



Title: Corporate sponsorship of physical activity promotion programmes: part of the solution or part of the problem?

Author(s): Ben Jane, Kass Gibson

Copyright, publisher and additional information:

This is a pre-copyedited, author-produced version of an article accepted for publication in Journal of Public Health following peer review. The version of record: B. Jane, K. Gibson; Corporate sponsorship of physical activity promotion programmes: part of the solution or part of the problem?. J Public Health (Oxf) 2017 1-10. doi: 10.1093/pubmed/fox065 is available online at:

<https://academic.oup.com/jpubhealth/article-abstract/doi/10.1093/pubmed/fox065/3862395/Corporate-sponsorship-of-physical-activity?redirectedFrom=fulltext>, <https://doi.org/10.1093/pubmed/fox065>

DOI: <https://doi.org/10.1093/pubmed/fox065>

Reference: Jane, Ben and Gibson, Kass (2017) *Corporate sponsorship of physical activity promotion programmes: part of the solution or part of the problem?* Journal of Public Health. pp. 1-10. ISSN 1741-3842

Corporate Sponsorship of Physical Activity Promotion Programmes: Part of the Solution or Part of the problem?

Jane, B. MSc *

Senior Lecturer

Faculty of Sport and Health

The University of St Mark & St John, Derriford Rd, Derriford, Plymouth PL6 8BH UK

bjane@marjon.ac.uk

* Corresponding Author

Gibson, K. PhD

Lecturer

Faculty of Sport and Health

The University of St Mark & St John, Derriford Rd, Derriford, Plymouth PL6 8BH UK

Corporate Sponsorship of Physical Activity Promotion Programmes: Part of the Solution or Part of the problem?

Background

The prevalence of non-communicable disease (NCD) has increased across the world. While the precise relationship between inactivity, poor diet, obesity and disease is complex¹ and often contested^{2,3} calls to action emphasise the enablement of healthy food and physical activity “choices”^{4,5} by addressing both personal and environmental determinants⁶⁻⁸. From such a viewpoint it has been suggested that progressively optimised marketing strategies have contributed significantly to rising obesity rates^{9,10} and as such, Public Health advocates have taken a particular interest in the impact of targeted marketing on the diet and health of children¹¹⁻¹³, the effectiveness of methods of control¹⁴, and the importance of partnership work in achieving meaningful outcomes⁴. Policy initiatives such as the WHO Global Action Plan for non-communicable disease¹⁵ and the UK’s Public Health Responsibility Deal¹⁶ advocate for the formation of partnerships between public sector, academic, commercial and voluntary organisations. Such Public-private partnerships (PPPs) can take many forms¹⁷ and are said to have the potential to broaden the reach of health initiatives, foster collaboration, and create new knowledge¹⁸. Through such partnerships global food manufacturers have positioned themselves as ‘part of the solution’ to the NCD problem¹⁹ particularly through funding research on nutrition^{20,21} and exercise²² as well as physical activity promotion campaigns²³⁻²⁶ (See supplementary file A).

Naturally, profit is businesses *raison-d'être*, yet involvement in issues of health is often found in the guise of Corporate Social Responsibility (CSR), defined by McWilliams and Siegel^{27(p117)} as, “actions that appear to further some social good, beyond the interests of the firm and that which is required by law.” Conflicting stakeholder motives, inappropriate governance, and inadequate evaluation have however, been cited as causes for concern regarding CSR strategies^{28,29} and as well-designed CSR strategies have been shown to be economically beneficial^{30,31} critics have suggested that profit not philanthropy is the central motivation^{24,32-36}. Public Health CSR strategies in particular have been shown to generate profit through increasing brand awareness in a target population, the creation of a health halo around a brand³⁷ and “constituency building”³⁸⁻⁴⁰ by recruiting allies and co-opting critics⁴¹. In terms of lifestyle-related health and NCDs there is also evidence that a strategic CSR campaign can contribute to shaping public discourse and public policy in relation to individual choice and responsibility⁴².

One such CSR programme, ParkLives, is funded by Coca-Cola GB and delivered across the UK in partnership with Local Authorities and with the support of ukactive and a range of

physical activity providers⁴³. ParkLives is aligned with the UK government's London 2012 Olympic Legacy pledge to inspire two million people to take up sport and physical activity⁴⁴ and Coca-Cola GB have committed £20m to the project aiming to support one million people in becoming active by 2020⁴³. Currently, evaluation of the scheme (conducted by Coca-Cola GB⁴⁵ and their partners UKActive⁴⁶) reports that more than 140,000 individuals had participated in the programme over the first two years and in 2015, 9000 hours of free activities were delivered. These outcomes notwithstanding, initial concerns about Coca-Cola GB becoming involved in a scheme that intended to engage with many thousands of children and young people⁴⁷ have yet to be explored.

The aim of this study was to examine twitter content related to a physical activity programme sponsored by Coca-Cola. Such analysis can provide new insight into our understanding of how global brands engage with the participants of health promotion programmes and how they seek to maximise their involvement in the wider public health agenda.

Method

Overview/Rationale

Existing publicity and evaluation material established that social media reach and impact was an important measure of success for the ParkLives programme^{45,46}, so to develop further insight into the potential impact of the scheme, content analysis of related social media output was deemed to be appropriate.

Sample

The data was collected using the Twitter Application Programming Interface (API) and by systematic sampling of posts that included the phrase “ParkLives” (with or without #) during two separate weeks of the programmes delivery (08/08/16-15/08/16 and 15/09/16-22/09/16). In accordance with Rose⁴⁸, who recommended that sampling should be representative, the sample weeks were chosen purposively to represent a week in the school vacation period and a week outside of that time. The second of these weeks was chosen as it included National Fitness Day, an event promoted by ukactive as a nationwide celebration of physical activity. The advanced search strategy capability of Twitter was utilised (<https://twitter.com/search-advanced>) to identify tweets meeting the inclusion criteria, each tweet was given a unique code to allow for effective analysis and reporting. No attempt was made to contact or interact with the users.

Ethics

This study made use of publically available content posted by users that were operating under the Twitter privacy policy (<https://twitter.com/privacy>) and as such institutional ethical approval was sought and received prior to collecting data. While user names and profile information was integral to the initial stages of analysis, all efforts were made to anonymise users’ information in reporting the findings.

Units of data collection

The unit of data collection was any post on Twitter that contained the word ParkLives either alone or preceded by a hashtag, “#”. Any tweets that included the search term but were deemed unrelated to the scheme were discarded.

Codebook and coding scheme

A codebook was developed to define the measured variables through an iterative process of pilot-testing and consensus agreement between the coders (BJ, KG) whereby codes developed were intended to be exhaustive, exclusive, enlightening and replicable⁴⁸. The codebook (see Table 1) was then used to analyse all of the content in the sample weeks and then for units that resulted in inter-coder variation all points of disagreement were resolved through consensus coding. Where necessary, the original codebooks categories and definitions were updated and analyses revisited under aforementioned principles of consensus and constant comparison. Few studies report the demographics of twitter users⁴⁹ however part of the coding process was to assign users to specific categories with the intention of understanding more about the process, actors and discourse surrounding the programme.. All photographic, video and graphic images and accompanying text were analysed in a series of categories thus, a single tweet could be coded as having multiple images and categories of content. In addition to thematic content, coders assessed the presence of social and/or political endorsement and further reach in the form of retweets.

INSERT TABLE 1 HERE

Data Analysis

Once coded the data were entered into a Microsoft Excel 2007 spreadsheet for analysis. Much of the analysis was the generation of frequency counts and descriptive in nature. In addition, text and images from sample tweets were selected to illustrate key themes (see supplementary file B)

Results

Over the two 7 day periods, advanced twitter searches for the hashtag #ParkLives returned 318 individual tweets from 100 unique accounts. In addition to this sample, 6 tweets were discarded from the initial search due to being judged unrelated to the project. The frequency of these tweets across the days of each week can be seen in Figure 1.

These accounts were assigned to nineteen categories that can be seen in table 2. Across the two week period 49.5% of the tweets came from the Local Authority Sports Development Units or the Local ParkLives Teams. The remainder came from members of the public, and other profiles that included community groups, local councils and Members of Parliament.

INSERT FIG 1 HERE

Image Content

Of 318 unique tweets, 147 contained one or more photographic images or videos, with a total of 216 images posted. Analysis found half (49.07%) of all images contained images of children participating in the programme. As anticipated, there was a significant difference between the two weeks, and this resulted in week A (August) having children present in 79% (79/100) of images and week B, 24.28% (27/116). With respect to brand exposure, across both weeks, 56.94% of photographic images showed the Coca-Cola logo present in sessions with the majority of these being on banners or staff t-shirts.

Text Content

A common theme was the use of the words “fun” or “good time” appearing in 24% of the tweets and words related to families or young people were present in 17% of the tweets. The words “health” or “healthy” were used explicitly five times across the two week period.

Constituency Building

This refers to the practice of establishing relationships with key opinion leaders, health organisations and policymakers⁴⁰ and 20.82% of all tweets across the two weeks were classified as having evidence of this within the text or images. The majority of these (93.94%) were present in week B when a joint event between ukactive and Coca-Cola took place outside the Houses of Parliament.

Additional tags and social endorsement

Of 318 unique tweets, 23.03% tagged @CocaColaGB directly in the message of those tweets, @CocaColaGB replied or retweeted 12.

INSERT TABLE 2 HERE

Activities promoted within tweets

Content analysis of text, images, videos and promotional material published within the sample tweets outlined a wide range of activities that were organised and promoted as part of the ParkLives project. A number of these were traditional sporting activities such as football, rugby, cricket, rounders and volleyball. Many were less traditional and more physical activity or play focussed rather than sport. A sample of activities contained within the programme is outlined in table 3.

INSERT TABLE 3 HERE

Discussion

Main finding of this study

Our analysis demonstrates Coca-Cola's involvement with ParkLives increases the exposure of young people and their families to the Coca-Cola brand and such exposure occurs through heavily branded materials that includes staff clothing and banners. In doing so the ParkLives project also works to associate Coca-Cola with fun, healthy, family activities and promotes the importance of physical activity for health rather than promoting a reduction in calorific intake. Furthermore, ParkLives involvement in National Fitness day facilitates access to individuals and organisations involved in making health-related policy decisions. Therefore, ParkLives is indicative of a CSR project that aims to create a health halo around a brand and influence wider socio-ecological factors by guiding public discourse and directing opinion on the determinants of public health issues away from corporate influence and toward individual responsibility^{50,51}.

What is already known on this topic?

The mechanics of contemporary marketing communication can be explained by the concept of Integrated Marketing Communication^{55 56} whereby tactics tend to be "pluralistic and integrated"⁵⁶. The involvement of social media enables brands to access target populations through existing social connectedness, emotional appeal, and the co-creation of content⁵⁷. Within some integrated marketing strategies the use of sport as a vehicle for promoting a product is commonplace⁵⁸⁻⁶⁰ and not only allows companies access to desirable markets but also an opportunity to reinforce or mould the image of a brand in alignment with that of the sport, it's participants and audience⁶¹.

In response to concerns around marketing to children, the food industry has developed voluntary marketing regulations containing guidance on how and when children can be targeted⁵⁷. However, impact has been said to fall short of significant improvements in public health⁶². Threats of regulation have prompted a multifaceted response from the food industry^{32,63} including the development of influential partnerships³⁹, infiltration of the scientific community^{21,64-66}, and becoming significant actors in the health agenda in order to influence public discourse and policy^{35,41,67}. Such actions are reminiscent of tobacco industry tactics^{38,68,69} and evidence shows that such partnerships and voluntary regulation allow businesses meaningful access to policy formulation rather than changing behaviour to promote good health^{17 36,70}.

What this study adds

Content analysis suggested ParkLives concomitantly provides opportunities for members of the community to be active *and* a channel for Coca-Cola brand promotion to children and young people. Our findings are supported by ParkLives own evaluation where 34.5% of attendees at its largest site were aged 6-15⁴⁵ and as reported, ParkLives attendance fell significantly in September given the “return to school”^{46(p17)}. Analysis highlighted behaviour apparently in contrast to Coca-Cola’s own Responsible Marketing Charter⁷¹ whereby Coca-Cola, “respect the role of parents and therefore do not target the marketing of any of our drinks to children under the age of 12”. Evidence demonstrates children are particularly vulnerable to targeted marketing^{11,13} and the type of activities included in ParkLives, the amount of children present, and the exposure to brand that they experience all suggest a significant degree of brand engagement. Analysis also suggests that ParkLives is a CSR campaign designed to influence the broader socio-ecological environment. It is interesting in itself that there were only five instances of the words, “health” or “healthy” related to a scheme designed to increase physical activity yet the content analysis still demonstrates efforts to create a health halo around the brand through a strong association with fun, healthy, family activities. Furthermore, stressing physical activity as a personal choice works to direct opinion on the determinants of public health issues away from corporate influence toward individual responsibility^{51,72}.

Partnering with local authorities and a national representative body, ukactive, is recognisable as a tactic from the “corporate playbook”^{73,74} in line with a strategy designed to recruit allies and co-opt critics. ukactive were commissioned as the independent evaluators of ParkLives in 2014. In 2015 Coca-Cola became one of ukactive’s eight inaugural membership council members⁷⁵, a position of influence with the potential for guiding and supporting the lobbying of government on physical activity and health issues. This relationship between a company whose products have been shown to be detrimental to health⁷⁶ and ukactive who state that they are “committed to improving the health of the nation”⁷⁷ can be seen as a conflict of interest and while such accusations have previously been acknowledged⁷⁸, continued ties between the two organisations and the findings of our research suggest they have not been resolved. Analysis of ParkLives social media content demonstrated a relationship between the two organisations that afforded Coca-Cola access to senior government policy makers otherwise unavailable.

Ultimately, this study reinforces the need for independent evaluation of PPPs and the challenge of evaluating complex health relationships⁷⁹. The aetiology of many NCDs is complex and the timescales required to clearly establish causation can create uncertainty which in turn can lead to a degree of inaction in terms of policy making⁸⁰. Due to the pervasive nature of food marketing in society, the establishment of clear causal links between specific marketing activities and future behaviour is also a considerable challenge¹¹ that can create uncertainty for policy makers and opportunities for businesses to continue their work. A situation made worse when large corporations have a history of “manufacturing uncertainty” in the evidence base⁸¹.

The generous philanthropy of global corporations presents a dilemma for those interested in promoting good public health. Such dilemmas are redoubled when reduction in state funding means provision of events requires private contribution⁸², creating potential for the “corporate capture of health”⁸³. Despite the lack of any negative comments in the data, Local Authorities need to consider the net result of allowing global food and drink brands significant access to their communities. While comprehensive independent evaluation of PPPs is required, as is a more thorough understanding of the perceived responsibilities of local authority sport and activity providers and the environment in which they operate, such evaluations are methodologically challenging and often too slow for policy makers and practitioners. Therefore, those responsible for community health and wellbeing should fully consider the implications of partnership with a business whose products are detrimental to health. They should engage with the various recommendations for assessing the ethics of such a partnership (e.g.^{17,28,84,85}) and in the absence of evidence identifying definitive causal links, give due consideration to adopting a precautionary principle in favour of improved public health^{28,86}.

Limitations of this study

Despite highlighting participant demography and exposure to Coca-Cola branding, the complex nature of the food environment means we are unable to conclude how exposure will affect future dietary behaviour. Visual judgements of age are difficult, especially near exclusion criteria so our judgements were made with caution. As others have suggested however, it is naïve to assume maturation of cognitive abilities at a specific age, therefore it is reasonable to assume our method captures meaningful data^{12,52}. We believe reported exposure to Coca-Cola branding is conservative given coding inclusion criteria required branding to be clearly identifiable/legible in the image. Further, given staff all appeared to

wear branded t-shirts and the use of branded banners was widespread, our analysis supports the idea that Coca-Cola seek to optimise brand exposure via ParkLives.

A number of studies have used larger datasets for analysing social media content^{53,54} however this study made use of both text and image content analysis which is more labour intensive. Facebook was considered for inclusion in this study however when data was being collected the social algorithm used to customise the user experience on this platform did not allow for temporally stable or what was felt to be an accurate portrayal of the various users social media output. This is an issue that would benefit from further examination when making use of social media for research.

References

1. Lim SS, Vos T, Flaxman AD, et al. A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990-2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*. 2012;380(9859):2224-60. doi:10.1016/S0140-6736(12)61766-8.
2. Luke A, Cooper RS. Physical activity does not influence obesity risk: Time to clarify the public health message. *Int J Epidemiol*. 2013;42(6):1831-1836. doi:10.1093/ije/dyt159.
3. Malhotra A, Noakes T, Phinney S. It is time to bust the myth of physical inactivity and obesity: you cannot outrun a bad diet. *Br J Sports Med*. 2015;49(15):967-968. doi:10.1136/bjsports-2015-094911.
4. Kohl HW, Craig CL, Lambert EV, et al. The pandemic of physical inactivity: Global action for public health. *Lancet*. 2012;380(9838):294-305. doi:10.1016/S0140-6736(12)60898-8.
5. Roberto CA, Swinburn B, Hawkes C, et al. Patchy progress on obesity prevention: Emerging examples, entrenched barriers, and new thinking. *Lancet*. 2015;385(9985):2400-2409. doi:10.1016/S0140-6736(14)61744-X.
6. Sallis JF, Floyd MF, Rodríguez D a., Saelens BE. Role of built environments in physical activity, obesity, and cardiovascular disease. *Circulation*. 2012;125(Mc 0824):729-737. doi:10.1161/CIRCULATIONAHA.110.969022.
7. Swinburn BA, Sacks G, Hall KD, et al. The global obesity pandemic: shaped by global drivers and local environments. *Lancet*. 2011;378:804-814.
8. Golden SD, Earp J a. L. Social Ecological Approaches to Individuals and Their Contexts: Twenty Years of Health Education & Behavior Health Promotion Interventions. *Heal Educ Behav*. 2012;39(3):364-372. doi:10.1177/1090198111418634.
9. Zimmerman FJ. Using behavioral economics to promote physical activity. *Prev Med (Baltim)*. 2009;49(4):289-291. doi:10.1016/j.ypmed.2009.07.008.
10. Powell LM, Harris JL, Fox T. Food marketing expenditures aimed at youth: Putting the numbers in context. *Am J Prev Med*. 2013;45(4):453-461. doi:10.1016/j.amepre.2013.06.003.
11. Kelly BP, King L. The impact of marketing of “junk” foods on children’ s diet and weight. In: Gill T, ed. *Managing and Preventing Obesity: Behavioural Factors and*

- Dietary Interventions*. Sawston, UK: Woodhead Publishing; 2015:311-324.
12. Cheyne A, Mejia P, Nixon L, Dorfman L. Food and Beverage Marketing to Youth. *Curr Obes Rep*. 2014;3(4):440-450. doi:10.1007/s13679-014-0122-y.
 13. Cairns G, Angus K, Hastings G, Caraher M. Systematic reviews of the evidence on the nature, extent and effects of food marketing to children. A retrospective summary. *Appetite*. 2013;62(May):209-215. doi:10.1016/j.appet.2012.04.017.
 14. Galbraith-Emami S, Lobstein T. The impact of initiatives to limit the advertising of food and beverage products to children: A systematic review. *Obes Rev*. 2013;14(12):960-974. doi:10.1111/obr.12060.
 15. WHO. *Global action plan for the prevention and control of noncommunicable diseases 2013-2020*.; 2013. doi:978 92 4 1506236.
 16. Department of Health. Public Health Responsibility Deal. 2011. Available at: <https://responsibilitydeal.dh.gov.uk/>.
 17. Johnston LM, Finegood DT. Cross-Sector Partnerships and Public Health: Challenges and Opportunities for Addressing Obesity and Noncommunicable Diseases Through Engagement with the Private Sector. *Annu Rev Public Health*. 2014;36:255-271. doi:10.1146/annurev-publhealth-031914-122802.
 18. Aveyard P, Yach D, Gilmore AB, et al. Should we welcome food industry funding of public health research? *BMJ*. 2016;2161(April):4-6. doi:10.1136/bmj.i2161.
 19. Nixon L, Mejia P, Cheyne A, Wilking C, Dorfman L, Daynard R. "We're part of the solution": Evolution of the food and beverage industry's framing of obesity concerns between 2000 and 2012. *Am J Public Health*. 2015;105(11):2228-2236. doi:10.2105/AJPH.2015.302819.
 20. Bes-Rastrollo M, Schulze MB, Ruiz-Canela M, Martinez-Gonzalez MA. Financial conflicts of interest and reporting bias regarding the association between sugar-sweetened beverages and weight gain: a systematic review of systematic reviews. *PLoS Med*. 2013;10(12):e1001578; discussion e1001578. doi:10.1371/journal.pmed.1001578.
 21. Nestle M. Food Industry Funding of Nutrition Research. *JAMA Intern Med*. 2016;176(1):13-14. doi:10.1001/jamainternmed.2016.5400.
 22. O'Connor A. Coca-Cola funds scientists who shift blame for obesity away from bad

- diets. *The New York Times*. http://well.blogs.nytimes.com/2015/08/09/coca-cola-funds-scientists-who-shift-blame-for-obesity-away-from-bad-diets/?_r=0. Published August 9, 2015.
23. Knai C, Petticrew M, Scott C, et al. Getting England to be more physically active: are the Public Health Responsibility Deal's physical activity pledges the answer? *Int J Behav Nutr Phys Act*. 2015;12(1):107. doi:10.1186/s12966-015-0264-7.
 24. Gómez L, Jacoby E, Ibarra L, et al. Sponsorship of physical activity programs by the sweetened beverages industry: public health or public relations? *Rev Saude Publica*. 2011;45(2):423-427. doi:10.1590/S0034-89102011005000001.
 25. Hérick da Sá T. Can Coca Cola promote physical activity? *Lancet*. 2014;383(9934):2041. doi:10.1016/S0140-6736(14)60988-0.
 26. Leone L, Ling T, Baldassarre L, Barnett LM, Capranica L, Pesce C. Corporate responsibility for childhood physical activity promotion in the UK. *Health Promot Int*. 2015:1-14. doi:10.1093/heapro/dav051.
 27. McWilliams A, Siegel D. Corporate social responsibility: A theory of the firm perspective. *Acad Manag Rev*. 2001;26(1):117-127. doi:10.5465/AMR.2001.4011987.
 28. Hernandez-Aguado I, Zaragoza GA. Support of public-private partnerships in health promotion and conflicts of interest. *BMJ Open*. 2016;6(4):e009342. doi:10.1136/bmjopen-2015-009342.
 29. Buse K, Tanaka S. Global public-private health partnerships: Lessons learned from ten years of experience and evaluation. *Int Dent J*. 2011;61(SUPPL. 2):2-10. doi:10.1111/j.1875-595X.2011.00034.x.
 30. Du S, Bhattacharya CB, Sen S. Maximizing business returns to corporate social responsibility (CSR): The role of CSR communication. *Int J Manag Rev*. 2010;12(1):8-19. doi:10.1111/j.1468-2370.2009.00276.x.
 31. Lindgreen A, Swaen V. Corporate Social Responsibility. *Int J Manag Rev*. 2010;12(1):1-7. doi:10.1111/j.1468-2370.2009.00277.x.
 32. Koplan JP, Brownell KD. Response of the Food and Beverage Industry to the Obesity Threat. *JAMA*. 2010;304(13):1487-1488.
 33. Freedhoff Y, Hébert PC. Partnerships between health organizations and the food industry risk derailing public health nutrition. *CMAJ*. 2011;183(3):291-292.

- doi:10.1503/cmaj.110085.
34. Hartmann M. Corporate social responsibility in the food sector. *Eur Rev Agric Econ*. 2011;38(3):297-324. doi:10.1093/erae/jbr031.
 35. Hastings G, de Andrade M. Stakeholder marketing and the subversion of public health. In: Spotswood F, ed. *Beyond Behaviour Change: Key Issues, Interdisciplinary Approaches and Future Directions*. Bristol: Policy Press; 2016:181-198.
 36. Panjwani C, Caraher M. The Public Health Responsibility Deal: Brokering a deal for public health, but on whose terms? *Health Policy (New York)*. 2013;114:163-173.
 37. Pelozo J, Ye C, Montford WJ. When Companies Do Good, Are Their Products Good for You? How Corporate Social Responsibility Creates a Health Halo. *J Public Policy Mark*. 2015;34(1):19-31. doi:10.1509/jppm.13.037.
 38. Fooks G, Gilmore A, Collin J, Holden C, Lee K. The Limits of Corporate Social Responsibility: Techniques of Neutralization, Stakeholder Management and Political CSR. *J Bus Ethics*. 2012. doi:10.1007/s10551-012-1250-5.
 39. Fooks G, Gilmore AB. Corporate philanthropy, political influence, and health policy. *PLoS One*. 2013;8(11). doi:10.1371/journal.pone.0080864.
 40. Mialon M, Swinburn B, Sacks G. A proposed approach to systematically identify and monitor the corporate political activity of the food industry with respect to public health using publicly available information. *Obes Rev*. 2015;16(7):519-530. doi:10.1111/obr.12289.
 41. Aaron DG, Siegel MB. Sponsorship of National Health Organizations by Two Major Soda Companies. *Am J Prev Med*. 2016:1-11. doi:10.1016/j.amepre.2016.08.010.
 42. Lang T, Rayner G. Ecological public health: the 21st century's big idea? An essay by Tim Lang and Geof Rayner. *BMJ*. 2012;345(1306):e5466. doi:10.1136/bmj.e5466.
 43. Coca-Cola GB. Coca-Cola Great Britain Announces New Free Physical Activity Programme To Get One Million People Active By 2020. 2014. Available at: <http://www.coca-cola.co.uk/newsroom/press-releases/parklives>.
 44. DCMS. Plans for the legacy from the 2012 Olympic and Paralympic Games. 2010. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/78105/201210_Legacy_Publication.pdf. Accessed November 5, 2016.

45. Coca-Cola GB. *Investing in Communities:ParkLives Year Two.*; 2016. Available at: <https://www.coca-cola.co.uk/content/dam/journey/gb/en/hidden/PDFs/ParkLives-Coca-Cola-Year-Two-Report-2015.pdf>.
46. ukactive. *ParkLives Evaluation Year 2 Report.*; 2016. Available at: http://researchinstitute.ukactive.com/downloads/managed/CocaColaParkLives_Year2EvaluationReport_Final.pdf.
47. McCartney M. Is Coca-Cola's antiobesity scheme the real thing? *BMJ*. 2014;349(July):g4340-g4340. doi:10.1136/bmj.g4340.
48. Rose G. *Visual methodologies: An introduction to researching with visual materials*. 4th ed. London, UK: Sage; 2016.
49. Sinnenberg L, Buttenheim AM, Padrez K, Mancheno C, Ungar L, Merchant RM. Twitter as a Tool for Health Research: a Systematic Review. *Am J Public Health*. 2017;107(1):e1-e8. doi:10.2105/AJPH.2016.303512.
50. Herrick C. Shifting blame/selling health: Corporate social responsibility in the age of obesity. *Sociol Heal Illn*. 2009;31(1):51-65. doi:10.1111/j.1467-9566.2008.01121.x.
51. Yoon S, Lam T-H. The illusion of righteousness: corporate social responsibility practices of the alcohol industry. *BMC Public Health*. 2013;13(1):630. doi:10.1186/1471-2458-13-630.
52. Nestle M. *Soda Politics: Taking on Big Soda (and Winning)*. Oxford, UK: Oxford University Press; 2015.
53. Yoon S, Elhadad N, Bakken S. A practical approach for content mining of tweets. *Am J Prev Med*. 2013;45(1):122-129. doi:10.1016/j.amepre.2013.02.025.
54. Vickey TA, Ginis KM, Dabrowski M. Twitter classification model: the ABC of two million fitness tweets. *Transl Behav Med*. 2013;3(3):304-311. doi:10.1007/s13142-013-0209-0.
55. Tafesse W, Kitchen PJ. IMC – an integrative review. *Int J Advert*. 2015:1-17. Available at: <http://www.tandfonline.com/doi/full/10.1080/02650487.2015.1114168?scroll=top&needAccess=true>.
56. World Health Organization. *Global recommendations on physical activity for health.*; 2010. doi:10.1080/11026480410034349.

57. Jackson M, Lawrence M, Swinburn B, Harrison P. Marketing ethics in context: the promotion of unhealthy foods and beverages to children. In: Nill A, ed. *Handbook on Ethics and Marketing*. Cheltenham, UK: Edward Elgar Publishing; 2015:354-386.
58. Carter M-A, Signal L, Edwards R, Hoek J, Maher A. Food, fizzy, and football: promoting unhealthy food and beverages through sport - a New Zealand case study. *BMC Public Health*. 2013;13(1):126. doi:10.1186/1471-2458-13-126.
59. Macniven R, Kelly B, King L. Unhealthy product sponsorship of Australian national and state sports organisations. *Heal Promot J Aust*. 2015;26:52-56. doi:10.1071/HE14010.
60. Pettigrew S, Rosenberg M, Ferguson R, Houghton S, Wood L. Game on: do children absorb sports sponsorship messages? *Public Health Nutr*. 2013;16(12):2197-204. doi:http://dx.doi.org/10.1017/S1368980012005435.
61. Shank MD, Lyberger MR. *Sports marketing : a strategic perspective*. London, UK: Routledge; 2015.
62. Hawkes C, Harris JL. An analysis of the content of food industry pledges on marketing to children. *Public Health Nutr*. 2011;14(8):1403-1414. doi:10.1017/S1368980011000607.
63. Wilde P. Self-regulation and the response to concerns about food and beverage marketing to children in the United States. *Nutr Rev*. 2009;67(3):155-166. doi:10.1111/j.1753-4887.2009.00183.x.
64. Kearns CE, Glantz S a., Schmidt L a. Sugar Industry Influence on the Scientific Agenda of the National Institute of Dental Research's 1971 National Caries Program: A Historical Analysis of Internal Documents. *PLOS Med*. 2015;12:e1001798. doi:10.1371/journal.pmed.1001798.
65. Flint SW. Are we selling our souls? Novel aspects of the presence in academic conferences of brands linked to ill health. *J Epidemiol Community Health*. 2016;70(8):739-740. doi:10.1136/jech-2015-206586.
66. Mandrioli D, Kearns CE, Bero LA, et al. Relationship between Research Outcomes and Risk of Bias, Study Sponsorship, and Author Financial Conflicts of Interest in Reviews of the Effects of Artificially Sweetened Beverages on Weight Outcomes: A Systematic Review of Reviews. *PLoS One*. 2016;11(9):e0162198. doi:10.1371/journal.pone.0162198.
67. Grills N. *New Challenges in Public Health Practice : The Ethics of Industry Alliance*

- with Health Promoting Charities. In: Maddock J, ed. *Public Health - Methodology, Environmental and Systems Issues*. InTech; 2012. doi:DOI: 10.5772/2678.
68. Dorfman L, Cheyne A, Friedman LC, Wadud A, Gottlieb M. Soda and tobacco industry corporate social responsibility campaigns: How do they compare? *PLoS Med*. 2012;9(6):9. doi:10.1371/journal.pmed.1001241.
 69. Richards Z, Thomas SL, Randle M, Pettigrew S. Corporate Social Responsibility programs of Big Food in Australia: A content analysis of industry documents. *Aust N Z J Public Health*. 2015;39(6):550-556. doi:10.1111/1753-6405.12429.
 70. Durand MA, Petticrew M, Goulding L, Eastmure E, Knai C, Mays N. An evaluation of the Public Health Responsibility Deal: Informants' experiences and views of the development, implementation and achievements of a pledge-based, public-private partnership to improve population health in England. *Health Policy (New York)*. 2015;119:1506-1514. doi:10.1016/j.healthpol.2015.08.013.
 71. Coca-Cola. Responsible Sales and Marketing Overarching Principles. 2010. Available at: <http://www.coca-cola.co.uk/content/dam/journey/gb/en/hidden/PDFs/Coca-Cola-Responsible-Marketing.pdf>. Accessed November 12, 2016.
 72. Herrick C. The post-2015 landscape: Vested interests, corporate social responsibility and public health advocacy. *Sociol Heal Illn*. 2016;xx(xx):1-17. doi:10.1111/1467-9566.12424.
 73. Brownell KD, Warner KE. The perils of ignoring history: Big tobacco played dirty and millions died. how similar is big food. *Milbank Q*. 2009;87(1):259-294. doi:10.1111/j.1468-0009.2009.00555.x.
 74. Wiist WH. The corporate play book, health, and democracy: The snack food and beverage industry's tactics in context. In: Stuckler D, Siegel K, eds. *Sick Societies: Responding to the global challenge of chronic disease*. Oxford, UK: Oxford University Press; 2011:204-216.
 75. ukactive. ukactive announces makeup of new Membership Council. 2015. Available at: <http://www.ukactive.com/home/more/8734/page/1/ukactive-announces-makeup-of-new-membership-council>. Accessed December 18, 2016.
 76. Basu S, Mckee M, Galea G, Stuckler D. Relationship of Soft Drink Consumption to Global Overweight, Obesity, and Diabetes: A Cross-National Analysis of 75 Countries. *Am J Public Health*. 2013;103(11):2071-77. doi:10.2105/AJPH.2012.

77. ukactive. ukactive's Mission & Vision. Available at: <http://www.ukactive.com/about-us/ukactives-mission-and-vision>. Accessed December 18, 2016.
78. ukactive. ukactive responds to today's article in The Times. 2015. Available at: <http://www.ukactive.com/home/more/8814/page/1/ukactive-responds-to-today-s-article-in-the-times>. Accessed December 18, 2016.
79. Datta J, Petticrew M. Challenges to evaluating complex interventions: a content analysis of published papers. *BMC Public Health*. 2013;13:568-586.
80. Schrecker T. Can health equity survive epidemiology? Standards of proof and social determinants of health. *Prev Med (Baltim)*. 2013;57(6):741-744. doi:10.1016/j.ypmed.2013.08.013.
81. Michaels D, Monforton C. Manufacturing uncertainty: Contested science and the protection of the public's health and environment. *Am J Public Health*. 2005. doi:10.2105/AJPH.2004.043059.
82. Batty RJ, Cuskelly G, Toohey K. Community Sport Events and CSR Sponsorship: Examining the Impacts of a Public Health Agenda. *J Sport Soc Issues*. 2016;40(6):545-564. doi:10.1177/0193723516673189.
83. Mindell JS, Reynolds L, Cohen DL, McKee M. All in this together: the corporate capture of public health. *BMJ*. 2012;345(December):e8082-e8082. doi:10.1136/bmj.e8082.
84. Galea G, McKee M. Public-private partnerships with large corporations: Setting the ground rules for better health. *Health Policy (New York)*. 2014;115(2-3):138-140. doi:10.1016/j.healthpol.2014.02.003.
85. Tannahill A. Beyond evidence—to ethics: a decision-making framework for health promotion, public health and health improvement. *Health Promot Int*. 2008;23(4):380-390. doi:10.1093/heapro/dan032.
86. Moodie R, Stuckler D, Monteiro C, et al. Profits and pandemics: Prevention of harmful effects of tobacco, alcohol, and ultra-processed food and drink industries. *Lancet*. 2013;381(9867):670-679. doi:10.1016/S0140-6736(12)62089-3.