affect fear beliefs, but in a direction opposite to expectations: negative information resulted in decreased fear beliefs, while positive information resulted in increased fear beliefs about public speaking. The present investigation seeks to untangle some of the complexities that may account for these inconsistent results. Experiment 1 uses three alternative, less commonly experienced social situations, and adds a younger age group. Experiment 2 further refines the presentation of verbal information regarding social situations, and introduces a measure of implicit attitudes.

EXPERIMENT 1

A major concern expressed by Field et al. (2003) is that previous experience of (and consequent attitudes towards) the social situations could unduly influence children's responses to the experimental manipulation. That is to say, the information given about the social situations in the experiment may simply have carried insufficient weight to overcome children's existing beliefs based on their own experiences in those situations. It is noteworthy that only information about the public speaking event - probably the least commonly experienced of the three social situations - had any influence on children's fear beliefs in Field et al. (2003). Thus, the present experiment used three situations that are all infrequently experienced by children, and thus might be more appropriate topics of verbal information in this experimental paradigm.

Second, it seems possible that the effects of verbal information regarding social situations may be moderated by the child's age. It seems reasonable to theorise that children aged 10-13 years would be particularly susceptible to effects of verbal information about social situations, given evidence that normative social fears are most prominent in early adolescence (Field & Davey, 2001) and that fears of social evaluation increase with age through late childhood and adolescence (Westenberg, Drewes, Geodhart, Siebelink, & Treffers, 2004). On the other hand, Field et al. (2003) raised the possibility that the older children may be less compliant to the perceived demands of the situation. Thus in the present experiment, two age groups participated. The younger group, aged 6 to 8, have shown a positive effect when information is given about novel animals (e.g. Field et al., 2001, 2005; Field & Lawson, 2003), so we know that this age group is appropriately responsive to the paradigm in general. On the other hand, the older group, aged 12 to 13, are nearer the age at which social fears become prominent and thus are likely to be more sensitive to information about social situations.

Method

Design

Verbal information was prepared for three relatively uncommon situations involving social interactions: meeting a celebrity, meeting long-lost relatives, and going to stay with another family. In a counterbalanced design, each child was given positive information about one situation, negative information about another and no information about the third. Information Type was thus a repeated measure with three levels. A fear belief questionnaire measured fear beliefs before and after this manipulation, hence Time (before vs. after information) was a second repeated measure. Age Group was a between-participants factor with the two levels of 6-8 years old and 12-13 years old, and Counterbalancing Condition was a second between-participants variable. The dependent variable was the mean self-reported fear belief. British Picture Vocabulary Scale II (BPVS-II) scores and Fear Survey Schedule for Children - Revised

(FSSC-R) scores were measured as covariates, to control for the effects of receptive vocabulary and general fears.

Participants

Sixty children (32 male, 28 female) between the ages of 6 and 9 years ($M = 95.8$ months, $SD = 5.1$) and 58 children (34 male, 24 female) aged 12 to 13 years ($M = 149.4$ months, $SD = 3.6$) took part in the experiment. The children were recruited from local primary and secondary schools in two towns in East Sussex, Lewes and Uckfield. The schools all take children from a wide variety of social backgrounds, but in this particular region there are few children from ethnic minorities. The percentage of children with special educational needs was in line with the national average. Parental consent was obtained on an opt-out basis.

Materials

Information

The verbal information took the form of vignettes depicting a single experience of a child of a similar age to the participating child. One version of each vignette portrayed the situation positively and a second version portrayed the situation negatively. Skeleton negative and positive vignettes were constructed, and were matched for length and word frequency: the skeleton positive vignette contained 91 words and had a mean lemmatised word frequency of 12153.58 ($SD = 17736.64$), compared to the skeleton negative vignette, which had 91 words with a mean word frequency of 7153.34 ($SD = 10742.18$) (calculated from the Brown Corpus; Francis, Kucera, & Mackie, 1982). A Mann-Whitney test confirmed that these word frequencies were not significantly different ($U = 3743.50$, $Z = -1.119$) from each other. The initial introductory sentences and occasional words in the bodies of the stories were different for the three different social situations, but Kruskal-Wallis tests showed that these identifying elements (relating the positive and negative information to either meeting a celebrity, long-lost relatives or staying with another family) did not differ in word frequency, $\chi^2(2) = 0.60$, $p = 0.739$. Thus,

there were no significant differences between any of the six stories in terms of word frequency. All vignettes can be found in Appendix A.

Social Fear Beliefs Questionnaire (S-FBQ):

The Social Fear Beliefs Questionnaire (S-FBQ) was a specially constructed questionnaire relating specifically to the three social situations targeted in this experiment. There were 23 questions in all, including two practice questions. The remaining 21 questions were a set of 7 questions repeated three times, once for each social situation, in a random order. The set of 7 questions is given in Appendix B. All questions used the same 5-point Likert scale (0=not at all; 1=no, not really; 2=don't know/neither; 3=yes, a little bit; 4=yes, very). For each situation, a fear score ranging from 0 to 4 was calculated by averaging the scores from all the questions relating to that situation. Four of the 7 questions in each set were reverse scored, so that 0 always corresponded to no fear belief, and 4 always reflected high fear beliefs. Before information was given, the scale reliabilities were Cronbach's $\alpha = .52$ (visiting a relative), $.60$ (meeting a celebrity) and $.57$ (staying with a family). The corresponding values after information were $.70$, $.66$ and $.54$ respectively. These values are all equal to or below the accepted value of $.7$ and demonstrate variability within children's reactions to the situations¹.

Fear Survey Schedule for Children-Revised (FSSC-R)

The FSSC-R is a standardised instrument for the measurement of children's fearfulness (Ollendick, 1983). It consists of a list of 89 objects and situations of which children might be scared, and the child has to indicate their amount of fear of each item on a three-point scale of 'none', 'some', or 'a lot'.

¹ It is worth remembering that as Field (2005) points out, when measuring psychological constructs values below $.7$ for Cronbach's alpha are by no means uncommon and that alpha by definition varies as a function of the number of items and so the relatively modest values may simply reflect the small number of items (7) per subscale.

British Picture Vocabulary Scale II (BPVS-II)

The BPVS-II (Dunn, Dunn, Whetton & Burley, 1997) is a standardised instrument for the measurement of children's and adolescents' receptive vocabulary. The basic format is that the experimenter reads out a word and the participant must indicate, either by pointing or reading out the number, which picture of a choice of four they best think goes with the word.

Procedure

Each child was seen by a female experimenter in a quiet location in his or her school. The child first completed the S-FBQ. The experimenter went through the first two (practice) questions with the child to ensure that they could correctly complete the questionnaire. The child then completed the rest of the questionnaire, with the experimenter assisting with reading difficult words or questions as needed. When the S-FBQ had been completed, the experimenter read out vignettes about two of the three social situations, one in its positive information version and one in its negative information version. The allocation of information type (positive, negative, or none) to situation was counterbalanced. Furthermore, within each age group and counterbalancing condition, half of the child heard the negative story first, and half heard the positive story first. Next, children completed the FSSC-R. After completing the FSSC-R, children were given the S-FBQ again. Finally, each child completed the BPVS-II, and was debriefed about the purpose of the stories and the experiment.

Results

Throughout this paper, unless otherwise stated, a criterion of $p = .05$ was used to assess the statistical significance of effects. In instances in which effect sizes are interpretable (i.e. when comparing only two means, or when quantifying an interaction effect that has 1 degrees of freedom for the effect, see Field, 2005) effect sizes are reported using Pearson's r because it has many favorable properties as a measure of the size of an experimental effect (see Field, 2005; Rosenthal & DiMatteo, 2001).

Preliminary analysis confirmed that Counterbalancing Condition did not have any significant main or interaction effects on the change in fear belief scores, and this variable was therefore excluded from further analysis. Because the story situations were varied across Counterbalancing Condition, this also confirms that there were no effects restricted to certain story situations.

A three-way ANCOVA was conducted on the results of the S-FBQ, with Information Type (positive, negative and none) and Time (before and after information) as repeated measures, Age Group (6-8 and 12-13 years) between group, and FSSC-R and BPVS-II scores as covariates.

No significant main or interaction effects of the three independent variables were found, with the exception of an anomalous interaction between Age Group and Information Type ($F(2, 26) = 3.39, p < .05$; all other $F_s < 1.6$)². As shown in Figure 1, fear beliefs in general were higher for the younger group than for the older group only among those who heard the negative story. However, although the changes in mean fear belief scores following negative and positive information are in the right direction, particularly for the older children who heard negative information, the critical interaction between Information Type and Time was not significant. Thus, there was no significant effect of either the positive or the negative verbal information on children's fear belief scores.

Insert Figure 1

Discussion

Despite the use of social situations that are infrequently experienced by children, the experimental provision of negative and positive verbal information about those situations did not

² It was suggested that raised fear beliefs may have been reflected in responses to the FSSC-R, which was given post-intervention. If this were the case, then co-varying FSSC-R out in the ANCOVA may have obscured the effects of the intervention. To explore this possibility, the analysis was repeated with the FSSC-R covariate excluded. However, there were still no significant effects of the intervention.

significantly alter the fear-related beliefs of the participants regarding the situations. However, it seems premature to reject the hypothesis that verbal information can influence children's fear-related beliefs about social situations.

First, the use of infrequently experienced social situations may not have been sufficient to overcome the problem identified earlier with Field et al.'s (2003) study, namely, that children's existing attitudes about the social situations may simply outweigh any provision of information in the experiment. A particular problem with social situations is that they all share common features that translate into global social concerns, such as what to say to people, feeling confident, and not looking foolish. Indeed, Hackmann, Clark, & McManus (2000) have shown that negative self-images in social phobics and people with social fears are recurrent, with the same image occurring over a period of years and across different social situations. Thus, whether the situation itself is a relatively familiar or unfamiliar one, children may be expected to hold reasonably strong fear-related beliefs about how they would expect to feel in that situation, dependent on their existing level of social anxiety.

Second, if it is indeed the case that individuals hold strong pre-existing beliefs about most social situations, the nature and delivery of verbal information may be of particular importance. In Experiment 1 above, vignettes about specific characters' experiences in a social situation were used to impart information about the social situations. However, since *self*-images seem to be important in social anxiety, as noted above, using specific vignettes about unknown third parties always allows the participants to reason that the experience would be different for them: a child who is nervous about meeting others is not necessarily going to be reassured by learning that some other child manages well in that situation.

Third, as Field et al. (2003) noted, the influence of verbal information may depend on the source of that information, particularly in the case of information about social situations. Unlike factual information about the characteristics of an unfamiliar animal, for which an adult figure may be assigned greatest epistemic authority (as supported by Field et al.'s 2001 study), information given by peers may of particular consequence for matters relating to social

interaction. Social comparison processes, whereby children compare their personal attributes with those of similar others (i.e., peers), become more important for children's self-evaluations in the primary school years, as children show increased concerns about peer group acceptance and social evaluation (see Ruble, Boggiano, Feldman, & Loebel, 1980; Parker & Gottman, 1989). Indeed, longstanding developmental research indicates that conformity to suggestions for behaviour made by parents declines during the transition from middle childhood to adolescence, while conformity to peers' suggestions increases (Berndt, 1979). Thus, any influence of verbal information on social fears may depend on the source of information. This hypothesis does need revisiting, because Field et al's (2003) manipulation of information source simply involved having a real adult or a real peer reading out the same information. Under these circumstances, information source effects could be generated or obscured by the personal characteristics of these individuals, as well as the disparity in the fluency of the delivery by the peer and adult.

Finally, it seems possible that social desirability may be a factor influencing children's responses to explicit questions about fear-related beliefs. Implicit measures, often based on reactions times to stimuli, often reveal affective attitudes that are not detected by - or are even in conflict with - explicit measures (Pratkanis, Breckler & Greenwald, 1989). Indeed, implicit measures of affective attitudes have been developed to get around self-presentational biases in issues such as national and racial prejudice; such work has already been conducted with samples of primary school children (Rutland, Cameron, Milne, & McGeorge, 2005). In the context of the present study, if participants have formed a genuine association between particular situations and either negative or positive outcomes, than this association would be reflected in their performance on an implicit task such as affective priming, even if the effect on explicit fear beliefs is obscured by self-presentational concerns about social desirability or any intention to avoid complying with perceived experimental demands.

EXPERIMENT 2

Several possibilities have been raised for the further refinement of the prospective paradigm used in Experiment 1 to address the development of social fears. In Experiment 2, we presented information about three relatively infrequently experienced social situations in a different way: rather than using specific vignettes about unknown characters' experiences, we presented children with multiple, pre-recorded attitudes and opinions of other individuals that were either negative or positive. We also replaced two of the situations in response to the findings and experience of Experiment 1. Children did not always seem to interpret the experiences of 'going to stay with another family' and 'meeting a long-lost relative' as the novel experiences intended: when imagining these situations, children relied heavily on comparisons with something already experienced. For example, 'staying with another family' was conceived by the experimenters as a foreign exchange type of experience, but children commonly said things like 'well, I've stayed the night with my friend David before and it was lots of fun.' The scale reliabilities before information were also lowest for these two situations. Although the particular story contexts did not have significantly different effects in Experiment 1, it was decided to use more novel and visualisable situations in Experiment 2 in order to maximise the chances of finding an effect. Accordingly, 'going to stay with another family' and 'meeting long-lost relatives' were replaced by 'going away to summer camp' and 'appearing on live TV'.

Furthermore, we manipulated the source of the information by making it appear that the opinions were being expressed by a group of peers, older children, or adults. The inclusion of an 'older children' condition is merited by Harris's (1995) observation that in mixed-age peer groups, maximum prestige is generally accorded to slightly older members. In addition, we used an indirect measure of attitudes - an affective priming task - to complement the explicit measure of fear beliefs used in Experiment 1. Finally, we used a measure of social anxiety specifically developed for youths (La Greca & Lopez's 1998 Social Anxiety Scale for Adolescents) to identify whether any effects of verbal information were moderated by pre-existing levels of social anxiety.

Given the absence of any significant change in fear beliefs among the younger group in Experiment 1, along with the nonsignificant tendency for the older group in that study to have increased fear belief scores following negative information, we focused in this experiment on 12- to 13-year-olds. As noted earlier, this is an age when normative fears about social evaluation are known to be prominent (Field & Davey, 2001).

Method

Design

As in Experiment 1, verbal information was prepared for three relatively uncommon situations involving social interactions: meeting a celebrity, going on a summer camp with unfamiliar children, and appearing on live TV. In a counterbalanced design, each child was given positive information about one situation, negative information about another and no information about the third, with measurement of fear beliefs before and after this manipulation. The source of information was also manipulated between participants: some children believed the verbal information came from adult sources, others believed it came from older children, while a third group believed it came from peers. Finally, children were scored as high or low on social anxiety based on La Greca's (1999) cut-off point for low anxiety. Thus, for analyses of the fear belief data, there were two repeated measures variables (Information Type and Time) and two between-group variables (Anxiety Group and Information Source).

Implicit attitudes towards the situations were measured by an affective priming task carried out after the information had been given. If different attitudes have formed towards the positively and negatively portrayed situations, 'incongruent' trials will elicit longer reaction times than 'congruent' trials. Thus, for analyses involving this task, the dependent variable was reaction time, and the repeated measures independent variable was trial type (incongruent vs. congruent).

Participants

Eighty children (38 male, 42 female) between the ages of 12 and 13 years ($M = 158.5$ months, $SD = 3.85$) participated in this experiment. The children were all recruited from a local secondary school. The school has a very socially mixed catchment area, taking children from all over the city of Brighton and Hove, East Sussex. On entry, children's educational attainment is broadly in line with the national average but again there are relatively few (6%) from ethnic minority backgrounds, compared to the national average (12% of school-age children). Parental consent was obtained on an opt-out basis.

Materials

Information

The content of the verbal information, presented as attitude statements from a number of individuals, is given in Appendix C. A variety of male and female voices was used to record the comments as if they were opinions solicited from the general public. The same voices were used for the peer, older child, and adult conditions, with appropriate changes in pitch made to the audio files. The voices were accompanied by photographs of groups of between 6 and 8 people that were displayed on the screen. The groups were composed of adults, children in their early teens, or children in their late teens, depending on the Information Source condition.

Social Fear Belief Questionnaire (S-FBQ)

The wording of the Social Fear Belief Questionnaire (S-FBQ) items was the same as in Experiment 1, apart from minor changes reflecting the new social situations (see Appendix D). The questionnaire was administered on a computer in this experiment, with questions appearing one at a time in randomised order. Each question appeared below a photograph depicting the social situation in the question. Below each question were five on-screen buttons labelled 'not at all', 'no, not really', 'don't know/neither', 'yes, a little bit', and 'yes, very'. The children simply clicked one of these buttons to indicate their response to each question, following which a second button labelled 'Sure?' appeared at the bottom of the screen. Children pressed this

button to confirm their answer and advance to the next question. Before information was given, the scale reliabilities were Cronbach's $\alpha = .78$ (summer camp), $.75$ (meeting a celebrity) and $.82$ (appearing on TV). The corresponding values after information were $.85$, $.78$ and $.83$ respectively. These values are all above the accepted value of $.7$ (see Field, 2005) and demonstrate that the new situations were an improvement on those used in Experiment 1.

Affective Priming

Affective priming is based on the categorisation of affectively-valenced targets into the appropriate affective categories (Fazio, Sanbonmatsu, Powell, & Kardes, 1986). In this experiment the children had to categorise target words as being either 'nice' or 'nasty' by pressing one computer key if the word presented was 'nice' and another if it was 'nasty'. On each trial, a photograph of one of the three social situations was presented just before the target word appeared. If the picture carries the same affective valence as the word for a given child, it should speed up the classification of the word, but if the child views the situation as having the opposite valence to the word, the reaction time for responding to the word should be slower. Thus it is possible to gauge whether the children have formed an affectively-valenced attitude towards the situation by comparing their reaction times when the pictures and words are congruent (e.g., a photograph of the 'nice' situation is followed by a 'nice' word) and incongruent (e.g., a photograph of the 'nice' situation is followed by a 'nasty' word). In the present study, each affective priming measure comprised 72 trials, with 36 congruent (18 positive situation picture - nice word, 18 negative situation picture - nasty word) and 36 incongruent (18 positive situation picture - nasty word and 18 negative situation picture - nice word) trials. The task was administered using a Pentium III Toshiba Tecra 8000 laptop computer running Windows 2000, through a programme custom written in Visual Basic.net by the last author. To ensure millisecond precision of reaction time measurement, ExacTicks for Visual Basic was used (Ryle Design, 1997).

The Social Anxiety Scale for Adolescents (SAS-A)

The Social Anxiety Scale for Adolescents (SAS-A; La Greca & Lopez, 1998) consists of 18 test items and 4 filler items with a five-point Likert scale response option. This was completed as a paper-and-pencil task. Children were identified as high or low on social anxiety on the basis of La Greca's (1999) recommended cut off point for low anxiety (split point = 36, with a possible score range of 18 to 90). Although dichotomizing continuous scales is rarely justifiable, one exception is when distinct subgroups such as these are believed to exist (MacCallum, Zhang, Preacher, & Rucker, 2002).

Procedure

All participants first completed SAS-A on paper. The rest of the experiment was conducted via a custom-written computer program, with the experimenter reading out the instructions to the child as necessary. The S-FBQ was administered first (see the description above). Next, a screen appeared explaining that the child would see a picture of some people and hear their opinions about the different social situations. It was made clear to the child whether these people were adults, older children, or children of the same age as the participating child. Children were then presented with the verbal information for two of the three social situations, with the accompanying photographs and voices (played to the participant through headphones). For each situation the accompanying recorded comments were played by the computer in random order. As in Experiment 1, the allocation of no information, positive information, or negative information to each social situation was counterbalanced. Within each counterbalancing condition, half of the participants received the negative comments first, and half received the positive comments first. After the children heard the verbal information, they completed the S-FBQ again. Finally, they completed the affective priming task, before being debriefed about the purposes of the experiment.

Results

All significant effects are reported at $p < .05$ unless otherwise stated.

Fear belief scores

Preliminary analysis showed that counterbalancing condition did not significantly affect the fear belief scores, indicating that the three social situations had comparable effects. The counterbalancing condition was also consequently excluded from further analysis. A four-way ANOVA was carried out on the data, with Information Type (positive, negative, and none) and Time (before information and after information) within participants, and Information Source (peer, older child, and adult) and Anxiety Group (low and high) between participants.

There was a significant main effect of Information Type, $F(2, 148) = 3.32$, but this was qualified by a significant information type \times time interaction, $F(2, 148) = 3.70$. Simple effects analysis revealed that the effect of Time was significant only within the negative information condition, $F(1, 74) = 5.22$, $r = .26$; other conditions, $F_s < 1$, see Figure 2. There was also a significant main effect of Anxiety Group, $F(1, 74) = 19.66$, $p < .001$, $r = .46$, with the high anxiety group scoring higher in general than the low anxiety group: M_s (SD_s) = 1.68 (.46) and 1.23 (.56), respectively. Finally, there was an anomalous main effect of Information Source, $F(2, 74) = 5.36$, $p < .01$, with fear belief scores in general higher among those who heard information from adults. It should be noted that the Information Type by Time interaction detailed above was not moderated by either Information Source or Anxiety Group ($F_s < 1.4$).

To verify that the results involving SAS-A were not biased by dichotomising the variable (MacCallum et al., 2002), Pearson's correlations were calculated between initial fear beliefs of the social situations and also the change in fear beliefs over time. The main effect of SAS-A scores on fear beliefs in general was verified by strong and significant correlations between this scale and initial fear beliefs for the negative, positive and control situations, $r_s = .48$, $.54$, and $.49$ respectively. However, SAS-A scores did not correlate with the *changes* in fear beliefs following negative, positive and no information, $r_s = .00$, $-.02$ and $.06$ respectively. These findings verify the nonsignificant interaction between high and low anxiety and the effect of information. As such, the findings were not a product of dichotomizing SAS-A scores.

Insert Figure 2

Affective priming

Trials in which children incorrectly identified the target (i.e. gave the wrong response to the words) were excluded, and as is recommended for reaction time data, a standard deviation based cut-off was used (see Ratcliff, 1993): for each child reaction times greater than 2 standard deviations from their mean were excluded. A three-way mixed ANOVA was carried out on the data, with trial type (congruent and incongruent) as a repeated measure and information source (adult, older child, peer) and anxiety group (low and high) as between group variables. There was a significant effect of trial type, $F(1, 74) = 6.61$, $r = .29$ with faster reaction times to the congruent trials than to the incongruent trials (see Figure 3). This effect did not interact significantly with either information source or anxiety group ($F_s < 1$). There was, however, a significant main effect of anxiety group, $F(1, 74) = 5.19$, $r = .26$, with faster reaction times evident among the children high on social anxiety than among children low on social anxiety: M_s (SDs) = 622.61 (132.04) and 686.30 (198.76), respectively.

We also examined the number of 'errors' (e.g., where the 'nice' key was pressed for a 'nasty' word), to determine whether the effect of trial type on reaction times was simply reflecting a speed - accuracy trade-off. However, the same three-way mixed ANOVA as described above but performed on the error scores showed no main or interaction effects of the trial type variable ($F_s < 1.1$).

Insert Figure 3

Discussion

The analyses above demonstrate modest but significant effects of negative verbal information on children's fear-related beliefs about social situations, independent of the specific social situation at hand, the children's existing level of social anxiety, and the source of the information. Moreover, our evidence indicates that these changes are not simply responses to

demand characteristics of the situation, but reflect genuine affective attitudes towards the situations, as measured using affective priming. This is consistent with Field & Lawson's (2003) observation of changes in implicit attitudes towards novel animals following verbal information. The fact that these changes were not moderated by the child's existing levels of social anxiety (although social anxiety did predict elevated fear beliefs in general) highlights the potential importance of verbal information in shaping children's fear-related beliefs.

It is noteworthy that the significant effect of negative verbal information on social fear beliefs has been found only when information was given in the form of multiple opinions expressed by other individuals, suggesting that such information is likely to carry more weight in the socialisation of fears than details about a single, specific experience of some unknown other. Moreover, the fact that positive information exerted little influence on fear beliefs suggests that while multiple informants who have negative attitudes about a social situation may significantly alter any pre-existing ideas a child may have about the situation, the same is not true for informants with positive attitudes. This is consistent with the notion that adolescents are particularly sensitive to concerns about social evaluation (see Field & Davey, 2001; Westenberg et al., 2004) and thus should be particularly responsive to negative information about social situations. It should be noted, however, that the affective priming task could not differentiate between effects of positive and negative information on implicit attitudes since the only contrast measured in that task was between congruent and incongruent trials.

As indicated above, no moderating effects of information source were observed in this experiment. Our methodology tightly controlled the manipulation of information source to ensure that the content of information and fluency of delivery were identical for all three information sources. With these controls in place, the expected heightened influence of peer or older child sources was not observed. However, it seems possible to speculate that the theorised greater influence of peer sources may depend on differences in the content of what adult and peer sources typically communicate to children. That is to say, peer sources may still be expected to play a prominent role in the acquisition of social fears not because they are

peers *per se*, but because they are simply more likely to impart information about social situations. Indeed, Corsaro (2005) provides numerous lines of evidence to make the case that children's interactions within peer cultures provide a context for "negotiat[ing] and explor[ing] a wide range of norms regarding friendship processes, personal appearance, self-presentation, heterosexual relations, personal aspirations, and relations with adult authority figures" (p. 201). The extent to which fear-related information about social situations is imparted by peers and adults in natural discourse thus deserves attention in future research.

GENERAL DISCUSSION

The refinements made to the prospective paradigm for studying the role of verbal information in shaping children's fear-related beliefs appear to have been significant. Experiment 2 showed that verbal information, presented in the form of multiple opinions and attitudes expressed by groups of adults or children, can indeed affect fear-related beliefs about social situations measured both explicitly and implicitly. As such, it provides tentative support for the role of information in the aetiology of social fears and phobias. By contrast, the lack of significant effects in Experiment 1 suggests that verbal information is relatively ineffective when it takes the form of a specific vignette about some unknown person's experience. There were other changes to the procedure between Experiments 1 and 2, but this change in format still seems a likely basis for the differences. Although two of the three social situations were changed between Experiment 1 and 2, statistical tests within those experiments indicated that the particular content of each situation did not have a significant effect. However, the situations in Experiment 2 clearly produced more consistent results (in terms of scale reliabilities) than those in Experiment 1 indicating that the novelty of the situation is also an important factor.

The evidence of increased fear beliefs after relevant information is still some distance away from a conclusion that the information is causally related to social fears and phobias. However, there is good reason to suppose that the increased fear beliefs could be translated

into actual fear. Davey has long argued that selective cognitive expectancies about aversive outcomes following certain stimuli can explain why those stimuli become the foci of phobias more often than others (e.g., Davey & Craigie, 1997). The increased fear beliefs, as measured in the present study, could play the role of increased expectancies in Davey's (1997) theory. In addition, verbal information about novel animals has been shown to contribute to behavioural and cognitive phenomena associated with anxiety such as avoidance (Field, 2004; Field & Lawson, 2003) and attentional biases (Field, in press, 2004). Further experiments should investigate whether the changes in fear-related beliefs about social situations do translate into both expectancies about stimulus-outcome links and changes in attentional focus and behaviour. Following Lang's (1979) tripartite division of fear into cognitive, physiological and behavioural aspects, psychologists have recognised the importance of assessing all three responses when evaluating treatments for phobias (Bergman & Piacentini, 2005; Davis & Ollendick, 2005). In the same way, the current experiment is limited in that it does not explicitly assess the effect of information on physiological and behavioural markers of social anxiety.

However, the results from the affective priming task in Experiment 2 do suggest that verbal information has the potential to affect automatic as well as controlled processing (Musch & Klauer, 2003). This could have consequences for models of social phobia maintenance and aetiology that point to negative automatic interpretations of ambiguous signals (e.g., Clark, 2001). Thus, future work could also investigate whether the changes in fear beliefs resulting from verbal information are sufficient to influence the interpretation of ambiguous stimuli.

To summarise, Experiments 1 and 2 have refined a prospective paradigm for examining the role of verbal information in the development of social fears and phobias. Further work needs to be conducted to unravel the pathway from information to actual fear, but the present research indicates that even though it is likely to be only one causal factor among many, negative information about specific social situations can play a significant role in the socialisation of early adolescent fear beliefs.

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APPENDICES

Appendix A: Information in Experiment 1

Negative celebrity

Someone I know, they're about your age, they won the chance to spend the day with their favourite celebrities, S Club 7. When they were introduced, my friend couldn't think of anything to say for ages and then just blurted out something silly. SC7 just laughed at them as if they thought they were stupid. Next they went for something to eat and my friend was so nervous that they went bright red, and began to sweat and their hands began to shake and they dropped their dinner everywhere. SC7 thought my friend was really weird and they just wanted to go home as soon as possible.

Positive celebrity

Someone I know, they're about your age, they won the chance to spend the day with their favourite celebrities, S Club 7. They were so excited, and when they were introduced, they all chatted away and got on really well. SC7 were so nice, and they gave my friend some presents that they'd bought especially. Then they went for something to eat, and in the restaurant there was a photographer who took lots of photos of my friend and SC7, and now they have the pictures to remind them of the day forever. The whole day was lots of fun and everyone had a really good time.

Negative relatives

Someone I know, they're about your age, they had the chance to go up to London to meet some long-lost relatives. When they were introduced, my friend couldn't think of anything to say for ages and then just blurted out something silly. The relatives just laughed at them as if they thought they were stupid. Next they went for something to eat and my friend was so nervous that they went bright red, and began to sweat and their hands began to shake and they

dropped their dinner everywhere. The relatives thought my friend was really weird and they just wanted to go home as soon as possible.

Positive relatives

Someone I know who's about your age had the chance to go up to London to meet some long-lost relatives. They were so excited, and when they were introduced, they all chatted away and got on really well. The relatives were so nice, and they gave my friend some presents that they'd bought especially. Then they went for something to eat, and in the restaurant there was a photographer who took lots of photos of my friend and the relatives, and now they have the pictures to remind them of the day forever. The whole day was lots of fun and everyone had a really good time.

Negative family

Someone I know, they're about your age, they had the chance to go and stay with their French pen-friend's family for a week. When they were introduced, my friend couldn't think of anything to say for ages and then just blurted out something silly. The family just laughed at them as if they thought they were stupid. Next they went for something to eat and my friend was so nervous that they went bright red, and began to sweat and their hands began to shake and they dropped their dinner everywhere. The family thought my friend was really weird and they just wanted to go home as soon as possible.

Positive family

Someone I know who's about your age had the chance to go and stay with their French pen-friend's family for a week. They were so excited, and when they were introduced, they all chatted away and got on really well. The family was so nice, and they gave my friend some presents that they'd bought especially. Later, they went for something to eat, and in the restaurant there was a photographer who took lots of photos of my friend and the pen-friend's

family, and now they have the pictures to remind them of the trip forever. The whole week was lots of fun and everyone had a really good time.

Appendix B: Questions for the S-FBQ (Experiment 1)

1. Would you be happy to spend time with your favourite celebrity?*
2. Would you be scared if you had to stay with a friend and their family?
3. Imagine you met some of your long-lost relatives. Would it be bad if they could see that you were scared when you met them?
4. Imagine you met your favourite celebrity. Do you think it would be hard to get on with them?
5. Would you be happy to spend time with some long-lost relatives?*
6. Do you think you would you enjoy meeting the family of your foreign pen-friend?*
7. Would you look forward to meeting your favourite celebrity?*
8. Do you think you would you enjoy meeting long-lost relatives?*
9. Imagine you met your friend's family for the first time. Do you think it would be hard to get on with them?
10. Imagine you met some of your long-lost relatives. Do you think it would be hard get on with them?
11. Would you know what to say to your favourite celebrity if you met them?*
12. Would you be happy to spend time with a friend and their family?*
13. Imagine you met your favourite celebrity. Would it be bad if they could see that you were scared when you met them?
14. If you met some of your long-lost relatives, would you know what to say to them?*
15. Would you look forward to meeting some long-lost relatives?*

16. Would you look forward to staying with a friend and their family?*
17. Would you be scared if you had to meet some long-lost relatives?
18. Would you know what to say to your friend's family when you met them for the first time?
19. Would you be scared if you had to spend the day with your favourite celebrity?
20. Do you think you would enjoy meeting your favourite celebrity?*
21. Imagine you met your friend's family for the first time. Would it be bad if they could see that you were scared when you met them?

Items with a * are reverse scored.

Appendix C: Information in Experiment 2

Summer Camp Negative

1. I think meeting new people at a summer camp would make you quite worried and scared because there would be lots of people all looking at you.
2. If you arrive at camp and know that everyone is watching and judging you I think you would start to feel nervous.
3. When you meet a group of children for the first time you are usually nervous and everyone would be able to see your cheeks going red and your hands trembling.
4. Meeting new people could make you so panicky that you would forget what you were going to say.
5. If you couldn't think what to say the other children at the summer camp would think you were really silly and boring.

Summer Camp Positive

1. I think meeting new people at a summer camp would be really exciting.

2. When you arrive it would be a wonderful feeling because everybody is getting to know each other and having lots of fun.
3. Meeting new children at a summer camp is a great way to look really good because you're so full of energy and excitement that you come across as very happy and cheerful.
4. Meeting lots of new people gives you such a buzz that you feel full of confidence and I think it would be easy to make conversation and chat to them.
5. At summer camps everyone is really nice and helps you enjoy yourself and make friends so I think you'd end up having a lot of fun.

TV Negative

1. Talking on live TV would probably make you quite worried and scared because there are millions of people looking at you.
2. When you're in front of a whole TV studio of people and you know that everyone's watching and judging you, I think you'd start to feel nervous.
3. If you got nervous on live TV everyone would see your cheeks going red and your hands shaking.
4. On live TV, you could get so panicky that you forget your words.
5. If you forget what to say when you are on TV, the people who are listening to you and watching you would think you're really silly and boring.

TV Positive

1. I think talking on live TV could be really exciting.
2. When you're in front of a TV studio of people, and there are millions more people watching at home, it would feel great because everyone is paying attention and enjoying what you're saying.

3. Appearing on live TV would be a great way to look really good, because you're so full of energy and excitement that you'd naturally appear happy and cheerful.
4. Being on live TV would give you such a buzz that you'd be full of confidence and it'd be easy to make conversation and chat with other people.
5. In the TV studio, everyone is really nice and they'd help you to relax and enjoy yourself, so you'd end up having lots and lots of fun.

Celebrity Negative

1. I think meeting someone you really admire, like your favourite celebrity, would make you worried and scared because you'd want to make a good impression.
2. If you met your favourite celebrity, and you knew that they were watching and judging you, you'd start to feel nervous.
3. If you got nervous meeting your favourite celebrity, they'd be able to see your cheeks going red and your hands trembling.
4. Meeting your favourite celebrity could get you so panicky that you don't know what to say to them.
5. When you can't think what to say, the celebrity would think you're really silly and probably a bit weird.

Celebrity Positive

1. I think meeting someone you really admire, like your favourite celebrity, would be very exciting.
2. If you met a celebrity, it'd be a wonderful feeling to see that they're enjoying meeting you and talking to you.
3. Meeting a celebrity is a great way for you to look really good, because you'd be so full of energy and excitement that you'll naturally come across as happy and cheerful.

4. Meeting someone famous gives you such a buzz that you'd feel full of confidence and it'd be easy to make conversation and chat to them.
5. When you're with the celebrity, I think they'd be really nice and help you relax and enjoy yourself, so you'd both end up having a lot of fun.

Appendix D: Questions for the S-FBQ (Experiment 2)

1. Would you be happy to meet new children at a summer camp?*
2. Would you be scared if you had to meet some new children at a summer camp?
3. Would it make you worry if you knew you had to meet new children at a summer camp?
4. Imagine you met some new children at a summer camp. Do you think they would like you?*
5. Do you think you would enjoy meeting new children at a summer camp?*
6. If you met some new children at a summer camp, would you know what to say?*
7. Would you be very nervous about meeting some new children at a summer camp?
8. Would you be happy to spend time with a celebrity?*
9. Would you be scared if you had to spend the day with a celebrity?
10. Would it make you worry if you knew you were going to meet a celebrity?
11. Imagine you met a celebrity. Do you think they would like you?*
12. Do you think you would you enjoy meeting a celebrity?*
13. If you had to meet a celebrity, would you know what to say?*
14. Would you be very nervous about meeting a celebrity?
15. Would you be happy to appear on TV?*
16. Would you be scared if you had to appear on TV?
17. Would it make you worry if you knew you had to appear on TV?

18. Imagine you had to appear on TV. Do you think the people watching would like you?*

19. Do you think you would enjoy appearing on TV?*

20. If you had to appear on TV, would you know what to say?*

21. Would you be very nervous about appearing on TV?

Items with a * are reverse scored.

Author Note

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FIGURES

- Figure 1: Graph showing the mean fear beliefs of children before and after different types of verbal information.
- Figure 2: Graph showing the mean fear beliefs of children before and after different types of verbal information from different sources.
- Figure 3: Graph showing the average time (ms) to congruent and incongruent trials in an affective priming task.

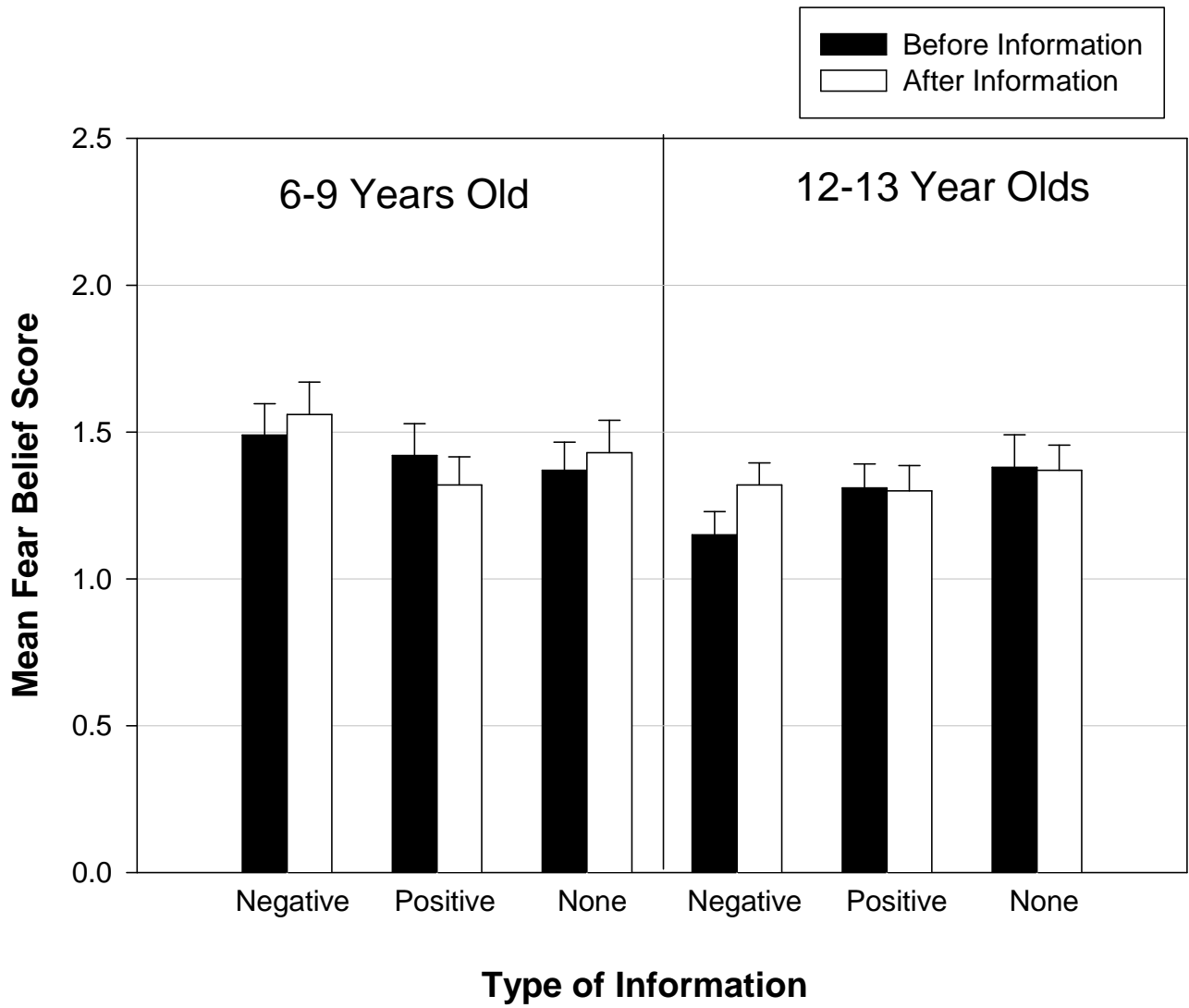


Figure 1

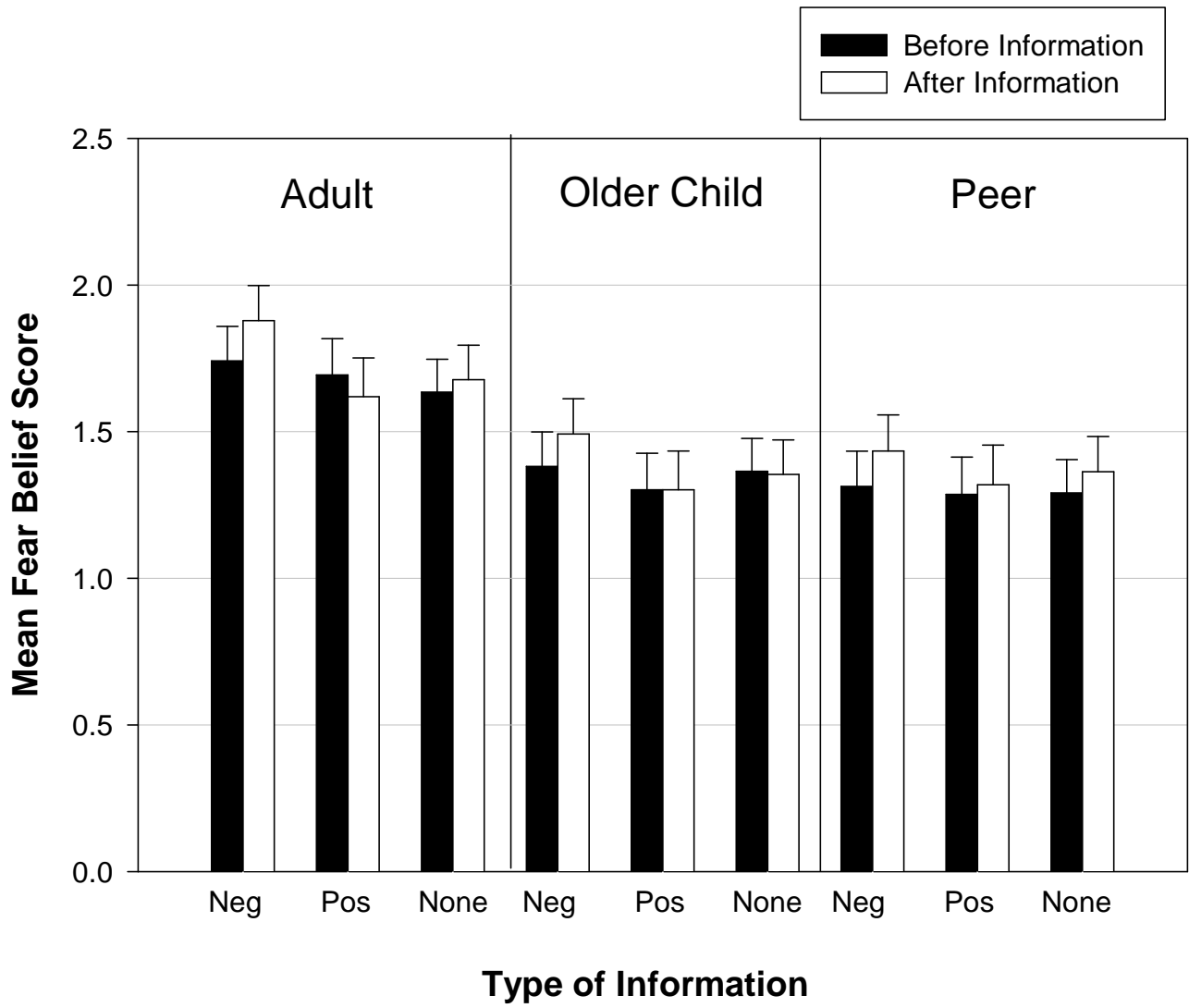


Figure 2

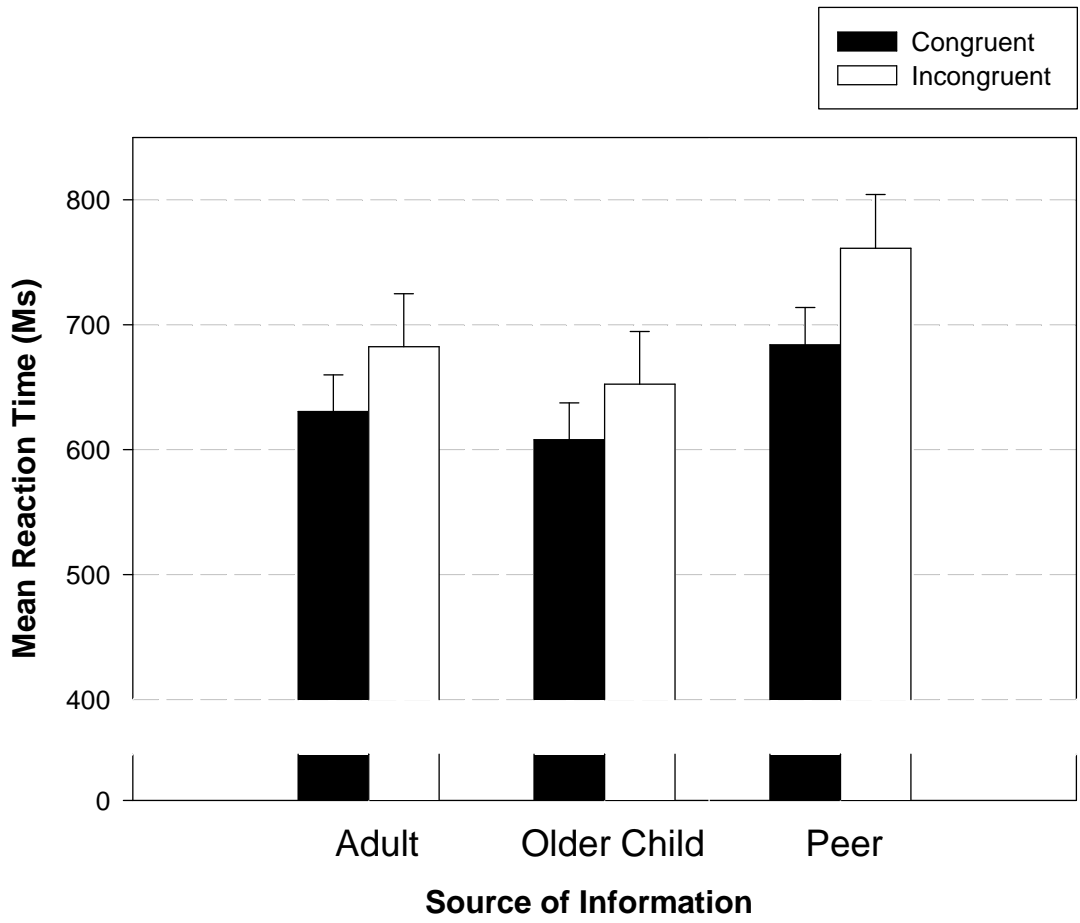


Figure 3