

Using popular children's characters to help parents protect their young children from the sun

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Introduction

Childhood is a particularly vulnerable time for the photo-carcinogenic effects of sun exposure on the skin.¹⁻³ Young children are at risk of skin cancers because of the amount of time they spend outdoors⁴ and the increased sensitivity of their young skin to ultraviolet radiation.⁵⁻⁷

Although children under one year of age are generally well protected from the sun,^{8,9} sun protection declines as they develop greater mobility and dexterity.^{10,11} This demands greater persistence and motivation by parents to sustain the physical protection of toddlers through measures such as hat wearing and sunscreen.

This project aimed to assist parents to combat positive sun protection behaviour difficulties through the use of a sun safety storybook using characters from The Wiggles. It has been estimated that one in two toddlers in Australia either sing along to The Wiggles on video or CD or have been to a Wiggles concert.¹² This study proposed that having The Wiggles characters deliver messages about sun safety in a storybook

would positively influence young children's acceptance of sun protection and provide parents with educative and behavioural support in encouraging their children to be sun safe.

Methods

The storybook was part of a larger three-year intervention study, funded by the National Health and Medical Research Council (NHMRC), which examined the effectiveness of an early childhood sun protection program (reported elsewhere¹³).

The storybook concept was developed from findings within the NHMRC study that 26% of mothers expressed concerns about keeping hats on their toddlers. The storybook was not originally part of the overall intervention planned for the mothers and children and was funded separately from the main project.

The storybook manuscript was developed by the lead author of this paper and reviewed by a professional children's writer. The storybook, titled *Dorothy the Dinosaur and her Magic Hat*, includes The Wiggles characters Dorothy the Dinosaur, Wags the Dog, Henry the Octopus and Captain Feathersword. The

Abstract

Issue addressed: This study aimed to assist parents to encourage their young children to accept and adopt sun-protective behaviour. A storybook using characters from a popular children's entertainment group, The Wiggles, was developed to deliver sun-safety messages.

Methods: The storybook was distributed to 230 children aged 2-3 years. A questionnaire was distributed to all participating parents to quantitatively evaluate the parents' and children's use of the storybook and its appeal. Telephone interviews were also conducted with a random sample of parents to qualitatively assess responses to the storybook.

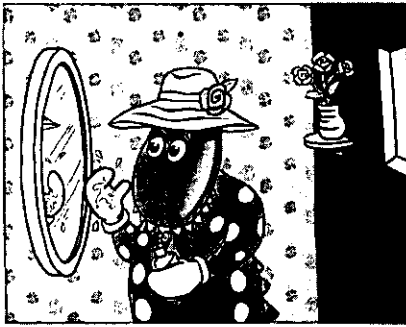
Results: The storybook was extremely well received by both parents and children. Its appeal was predominantly attributed to the use of the popular Wiggles characters as role models and the subtle delivery of sun-safety messages in a light-hearted manner. Approximately 86% of parents stated that they used the book to encourage their child to be sun safe and this was done most commonly once a week. Qualitative findings revealed that most of the parents utilised the Wiggles characters as role models to remind or reinforce their child to wear a hat and sunscreen.

Keywords: Sun protection, children, storybook, evaluation.

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So what?

The paper highlights the opportunity for collaboration with the entertainment sector and shows how popular children's characters can be effectively utilised as role models to promote health behaviour to young children.



Dorothy the Dinosaur puts on her Magic Hat and sunscreen before going out in the sun.



Dorothy the Dinosaur brings a hat to Wags the Dog.



Wags the Dog and all his friends wear their hats when out in the sun.

story is about Wags the Dog learning how to play safely in the sun with the help of Dorothy the Dinosaur's Magic Hat. Dorothy plays the key role in teaching Wags – and young readers – the importance of covering up before going outside to play.

Consultation with early childhood education experts was undertaken and the storybook and evaluation tools were pilot tested with six parents and their children aged 2-3 years.

The storybook was distributed as a 'free' gift in September 2000 to 230 children and their mothers who were part of the intervention group of the NHMRC study. Both qualitative and quantitative methods were used to evaluate the storybook's effectiveness in supporting parents' efforts to encourage their children to be sun safe.

Phase 1: Qualitative evaluation

Telephone interviews were conducted with a random sample of 16 mothers at least two weeks after their child received the storybook. A structured questionnaire with open-ended questions was used to gain: 1) the mother's feedback on the storybook's appeal, readability, relevance and usability; 2) the child's response to the storybook; 3) how the mother and child interacted with the storybook; and 4) whether the storybook was used to encourage the child to be sun safe and if so, how it was used.

Mothers reported that, on average, the book was 'good' or 'great' compared with other children's storybooks. When asked 'if there was anything in particular that mothers liked about the book', the sun-safety messages were mentioned as a key factor. All mothers believed their child either liked or loved the storybook and all indicated their child was interested or very interested in the book. The child's interest and enjoyment with the book was attributed mostly to The Wiggles characters but also to the concept of the Magic Hat, the antics of Wags and the funny story.

Most mothers interacted with the book by reminding their child to wear a hat and sunscreen as they followed the storyline and by reinforcing the 'slip, slop, slap' message. Almost all mothers stated they used the book to encourage their child's sun safe behaviour. Mothers used The Wiggles characters as role models

with comments to their child such as: "Wags couldn't play without wearing a hat or he would get burnt"; or "Dorothy's wearing a hat, [child] needs to wear one too".

Phase 2: Quantitative evaluation

A questionnaire was designed to measure the mother's usage of the book and her impression of its effectiveness. Specifically, it assessed: 1) how long ago the child received the storybook; 2) whether the child still had the storybook, still read the storybook and how often; 3) whether the child liked the storybook; 4) whether the book was used to encourage the child's sun-safe behaviour and how often; 5) the level of difficulty experienced in protecting the child from the sun; and 6) how much parents would be prepared to pay for the storybook.

Using a post-test design, the questionnaire was mailed to mothers at least two weeks after receiving the storybook and collected as part of the annual data collection in the NHMRC study.¹³ Of the 230 mothers, 181 completed the questionnaire, (a response rate of 79%). At the time of completing the questionnaire, which was 1-6 months from receiving the book, 98% (n=178) of children still had the storybook.

More than 60% of the children looked at the storybook either once a week (32%; n=52) or a few times a week (30%; n=48). Less than 9% (n=14) looked at the storybook either once a month or less than once a month.

When asked how much their child liked the storybook, approximately 96% (n=173) of parents responded their child liked the storybook or liked it very much.

While 81% (n=145) of parents stated they did not find it difficult to protect their child from the sun, 87% (n=157) still reported they used the storybook to encourage their child's sun-safe behaviour. This was done most commonly once a week (see Table 1).

Sixty-seven per cent of mothers (n=118) said they were prepared to pay \$5 for the storybook and 25% (n=43) were prepared to pay \$10. Less than 7% (n=12) were not prepared to pay for the book at all.

Table 1: How often storybook used to encourage child to be sun safe.

	n	%
Every day	9	5.8
Few times a week	35	22.4
Once a week	47	30.1
Few times a month	31	19.9
Once a month	19	12.2
Less than once a month	15	9.6

Discussion

The use of storybooks and fictional characters to promote health behaviour to children is not a new concept.^{14,15} The Wiggles have been entertaining young children for more than 10 years and their popularity is evidenced through numerous awards for albums and videos, sales figures and sell-out concerts.¹² It is therefore not surprising that the appeal of the storybook was attributed to the popularity of The Wiggles characters.

The high status of The Wiggles also highlights one of the main limitations of this study. The parents' positive responses may have been influenced by their gratitude to receiving this 'free' Wiggles storybook. Also, as some of the evaluation measures related to positive constructs such as the storybook's 'appeal' and how much the child 'liked' the storybook, the possibility of additional social desirability bias is acknowledged. A further limitation was the study's reliance on the mother's reported use of the storybook and her account of her child's response. The child's reaction to the storybook, the interactivity between mother and child and the use of the storybook in encouraging sun-safe behaviour was not observed.

Previous studies, however, have found educational resources using a storybook format and fictional characters are effective in increasing children's knowledge and understanding of the importance of sun safety.^{14,15} Use of The Wiggles characters as role models provided parents with a valuable tool to educate their young children in a fun, easy manner. Educating their children through a comical, fictional story was particularly favourable to parents as it alleviated the sense of 'lecturing' their child.

In view of the highly positive responses and feedback towards the sun-safety storybook, it has been recommended that the

storybook be made available to parents, early childhood teachers and other caregivers and promoted as an educative resource to assist young children's acceptance and adoption of sun safe measures. Further research should determine how influential popular characters, such as The Wiggles, are on promoting positive health behaviour to young children.

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