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Barriers to rejecting junk food sponsorship in sport—a formative evaluation using concept mapping

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ABSTRACT

Objectives: Energy-dense, nutrient-poor food and drink ('junk food') brands sponsoring sport is a growing public health concern. This study explored sports administrators' perceptions of the barriers to rejecting junk food sponsorship.

Study design: This study used concept mapping.

Methods: The Concept Systems Global MAX™ web platform was used to collect and analyse data from 29 sports administrators across all levels of sport in Victoria, Australia.

Results: Brainstorming generated 33 barriers to rejecting junk food sponsorship. After the barriers were synthesised and edited, participants sorted and rated 32 barriers. Multidimensional scaling and hierarchical cluster analysis identified a four-cluster solution: community attitudes and values (seven barriers); junk food is the easy sell (retail; five barriers); financial viability (16 barriers); and organisational capability (policy and governance; four barriers). The financial viability barriers were rated the most important (mean = 3.65 of 5) and the hardest to overcome (1.42). The organisational capability (policy and governance) barriers were rated the least important (2.14) and the easiest to overcome (3.20).

Conclusions: Sports administrators clearly perceive that rejecting junk food sponsorship could place significant financial strain on their organisations. There appears to be considerable scope to build the capacity of sporting organisations to rejecting junk food sponsorship. Despite the literature indicating that most parents think junk food companies are not suitable sponsors, sports administrators perceive that there is a broad public acceptance of junk food sponsorship in sport. The fact that sports administrators perceive a link between junk food sponsorship and the lack of healthy options at club canteens and venue food outlets adds an additional, not previously identified, level of complexity to the junk food sponsorship in sport debate.

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Introduction

Obesity is a global public health problem.[1] A key driver of the obesity epidemic is the obesogenic environment in which many people live. This includes the ubiquitous availability and promotion of energy-dense, nutrient-poor food and drinks ('junk food'),[2] which influences what children like, request, buy and consume.[3,4] Tackling childhood obesity should include reducing junk food marketing to children.[2]

Australia has high rates of participation in organised sport,[5] and Australians are avid consumers of 'live' and broadcast sport.[6,7] This combination makes the sponsorship of the community and elite sport in Australia an attractive proposition for many commercial organisations.[8]

Junk food sponsorship is ubiquitous across all aspects of sport.[9,10] Junk food brands and products are promoted through the following: logos on websites, uniforms, equipment, supporter and participant packs and at sporting venues; naming the rights of teams, events and stadiums; product promotion and endorsement by elite athletes and distribution of vouchers for or samples of sponsor products to participants and supporters.[10–12]

Most research on this topic describes the extent of junk food sponsorship of children's sport,[11–17] measures its impact on children's junk food–related knowledge, attitudes and behaviours[18–21] and investigates children and parents' attitudes to such sponsorship arrangements.[22,23] This has generally found that junk food sponsorship of sport is common; it encourages favourable attitudes towards consuming junk food and parents and sports administrators support restricting such sponsorship and associating junk food with participation in sport is counterintuitive and undesirable.[9,10,24–26] In addition, restricting junk food sponsorship is a high-priority health promotion objective for community sports clubs.[27]

To date, there has been limited research exploring the sporting organisations' perception of junk food sponsorship. One New Zealand study highlighted that, although many sports organisations were concerned about associating with junk food, sponsorship income was often more important,[13] and the quantum of sponsorship received was more important than who the sponsor was.[13] In an Australian study, club and governing body officials identified the main benefits of sponsorship from junk food companies as subsidising participation costs and purchasing equipment and resources.[28]

Several interventions to reduce junk food sponsorship in sport have been recommended, including the following: developing and disseminating policy templates and criteria; providing alternative funding; and building club volunteers' capacity.[24] In addition, where a sponsor owns multiple brands, sponsorship arrangements could be limited to promoting healthier brands.[20]

The present formative evaluation explores sports administrators' perceptions of the barriers to rejecting sponsorship from junk food companies. The information generated will be used to develop and improve interventions to reorient sponsorship of sport towards healthier brands and companies.

Methods

This study used concept mapping (CM), a mixed-method participatory approach to gather qualitative data and analyse them quantitatively.[29,30] The key CM steps of preparation, idea generation, statement structuring and CM analysis are described in detail elsewhere[29] and were undertaken for this project using the Concept Systems Global MAX™[31] web platform.

The Victorian Health Promotion Foundation (VicHealth) identified representatives of Victorian-based community, regional, state, national and elite sporting organisations using their existing networks and relationships and invited them to participate in the CM exercise. The VicHealth also used its contacts in the Victorian sports sector to disseminate study information and encourage participation.

The focus prompt used to generate ideas in this study was '*A barrier to my club or organisation rejecting junk food sponsorship* is.....'. The two rating instructions used to structure the statements were: '*On a scale from 0 (least important) to 5 (most important), rate how important this barrier is to your club or organisation rejecting junk food sponsorship*' and '*On a scale of 0 (hardest) to 5 (easiest), rate how easy it would be for your organisation to overcome this barrier to rejecting junk food sponsorship*'.

The emailed invitation included a hyperlink to the online idea generation step of the CM process, which was open for 21 days in the late 2017. A reminder email—which included the following statement '*Another way to think of the question that you are being asked to respond to is: If a junk food company offered to sponsor your sporting organisation, why would your organisation find it difficult to rejecting their offer?*'—was sent to all registered participants, 2 days before the idea generation step closed.

To generate ideas, participants were asked to write a single-thought statement in response to the focus prompt. They could add multiple statements; review the statements other participants made and access the online platform multiple times.

The project steering group (authors AD, JLR and KTB and another VicHealth senior project officer) synthesised and edited the statements gathered during the idea generation phase by deleting statements unrelated to the focus prompt; splitting compound statements; grouping statements around key ideas, identifying duplicates that represented the same idea and selecting the statement that best captured the essence of the idea and editing statements to ensure they reflected the group's agreed meaning of the statement. This process continued until there was consensus that the final statement list contained a set of unique (i.e. each idea was represented once), clear and concise ideas relevant to the project focus.

All registered CM participants were invited to participate in the statement structuring over 9 days in the mid-December 2017. Owing to a poor response, the VicHealth sent a second invitation to all the sporting organisations that had been initially invited to participate in the CM exercise, in the mid-January 2018. The statement structuring remained open for a further 11 days in January 2018.

During the statement structuring, each participant sorted the randomised synthesised statements into groups that made

sense to them. They were instructed to group the statements according to the similarity in meaning and to name each group based on its theme or contents. Single-statement groups could be created if participants thought a statement was unrelated to all other statements. Participants were asked to put every statement somewhere and to avoid creating 'miscellaneous' or 'other' groups. They were informed that five to ten groups usually work well to organise the number of statements they were asked to sort. Participants were also instructed to rate each barrier on 'importance' and 'ease of overcoming' using the full rating range (six point scale from 0 to 5), relative to the other barriers in the list.

The Concept Systems Global MAX™[31] web platform was used to conduct a three-step data analysis. This included the following: creating a similarity matrix from the sorted data; conducting a two-dimensional non-metric multidimensional scaling analysis of the similarity matrix to locate each statement as a separate point on a two-dimensional (X, Y) 'point map' and using hierarchical cluster analysis to group individual statements on the point map into clusters of related statements ('cluster maps'). A detailed description of the multidimensional scaling, including the stress index calculation, and hierarchical cluster analysis used in the Concept Systems Global MAX™[31] web platform are available from Kane and Trochim (pp. 87–100).[29] Mean importance and the ease of overcoming ratings were calculated for each statement. These were then used to generate a four-quadrant 'go-zone' graph,[29] in which each statement was plotted based on its two mean ratings. This process identified a 'go-zone' quadrant of statements in the top right, which were above average on both ratings.

The project group (authors AD, JLR and KTB) followed Kane and Trochim's guidance (pp. 101–103)[29] to select the most appropriate number of clusters. This involved examining the cluster maps for a seven-cluster solution through to a three-cluster solution, paying particular attention to which statements were merged together as the number of clusters was reduced. This process was used to identify the cluster level that retained the most useful detail between clusters, while merging those clusters that seemed to logically belong together, based on the group's knowledge of the topic of interest. After the most appropriate cluster level was identified, any statement that subjectively seemed to belong in an adjacent cluster was reassigned to the neighbouring cluster.[32]

All emails related to this project included information about the study rationale and funding and what was expected of participants. Informed consent to participate was provided the first time a participant registered on the online platform.

Before undertaking their first CM activity, participants were asked to describe the following: the type of sporting organisation they were involved with; the type of participants their organisation provided sporting opportunities for; their organisation's current position on junk food sponsorship; and how well informed they considered themselves to be about what influences their organisation's sponsorship decisions. All background questions were categorical with multiple choice responses.

Results

Twenty-nine unique participants contributed CM data—24 in the idea generation, 14 in the statement sorting and 11 in the statement rating phase. Six participants contributed data in all the three phases, while 12 contributed to the idea generation process only. The 22 participants who provided demographic data are described in Table 1.

The 33 statements generated during the brainstorming step were synthesised and edited down to 32 statements for participants to sort and rate (Table 2). Fourteen participants sorted the 32 statements into groups (mean = 5.5 groups; range 3–8 groups). One participant left two statements unsorted, while one participant left two groups unnamed and one participant left one group unnamed.

Fig. 1 presents the point map that emerged after the multidimensional scaling analysis. The distance between the points represents the degree of similarity between the statements (i.e. the statements grouped together by more participants appear closer to each other on the map). For example, statements #22, 23 and 26 were considered so closely related that all participants grouped them together. By contrast, statements #3 and #12 were considered so unrelated that no one grouped them together. The stress index—a representation of how well the two-dimensional point map represents the grouping data—was 0.22, close to the average stress value across a broad range of CM projects.[29]

Eleven participants rated all 32 statements for importance and ease of overcoming (see Table 2). The statements in the financial viability cluster received the highest mean importance rating (3.65 of 5) and the lowest mean ease of overcoming rating (1.42). The statements in the organisational capability (policy and governance) cluster received the lowest mean importance rating (2.14) and the highest mean ease of overcoming rating (3.20).

The project team agreed that a four-cluster solution—community attitudes and values (seven barriers), junk food is the easy sell (retail; five barriers), financial viability (16 barriers), organisational capability (policy nine governance; four barriers)—retained the most useful detail, while merging those clusters that seemed to logically belong together (see Fig. 2). See Table 2 for a full list of the statements within each cluster, including the three statements that were reassigned to the neighbouring clusters to which there was a better conceptual fit.

Fig. 3 is a go-zone graph for all 32 statements. Go-zone quadrants for the statements within each cluster are provided in Table 2. To aid interpretation of the go-zone graph, see Table 2 for the details of each statement including its mean importance and ease of overcoming ratings.

Discussion

Previous studies of sports administrators' perspectives of junk food sponsorship have used interviews[13,33] and surveys.[28] These involve researchers either extracting themes from qualitative data or providing a range of alternative responses

Table 1 – Characteristics of participants (n = 22)[a].

What type of sporting organisation are you involved in?	State sporting organisation	10 (45%)
	National sporting organisation	4 (18%)
	Community or local sporting organisation	4 (18%)
	Elite sporting team or club	3 (14%)
	Regional sporting organisation	1 (5%)
	A sports league or association	0 (0%)
	School sporting organisation	0 (0%)
Which group of participants does your organisation provide sporting opportunities for?	Adults only	3 (14%)
	Adults and children	19 (86%)
	Children only	0 (0%)
What is your organisation's current position on junk food sponsorship?	Do not have a sponsorship policy	10 (45%)
	Have not discussed developing a junk food–free sponsorship policy	6 (27%)
	Have an informal junk food–free sponsorship policy	3 (14%)
	Have discussed and want to develop a junk food–free sponsorship policy but have not taken any action	1 (5%)
	Unsure	1 (5%)
	Other[b]	1 (5%)
	Have a sponsorship policy but does not extend to junk food	0 (0%)
	Have a formal, written junk food–free sponsorship policy	0 (0%)
	Have discussed a junk food–free sponsorship policy and decided not to go down that route	0 (0%)
How well informed are you about what influences the sponsorship decisions made by your organisation	Very well informed	14 (64%)
	Reasonably well informed	7 (32%)
	Not well informed	1 (5%)

[a] All possible response options are indicated for each characteristic.
[b] Organisation does not specifically have a junk food–free sponsorship policy, but the governing body of club promotes this for all club sponsorship initiatives.

for participants to select from. A methodological strength of this present study is that using CM enabled study participants to both identify the barriers to rejecting junk food sponsorship and to group the identified barriers into overarching themes or concepts that had meaning for them. Another strength of the study is that nearly all participants considered themselves to be at least reasonably well informed about what influences the sponsorship decisions in their organisation.

It is clear that the sports administrators who participated in this study perceived that rejecting sponsorship from junk food companies could place significant financial strain on their organisations. The financial viability cluster that emerged from this study contains not only half of all the brainstormed statements but also 11 of the 13 most important barriers. These concerns are supported by previous research that found 70% of regional, and half of the community club, sports administrators believe that restricting unhealthy food sponsorship would have a large financial impact on clubs when first introduced.[28] However, it has also been reported that junk food sponsorship represents a relatively small proportion of the income of community sports clubs, suggesting that such a restriction might not create major funding difficulties for clubs.[11] Clearly, more research is needed to model or empirically measure the financial impact of restricting junk food sponsorship in sport. In addition, in-depth qualitative investigations (e.g. business case studies) that shed some light on how some sporting organisations have successfully rejected junk food sponsorship would be particularly valuable.

In this present study, the barriers within the organisational capacity (policy and governance) cluster were rated as the easiest barriers to overcome. Interestingly, although 'not having a policy' was rated as relatively less important than many of the identified barrier, it was still rated 2.82 of 5 for importance as a barrier to rejecting junk food sponsorship and the easiest of all the identified barriers to overcome. Despite this, nearly half of the organisations that the participants in this study represented did not have a sponsorship policy, and none had a formal, written junk food–free sponsorship policy. A previous Australian study also found that very few national or state sporting organisations have formal sponsorship policies and those that do, do not set the criteria for acceptable sponsors.[14] Therefore, there is considerable scope for health promotion agencies to provide policy templates, policy development training or demonstration project funding to build the capacity of sporting organisations to rejecting junk food sponsorship.[34,35] This may be particularly important within community clubs, where administrators responsible for negotiating sponsorship arrangements and setting policy parameters are often volunteers with limited skills and experience in promoting health.[36] However, although it is a critical process for creating health-promoting sporting environments, policy development alone is unlikely to have a significant impact as it does not necessarily lead to structural changes in sporting organisations.[36]

The statements within the community attitudes and values cluster that emerged from this study (e.g. 'junk food sponsorship does not resonate with most people as being a significant health issue') suggest that sports administrators believe that there is a broad public acceptance of junk food sponsorship in sport. This is inconsistent with the literature, which shows that most parents think junk food companies are not suitable sponsors of sport,[28] are incompatible with the positive health messages the sport conveys and send conflicting nutrition messages to children.[23] There is also a

Table 2 – Statements generated during the concept mapping brainstorming process including the cluster in which each statement fits, mean importance and ease of overcoming ratings and go-zone graph quadrants for each statement.

Cluster/Statement number		Mean rating (0–5)[a] for		Go-zone graph quadrant[f]	
		Importance[b] 3.21	Ease[b] 2.07	All statements	Statements in cluster
Community attitudes and values		2.80[c]	2.53[c]		
1	The club might think they are providing a value add to their member	1.45	3.36	3	3
3	Junk food sponsorship does not resonate with most people as being a significant health issue	3.09	2.55	3	1
4	Some major sports have junk food sponsorships so some clubs would not consider it as a problem	3.36	2.18	1	2
7	Junk food sponsorship offers opportunities to enhance the profile and reach of our sport	2.55	2.55	3	3
8	A lot of junk food brands appeal to a huge market, and therefore, the club can promote the brands easily	3.27	1.82	2	2
19	Consumer demand can put pressure on the club to partner with junk food companies	3.18	2.91	3	1
31	The engagement junk food brands have with fans of elite sports and competitions	2.73	2.36	3	4
Junk food is the easy sell (retail)		3.12[c]	2.42[c]		
17[d]	The attitudes in the canteen (product sales linked to sponsorship)	2.18	3.00	3	3
27	Junk food is the easiest form of food to sell and therefore provides much income for the club	3.36	2.64	1	2
28	Junk food is an easy product to both keep and sell for commercial centres	3.73	1.91	2	2
29	More people recognise the junk food brands which makes them easier to sell	3.45	2.18	1	2
30	Junk food companies provide fridges or other essential items we need but cannot afford	3.27	2.36	1	2
Financial viability		3.65[c]	1.42[c]		
2	Commercial imperatives to fund all facets of the sport and its programmes	3.91	1.45	2	1
6	It is hard for smaller clubs to find sponsorship, so they can be influenced by any type of revenue, regardless of the message it is communicating	4.64	1.27	2	2
9	Our organisation relies heavily on sponsorship, and any funding by any organisation is invaluable to run our club.	4.45	1.36	2	2
10	Access to other sponsors with the same level of marketing spend	3.18	1.91	4	3
11	Difficulty for smaller sports to find sponsors, especially when sponsors want maximum exposure	3.82	1.18	2	2
12	We are a not for profit organisation which relies heavily on sponsorship, particularly for our elite programmes.	3.09	1.64	4	3
14	We cannot afford to rejecting any sponsorship as little financial help is provided by state sporting bodies.	3.55	1.27	2	4
15	The scarcity of sponsorship opportunities available to state sporting bodies with low membership numbers	3.45	1.00	2	4
16	Loss of potential income that could be made from such an agreement	3.82	1.45	2	1
21[e]	It is hard to find healthy or 'non-junk food' brands to use as sponsors	3.82	2.09	1	1
22	Need for funding to operate at a level previously attained through sponsorship (that has now been removed)	3.18	1.09	4	4
23	Finding an alternate revenue stream	3.55	1.45	2	3
24	Difficulty in sourcing alternative sponsorship revenue at the same level as is currently provided by our sponsor in this category	3.09	1.36	4	4
25[e]	Lack of resources to develop the sport	2.91	1.91	4	3
26	Income from sponsorship	4.09	1.18	2	2
32	A need to generate financial resources to assist in running club operations	3.91	1.18	2	2
Organisational capability (policy and governance)		2.14[c]	2.91[c]		
5	We do not have a policy	2.82	4.00	3	1
13	Saying no to a committee member who is involved with the junk food company	0.82	3.91	3	3
18	Centres and facilities are independent commercial venues which can make their own sponsorship arrangements, even if sporting bodies have rejected junk food sponsors	2.91	2.82	3	2

(continued on next page)

Table 2 – (continued)

Cluster/Statement number		Mean rating (0–5)[a] for		Go-zone graph quadrant[f]	
		Importance[b] 3.21	Ease[b] 2.07	All statements	Statements in cluster
20	The need to leverage a particular partnership to enable the club to implement a broader expansion strategy.	2.00	2.73	3	4

[a] 0 (least important/hardest to overcome) to 5 (most important/easiest to overcome).
[b] Eleven participants rated all 32 statements for how important they were as a barrier to their club or organisation rejecting junk food sponsorship and how easy it would be for their organisation to overcome this barrier.
[c] Mean importance/ease rating for all the statements in the cluster.
[d] Reassigned from 'community attitudes and values' cluster.
[e] Reassigned from 'organisational capability (policy and governance)' cluster.
[f] Go-zone quadrants: 1 (top right = above mean for both importance and ease); 2 (bottom right = above mean for importance and below mean for ease); 3 (top left = below mean for importance and above mean for ease) and 4 (bottom left = below mean for both importance and ease).

growing body of evidence that most parents support restricting junk food sponsorship of both community and elite sport.[22,23,28] Other statements in this (e.g. 'Some major sports have junk food sponsorships so some clubs would not consider it a problem') and the organisational capacity (policy and governance) cluster ('Centres and facilities are independent commercial venues which can make their own sponsorship arrangements, even if sporting bodies have rejected junk food sponsors') highlight the complex relationship between sponsorship arrangements and sports governance structures, which can be difficult to overcome.[36] The participants in the present study considered the barriers within the community attitudes and values cluster as relatively easy to address. This suggests that health promotion agencies could gain some 'easy wins' by educating sponsorship decision makers in sporting organisations about community attitudes towards junk food sponsorship. These findings also highlight the potential benefits of investing in a social marketing campaign[37] to drive consumer demand to reduce junk food sponsorship of sport.

The availability of healthy food and drinks at sports club canteens and sports venue food outlets and restricting sponsorship of sport by junk food companies are both considered priority health promotion objectives for community sports clubs.[27] However, this is the first study to identify a potential link between these two public health concerns from the perspective of the sports administrators. The findings highlight that some sporting organisations view sponsorship through a 'product sales rebate' lens, in which the quantum of benefit the organisation receives is directly linked to the volume of sales of the sponsor's products the organisation can achieve.[38] They also reflect the fact that sponsorship arrangements are often more complex than an exchange of financial support for brand promotion, with some sponsorship including reduced price retail products or food storage and preparation equipment. The fact that sports clubs

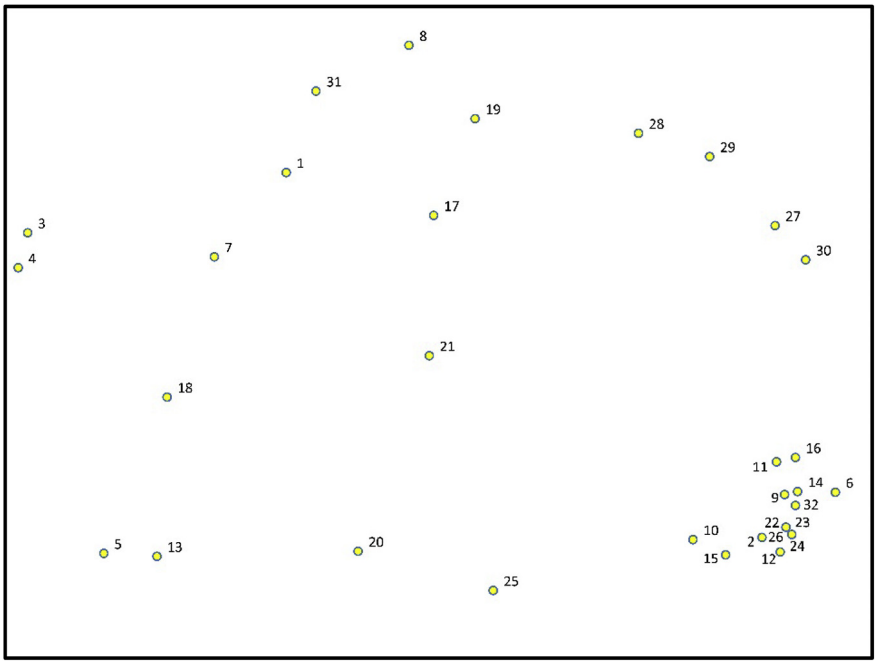

Fig. 1 – Numbered point map of statements representing barriers to sporting organisations rejecting junk food sponsorship (see Table 2 for detailed description of each statement).

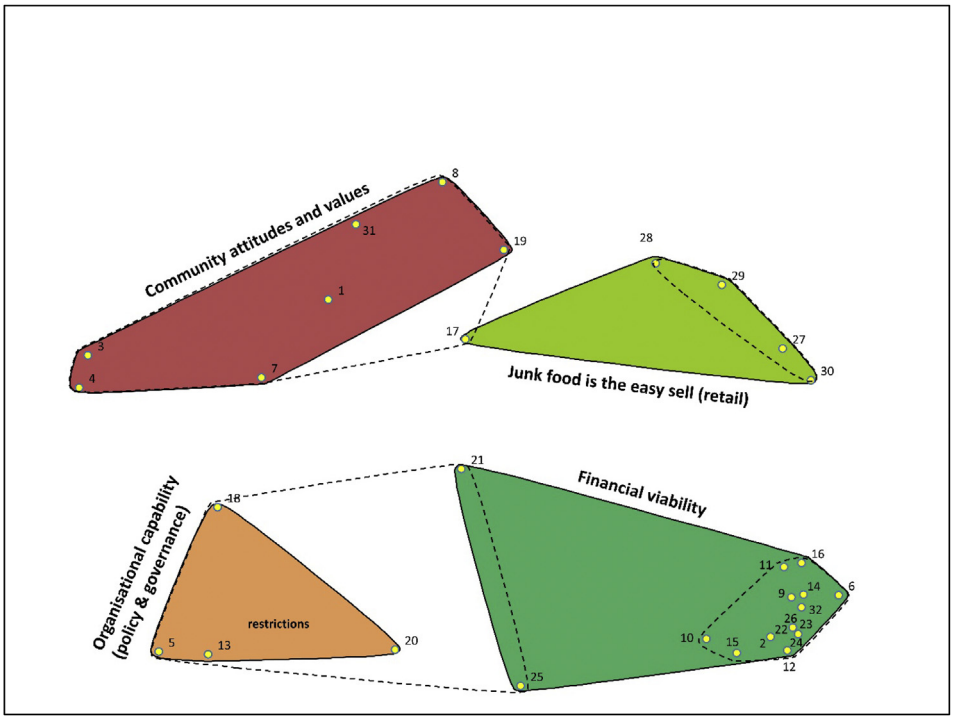

Fig. 2 – A four-cluster map of barriers to sporting organisations rejecting junk food sponsorship (dashed lines indicate unaltered clusters before statement reassignment).

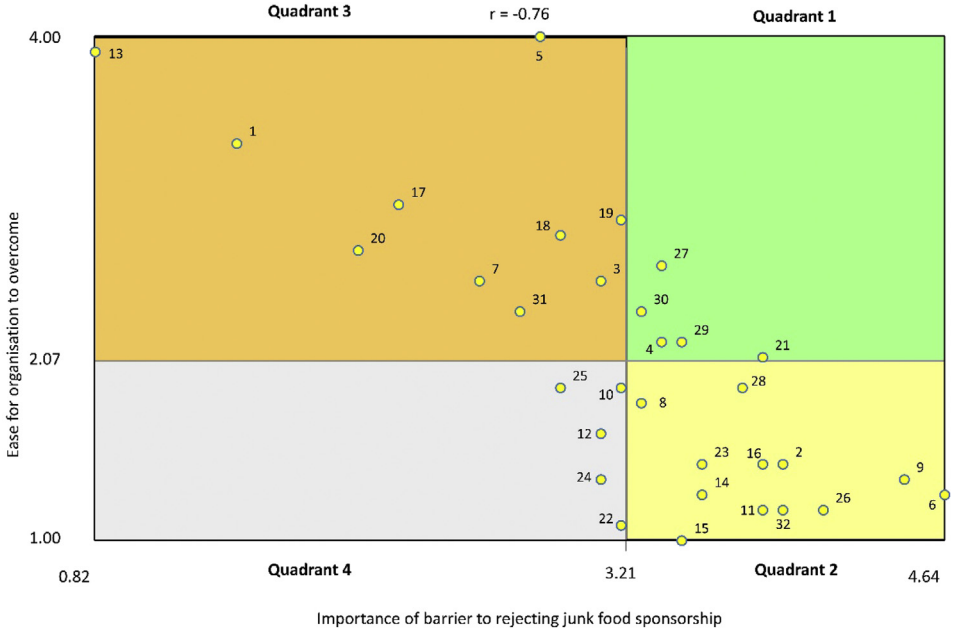

Fig. 3 – Go-zone of barriers to sporting organisations rejecting junk food sponsorship.

perceive that processed food is easier and cheaper to supply and sell than fresh food[35] adds another dimension of complexity to convincing administrators to rejecting junk food sponsorship. This is particularly relevant if clubs are selling, and making significant revenue from, junk food through their retail environment, e.g. canteen. Therefore, it may be prudent for health promotion agencies to develop an overarching programme of work to assist sports organisations to reduce junk food in sport in both the retail and sponsorship contexts.

Similar to other qualitative research methods, CM has methodological limitations associated with the reliability, validity and generalisability of the findings due to non-random sampling, small sample size and over reliance on

the researchers' skills.[39] In this study, the project team members used their subjective judgement to synthesise and edit the brainstormed statements, select the number of clusters and reassign some statements to neighbouring clusters. Therefore, despite the project team following the standard CM protocol,[29] a similar study involving the same participants conducted by a different project team may have produced different results. In addition, the reminder email to encourage participation in the brainstorming process included a slightly revised question for participants to consider, and it is not possible to determine what impact this had on the ideas generated.

In summary, sports administrators identified important financial barriers to rejecting sponsorship from junk food companies and rated these barriers as particularly difficult to overcome. Further research is required to better understand the magnitude of the financial impact of rejecting junk food sponsorship and, if necessary, how it can be minimised. However, the findings of this study suggest that reducing junk food sponsorship in sport will require more than a financial intervention. Effective interventions will also need to address the perceived community attitudes, lack of supporting policy, organisational capacity and governance issues and a sponsorship—food and beverage retail nexus that influence sports administrators' decisions to accept or reject junk food sponsorship.

Author statements

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Ethical approval

The study was approved by the La Trobe University Human Research Ethics Committee.

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Competing interests

None declared.

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