

THE REDUCTION OF TEMPERAMENTAL RISK FOR ANXIETY IN WITHDRAWN PRESCHOOLERS: A PILOT STUDY

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Abstract. Empirical findings and theoretical models posit a central role for an inhibited temperament in the development of anxiety. In turn, this suggests that reduction of withdrawn and inhibited characteristics in very young children may prevent the later development of anxiety disorders. To date, no programs have targeted inhibited temperament as a focus of treatment and it is often assumed that temperament is an immutable phenomenon. The current study piloted a brief education program for the mothers of seven temperamentally withdrawn 4-year-old boys. Results showed marked changes in mothers' perceptions of withdrawn temperament and anxious symptoms that continued over the following 6 months. These data encourage a larger-scale investigation of parent education for the reduction of inhibited temperament in pre-school children.

Keywords: Anxiety, prevention, temperament, inhibition, preschoolers, parenting.

Introduction

Several researchers have suggested that a withdrawn or inhibited temperamental style acts as a major risk factor for the later development of anxiety disorders (e.g., Kagan, Snidman, Arcus, & Reznick, 1994; Rapee, 2001). For example, Kagan and colleagues have shown that children scoring high on withdrawn, shy, and inhibited behaviors (labeled behaviorally inhibited) at very early ages (e.g., 21 months) are more likely than other children to develop anxiety disorders in later years (Kagan et al., 1994).

Several findings have also shown that an inhibited temperament is a relatively enduring and basic construct (Prior, 1992). Nevertheless, some authors have suggested that it is possible to modify temperament such as behavioral inhibition (Turner, Beidel, & Wolff, 1996). Interestingly, in some early research from Kagan's laboratory, the authors noted that those inhibited children who became less inhibited over time had mothers who consciously tried to change this personality style in their child. The implication from this statement is that parental behavior might be able to help alter a child's temperament.

The current study was aimed at piloting a preliminary investigation of the feasibility of reducing the risk for later anxiety disorders by altering temperament in a group of withdrawn preschoolers. Due to our interest in potential low cost, public health programs, the focus in

this study was on a brief, parent-oriented education program rather than a resource-intensive, therapy program.

Method

Subjects

Approximately 200 parents (mostly mothers) of four-year-old children in several day care centers in Sydney completed a self-report measure of temperament on their child (Childhood Temperament Questionnaire – Australian Adaptation – see below). Those whose child scored in the top 25% on the approach scale were contacted and offered a place in the program ($N = 41$). Of the 41 respondents who were contacted, 16 refused participation or where unable to be contacted, 2 were already in therapy, and 15 withdrew due to time limitations. This left a total of 8 children (20% of eligible subjects) in the study.

All eight children in the program were male and, in each case, only the mother attended the treatment program and completed measures. One mother missed two sessions of the program and moved residence without leaving a forwarding address before post-treatment measures could be collected. Thus final data are reported on 7 male children and their mothers. The children's mean age was 56.3 months ($SD = 4.1$). One mother did not return follow-up data.

Measures

Mothers completed the Childhood Temperament Questionnaire – Australian Adaptation (CTQ-A) (Sanson, Smart, Prior, Oberklaid, & Pedlow, 1994) and the Revised Children's Manifest Anxiety Scale – Modified (RCMAS-M). The CTQ-A contains 30 items that provide scores for the four factors of Inflexibility, Persistence, Approach, and Rhythmicity. In the current study, only the approach factor was of interest. Of greatest importance, this factor has been shown to have good stability over several years and is the most stable of the temperament factors. The Revised Children's Manifest Anxiety Scale (Reynolds & Richmond, 1978) is a self-report measure of general anxiety for older children. Therefore, for the present study it was modified for completion by mothers. Items were simply reworded from a self-report format to a parent report format referring to the target child.

Education program

The mothers (without the child) attended a six-session program to provide education in the management of children's fears. The six, 90-minute sessions were conducted over nine weeks (five weekly sessions followed by a three-week break) and were run by the second author, a final year graduate student in clinical psychology. The material covered in the program was a modification of our nine-session treatment program for clinically anxious children (Rapee, 2000). A copy of our current manual is available from the first author.

There were three main aims to the program: 1) to provide education about the nature of anxiety and the risk factors involved in its development; 2) to educate the parent in techniques to teach their child ways of managing their anxiety as they grow; 3) to help the parent to manage their own anxiety. The first two aims were covered extensively throughout

the program. Specifically, parents were taught to reduce their control and protection of the child, to try to model more courageous coping, to develop and engage the child in exposure hierarchies, and to use more realistic self-talk. The third aim was necessarily covered relatively briefly given the time constraints of the program. Basically, parents were encouraged to try and apply many of the techniques they were learning for their child to any of their own fears and worries. Where parents felt they had more severe difficulties, they were strongly urged to seek professional help.

Procedure

Screening questionnaires (CTQ-A) were sent to several preschools in Sydney and directors were asked to give them to all parents of 4-year-old children. Parents whose child scored in the top 25% were contacted by telephone and explained the reasons for selecting their child and the nature of the education program. Pre-test questionnaires were completed prior to the first session. Post-treatment measures were completed following the last session and the measures were sent to all mothers again 6 months following treatment. All seven children had begun school between the time of the post-treatment measures and the follow-up.

Results

Repeated measures analyses of variance (ANOVA) were used to analyze the data across the three time periods. On the approach scale of the CTQ-A, there was a significant effect of time, $F(2,10) = 6.37, p < .02$, (Pre-treatment $M = 5.03, SD = 0.61$; Post-treatment $M = 4.12, SD = 0.81$; Follow-up $M = 3.64, SD = 1.19$). Follow-up analyses indicated that the change from pre to post-treatment was not significant, $F(1,6) = 1.90, n.s.$ Similarly, the change from post-treatment to follow-up approached significance, but did not reach conventional levels, $F(1,5) = 4.31, p < .1$. However, the change from pre-treatment to follow-up was significant, $F(1,5) = 5.75, p < .05$.

On the RCMAS-M, there was also a significant effect of time across the three time periods, $F(2,10) = 14.07, p < .001$, (Pre-treatment $M = 7.17, SD = 1.94$; Post-treatment $M = 4.00, SD = 2.10$; Follow-up $M = 4.67, SD = 2.66$). Follow-up analyses indicated significant differences from pre to post-treatment, $t(6) = 4.51, p < .005$, and from pre-treatment to follow-up, $t(5) = 5.84, p < .005$. The change from post-treatment to follow-up was not significant, $t(5) = -.88, n.s.$

In order to provide a more meaningful image of the data, the scores on the CTQ-A were converted to standard scores based on the mean and standard deviations provided by the general Australian population for this age group (Sanson, unpublished data). The results are plotted in Figure 1. As can be seen, the children changed from approximately two standard deviations above their age-related norm at pre-treatment to around 0.75 standard deviations above the norm at six-month follow-up.

Discussion

The results of this pilot study indicate that it may be possible to alter expression of withdrawn temperament in young children. This finding has important implications for a large variety of clinical disorders. Specifically, in terms of the present focus, it has been shown

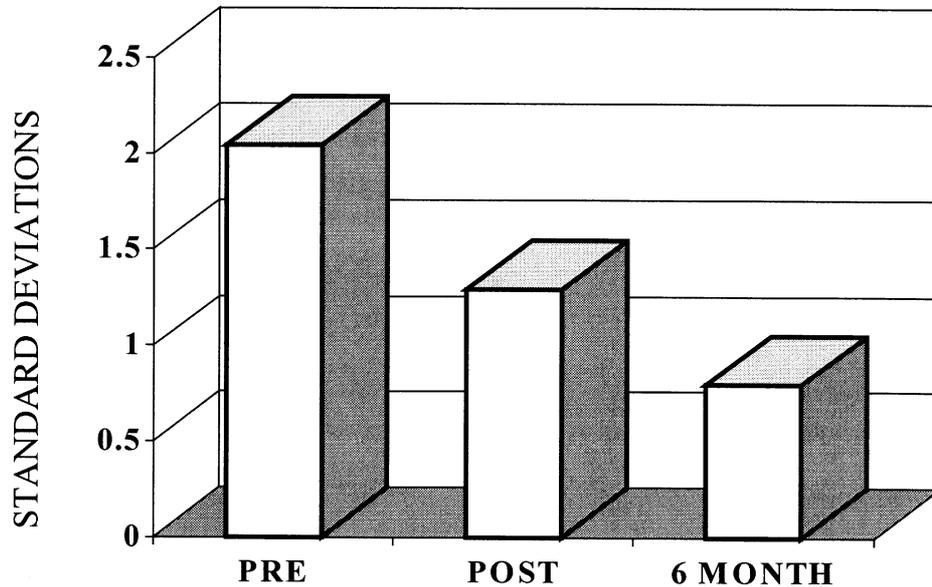


Figure 1 Change on the Childhood Temperament Questionnaire – Australian Adaptation – approach subscale across the three time periods expressed in standard deviation units above the age-related norm.

that it may be possible to reduce one of the main risks for the development of anxiety disorders in preschool children. Clearly, there are several obvious limitations in a small pilot study of this kind. One of the main ones is that the current results relied only on the mothers' perceptions of their child's behavior. It is possible that various factors motivated mothers to perceive change where none occurred. This group of mothers was also probably highly motivated since they were highly selected. However, if supported by controlled trials and more direct observations, the findings could have major health and economic implications for the prevention of anxiety disorders.

The current program was relatively brief – considerably more so than most treatment studies for clinical anxiety disorders. It is possible that even stronger results may have been produced with a longer and more intensive program and also by the inclusion of children in the program. The purpose for providing a relatively brief program aimed at parents was twofold. First, given the age of the children and the fact that they did not yet have clinical or dramatically life-interfering problems, we felt that the mothers were unlikely to want to attend a lengthy treatment program. Second, the aim of the study was to pilot a program with potential value for large-scale public health application. For programs such as this, economic factors are central. There is no point in having an effective program if it is too expensive to run. Therefore, we wanted to trial a program that required as little therapist involvement as possible in order to keep costs to a minimum and one that would provide long-term educational value to parents.

While accepting the caveats of a small sample and uncontrolled study in a highly motivated group, the current pilot has shown that it is potentially possible to reduce withdrawn behavior in preschool children. Given that these behaviors are markers for a temperamental

style that is one of the main risk factors for the development of anxiety disorders across the lifespan (Rapee, 2001), these results may have tremendous implications for the prevention of anxiety disorders in later childhood and into adulthood. The value of a pilot such as this is that it supports the effort in conducting a fully controlled, longitudinal investigation into the prevention of anxiety disorders through the modification of temperament.

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