

Christmas special: A double-blind study to determine the best caterpillar cake in a paediatric ward environment

Victoria Nesbitt, Sze May Ng

This prospective, double-blind study sought to determine the best supermarket caterpillar cake and whether the original version, Colin, could be distinguished from its descendants. A total of 42 participants at Southport and Ormskirk NHS Hospital rated the quality of the chocolate, cream filling, sponge quality and general impression of seven caterpillar cakes using a five-point Likert scale. They were then asked to identify which of the caterpillar cakes was Colin. The results showed that Colin was correctly identified by only 15% of participants. The highest-rated cake overall was the Co-op's Charlie, whilst the lowest score was attributed to Sainsbury's Wiggles. The findings support the use of Charlie the Caterpillar in the paediatric ward setting.

In April 2021, Marks & Spencer (M&S) launched a legal action against Aldi's Cuthbert the Caterpillar, claiming infringement of its Colin the Caterpillar trademark (BBC, 2021). M&S further lodged an intellectual property claim with the UK High Court and demanded that Aldi remove Cuthbert from sale and agree not to sell anything similar in the future.

M&S has been selling Colin the Caterpillar for over 30 years, since 1990, and Colin's appearance has been substantially unchanged since 2004. Inspired by Colin, imitations including Sainsbury's Wiggles, Tesco's Curly, Morrisons's Morris, the Co-op's Charlie, Asda's Clyde, Waitrose's Cecil and Aldi's Cuthbert have since appeared in the UK.

The M&S litigation dispute sparked a social media uproar, with a hashtag of #SaveCuthbert trending in the weeks that ensued (Winchester, 2021). The public was flabbergasted as to why Cuthbert was singled out from all the other caterpillars, with some hypothesising that perhaps Cuthbert was the better-tasting and better-looking cake.

The aim of this double-blind study, conducted within a children's hospital environment, was to determine whether Colin can be identified according to the M&S claims of having an "enhanced distinctive character and reputation", and to determine the most appealing caterpillar cake out of available options.

Methods

A prospective, double-blind evaluation of seven caterpillar cakes was undertaken on a single day (25 May 2021) within the Paediatric Ward and Children's Accident and Emergency Department at Southport and Ormskirk NHS Hospital. Caterpillar cakes from Aldi, the Co-op, M&S, Morrisons, Asda, Sainsbury's and Tesco were evaluated. Waitrose's Cecil cake was excluded due to lack of availability from nearby stores at the study site.

Nine paediatric doctors, 12 paediatric nurses, 13 paediatric allied health professionals and eight children were recruited to the study within one hour. Exclusion criteria were anyone who had bought a caterpillar cake in the past month;

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Article points

1. Healthcare professionals and patients within paediatric care would appear to have the most expertise in sampling cakes compared to other departments within the hospital environment.
2. Compared with its competitors, Colin the Caterpillar scored fourth in terms of overall taste and appeal, and was correctly identified by only 15% of participants, a rate that corresponds with chance.
3. Season's greetings from *Diabetes Care for Children & Young People*.

Key words

- Caterpillar cake
- Christmas
- Double-blind, blind taste trial

Authors

Victoria Nesbitt, Consultant Paediatrician, Southport & Ormskirk Hospital NHS Trust; Sze May Ng, Honorary Associate Professor, University of Liverpool and Southport & Ormskirk NHS Trust.



Figure 1. Blinding was achieved by removing all branded marketing boxes and caterpillar faces and decorations.

anyone who had any conflict of interest related to specific affection to any particular caterpillar cake; and anyone who had any dietary allergies. Consent was obtained from the adult participants, and parental consent for the children involved in the study.

Blinding as to the origins of the seven caterpillar cakes was achieved by removing all branded marketing boxes and caterpillar faces and decorations (Figure 1). One investigator was aware of the origin of each cake but, in order to achieve a double-blind design and avoid investigator bias, the second investigator was blinded and oversaw the participants sampling cakes.

Each participant rated the cakes in terms of the quality of the chocolate, the cream filling, the quality of the sponge and overall appeal to purchase, using a 1–5-point Likert scale with categories “Poor”, “Average”, “Good”, “Very good” and “Excellent”. Each item was analysed separately, and a summative response was obtained to create a total overall score. Participants were then asked to identify which of the caterpillar cakes they thought was the original Colin the Caterpillar.

The primary outcome was the ability to correctly identify Colin. The secondary outcome was the overall rating for each cake.

Table 1. Demographics of participants.

Gender	<i>n</i>
Male	8 (19%)
Female	34 (81%)
Age distribution	<i>n</i>
0–10 years	8 (19%)
11–20 years	3 (7%)
21–30 years	10 (24%)
31–40 years	9 (21%)
41–50 years	9 (21%)
51–60 years	2 (5%)
61–70 years	1 (2%)
Categories	<i>n</i>
Doctor	9 (21%)
Nurse	12 (29%)
Allied healthcare professional	13 (31%)
Child	8 (19%)

Results

The age distribution and gender of the 42 participants are shown in Table 1. We found that 29% had never eaten a caterpillar cake before, 29% had eaten it between one and three times, 12% had eaten it between four and six times, 2% had eaten it between seven and nine times and 29% had eaten it more than ten times in their life. These numbers were not specific to a particular brand.

Overall, 85% of participants were unable to correctly identify Colin the Caterpillar. The cake most frequently misidentified as Colin was Sainsbury’s Wiggles (21%), followed by Aldi’s Cuthbert (19%).

Table 2 (overleaf) shows the results of the summed Likert ratings for each caterpillar. The overall favourite cake, with the highest total score, was Charlie from the Co-op, while the lowest overall score was attributed to Sainsbury’s Wiggles. Subanalysis showed that the most preferred chocolate was from the Co-op’s Charlie, which

Table 2. Summed Likert scores for evaluated caterpillar cakes.

	Chocolate	Sponge	Cream filling	General impression	Total score
Wiggles (Sainsbury's)	103	103	112	117	435
Morris (Morrisons)	121	116	120	114	471
Curly (Tesco)	124	114	119	119	476
Colin (M&S)	128	123	125	118	494
Clyde (Asda)	125	131	140	134	530
Cuthbert (Aldi)	137	131	134	132	534
Charlie (The Co-op)	140	136	140	141	557

M&S=Marks & Spencer.

“The results show that Colin was fourth in terms of overall score, and was correctly identified by only 15% of participants, a rate that corresponds with chance.”

was also voted best in terms of sponge quality. The favourite cream filling was that found in Asda's Clyde. Colin receive the worst scores for the cream filling and sponge quality.

No significant difference was found in a sub-analysis comparing doctors, nurses and other healthcare professionals, or comparing adults versus children.

Discussion

Existing regulations and legislation are designed to afford protection to all products. However, supermarkets in general are well known to produce many imitation products that stretch beyond just caterpillar cakes (Grahns, 2020). This analysis of seven caterpillar cakes was conducted to finally put an end to the question as to which supermarket caterpillar cake impresses the most in terms of taste, and to determine whether anyone can in fact identify Colin the Caterpillar without its marketing box. The results show that Colin was fourth in terms of overall score, and was correctly identified by only 15% of participants, a rate that corresponds with chance.

Our results contrast with other studies in the literature. In a comparison study by the *Daily Mail*, Colin was found to have the highest rating out of seven caterpillar cakes (Pearson-Jones, 2021); however, the sample size of reviewers was not reported and the study had an open-label design, indicating a high likelihood of bias. In another small study by the *Huffington Post*, in

which Colin was compared with Clyde, Cecil, Curly and Wiggles, Cecil from Waitrose received the top rating, with a perfect balance between sweet and bitter chocolate, soft sponge and degree of filling (Whitbread, 2019). However, this study also did not report the number of participants and whether they were blinded as to the cake brands.

When comparing price, it was found that both Colin and Charlie were priced at the highest end of the spectrum, at £7.00 per caterpillar, whilst Aldi sells Cuthbert for only £4.99 (at time of purchase, profits from Cuthbert were being donated to cancer charities).

Study strength and weaknesses

One strength of this study is its recruitment of participants within the paediatric care environment, comprising paediatric doctors, nurses and allied health professionals, as well as children, as these were deemed to be the group with the most expertise in sampling cakes compared to other departments within the hospital.

This study is limited by the fact that, on the day of the study, none of the investigators were able to source Waitrose's Cecil the Caterpillar from any stores; therefore, this brand had to be excluded. However, the authors do not believe that this would have changed the outcome of the study.

Conclusions

The authors believe that this is the only published study on whether Colin the Caterpillar can be

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correctly identified over other imitators, and that it is the best-designed study to date to assess which caterpillar cake tastes the best. As Colin was found to be indistinguishable from the other caterpillars by the majority of participants in a double-blind study, the litigation, which was stated to protect Colin’s unique reputation for freshness, quality and taste, appears to be unfounded. ■

Disclosures

All cakes tested were bought. The authors report no conflict of interest towards any of the cakes tested. The authors declare that they will not receive any financial incentives from the Co-op following this publication.

BBC (2021) *M&S begins legal action against Aldi over Colin the Caterpillar cake*. BBC, London. Available at: <https://bbc.in/3dU1IQ5> (accessed 10.12.21)

Winchester L (2021) Aldi launches #FreeCuthbert campaign amid Colin the Caterpillar legal action. *The Mirror*, 16 April. Available at: <https://bit.ly/3rY09sn> (accessed 10.12.21)

Pearson-Jones B (2021) The ULTIMATE Caterpillar Cake taste test: As M&S sues ALDI over its copycat of Colin, FEMAIL tries all seven supermarket versions of the much-loved treat to see which comes out on top. *Daily Mail*, 23 April. Available at: <https://bit.ly/3lwK3fj> (accessed 10.12.21)

Whitbread L (2019) We compared Colin the Caterpillar to its supermarket rivals. *Huffington Post*, 29 September. Available at: <https://bit.ly/3GyBdvw> (accessed 10.12.21)

Grahns A (2020) Seeing double: Aldi shoppers name their favourite copycat products including chocolate buttons and cookies and crisps. *The Sun*, 13 July. Available at: <https://bit.ly/3oQ4Qml> (accessed 10.12.21)