# **Problems Associated with Marketing Food**

# and Drink Specifically at Women

Charles Spence\*

Crossmodal Research Laboratory, Oxford University

CORRESPONDENCE TO: Prof. Charles Spence, Department of Experimental Psychology, Anna Watts Building, University of Oxford, Oxford, OX2 6GG, UK. E-mail: <a href="mailto:charles.spence@psy.ox.ac.uk">charles.spence@psy.ox.ac.uk</a>

**ABSTRACT** 

Preprints (www.preprints.org) | NOT PEER-REVIEWED | Posted: 2 July 2019 doi:10.20944/preprints201907.0034.v1

In recent years, several brands have received much negative press coverage when trying to

market their food and drink products specifically at women. This is, in part, because the taste

preferences/sensitivities of men and women are actually quite similar. In fact, perhaps the one

and only area where consumers are willing to accept (or should that be swallow) ingested

products explicitly targeted at women or men is in the case of nutritional foods/supplements.

Such products are not really sold on the basis of their taste/flavour anyway. Many consumers

are also sensitive to the so-called pink tax, when near-identical products cost more when sold

to women rather than to men (e.g., as in the case of female razors). As the four recent examples

discussed in this review make clear, it can be difficult to roll-out a new food or beverage

product, or else extend a pre-existing product line, that is especially for women without coming

across as sexist/condescending. As such, marketers need to tread carefully, otherwise they may

end-up generating unwanted negative publicity. Ultimately, therefore, adopting an implicit

approach to gender-based marketing, should that be the direction that a brand wants to take,

will likely have more chance of avoiding negative publicity than the explicit targeting of

food/beverage-related products in what is undoubtedly a highly-politicized area.

**Keywords:** food marketing; sex/gender; advertising; nutrition

## **Introduction**

According to the title of the bestselling book by John Gray (Gray, 1992), men are from Mars and women from Venus (see also Cameron, 2007). Were such a claim to be believed, then one would surely soon be led to question of whether it is appropriate for men and women to consume the same food and beverage products. After all, consumers seem reasonably happy to accept that it is appropriate for women and men to dress differently, use different home and personal care products and fragrances (Lindqvist, 2013). However, as soon as one considers the world of food and drink, *unisex* offerings have seemingly always been the norm. This lost opportunity to customize food and drink can thus seem at least a little anachronistic when set against the growing interest in food personalization/customization (Anonymous, 2018; Dan, 2015; Spence, 2017a; York, 2011).

At this point, one might legitimately want to ask whether men and women really do live in different taste worlds as has sometimes been suggested (Cristovam, Russell, Patterson, & Reid, 2000)? Not according to the latest review of the literature on multisensory flavour perception (Spence, 2019a; and Chandler, 2018). Based on an exhaustive review of the literature that has been published over the last century, the conclusion was reached that while there are indeed a number of marked individual differences in multisensory taste/flavour perception, few if any fall neatly along sex/gender lines. Those that do, such as colour blindness, which only strikes men, affect too small a proportion of the population – c. 10% of males – to make a targeted product launch viable anyway. The closest one gets to meaningful sex differences in the world of taste is around men and women's emotional responses to/relationship with foods (Robin, Rousmans, Dittmar, & Vernet-Maury, 2003), as in the area of comfort foods (see Spence, 2017b, for a review). However, the evidence would appear to suggest that any such differences are the result of early conditioning, rather than genetic differences.

Given the lack of any meaningful genetic differences between the sexes as far as the world of taste and flavour perception are concerned, food and drink companies need to think carefully about the reason(s) as to why their products should be differentiated for male and female consumers. Often, as we will see below, the justifications that have been put forward by companies, or rather more often by their marketing departments/agencies, have tended to irritate/outrage more than to convince the consuming public. Indeed, one of the problems in working in this space is that many commentators (Tempesta, 2019), worry that marketers/brands may simply be trying to extract a price premium by appealing to a non-existent sex difference. This, the so-called 'pink-tax' – the name given to the observation that

near-identical products (e.g., razors) tend to be more expensive for women (Carey, 2015; Malone, 2018).

The one area where customers are seemingly willing to accept separate ingestible products being marketed specifically at men and/or women is in the case of nutritional supplements (think vitamins, macro- and micro-nutrients). There are, after all, clear differences in the nutritional needs of the two sexes. Note, though, that such products are not really sold on the basis of their taste/flavour. Hence, while there are genuine differences between men and women, they can perhaps only be used to explicitly market products successfully to women when linked to nutrition. Trying to appeal to mostly non-existent sex differences in the world of taste/flavour perception. Glassware and food and beverage product packaging have sometimes also been targeted specifically at women. Once again, though, as we will see below, those brands that have attempted to innovate in this area have mostly ended-up triggering a backlash from the public/journalists. Successful interventions in this space, such as there are, would seem to have gone for a much more implicit approach. In other words, where products, product packaging, or drinking receptacles have been developed specifically for female consumers, the latter have been left to make up their own minds as to whether the offering works for them. Importantly, the press launches have not specifically targeted the female consumer. This review takes a closer look at the uniformly negative response that various food, drink, and glassware manufacturers have run into over the course of the last couple of years when trying to customize their products for women.

At the outset, though, it should be acknowledged that talking about sex/gender<sup>1</sup> differences is controversial territory. Controversy abounds, for instance, in the area of cognitive differentiation (e.g., Baron-Cohen, 2012; Bunting, 2010; Jordan-Young, 2011; Pinker, 2002, 2005; Spelke, 2005). What is striking here is how the debate in this area has largely ended-up turning into an intellectual dispute between, on the one hand, eminent male scientists arguing for pre-determined cognitive differences (e.g., Simon Baron-Cohen, Stephen Pinker), and, on the other, the distinguished female scientists (e.g., Rachel Jordan-Young, Elizabeth Spelke) and commentators (e.g., Madeleine Bunting) arguing that what differences one may find later in life are certainly not genetically pre-determined at birth. Rather, the latter claim that any

<sup>1</sup> It should be stressed that sex and gender are distinct constructs, with the former representing a biological construct while the latter represents a psycho-social-cultural construct (Rubin, 2009). However, as Chao et al (2017) noted, it is a particularly challenging issue to separate the biological versus social causes of any differences between men and women. Hence, the use of the term sex/gender here is intended to reflect this overlap (Fausto-

Sterling, 2008).

differences that may be observed primarily reflect the differing sociocultural environments than men and women are exposed to during development. Meanwhile, Jordan-Young has questioned the scientific validity of the research underpinning many of the claims on which any differentiation between the sexes rests (cf. Mulder, 2004). The latest analysis of 150 studies by Grissom and Reyes (2019) found little to no evidence of sex differences in executive functioning, a key ability underlying many aspects of cognitive performance (cf. also Rippon, 2019). Finally here, it is worth noting that some researchers have gone even further in arguing that scientific research should itself be unisex, that is, it should make no attempt to differentiate (or discriminate) between the sexes (Swanson, 2004).

Given such a charged backdrop amongst academics, it should perhaps come as no surprise to find that those companies that have tried to launch new products specifically targeted at females have often run into trouble pretty quickly. For instance, just take the much-publicized backlash, both online and in the popular press, against Lady Doritos (Bruner, 2018), pink BrewDog IPA's 'beer for girls' (Sweney, 2018), Jane Walker whisky by Diageo (Paskin, 2018a), not to mention the female-friendly whisky glass (Paskin, 2018b). Such developments, all taken from 2018, have all too easily been branded as sexist. What is more, they also stand in marked contrast to the ironically-sexist advertising associated with e.g., the *Yorkie* chocolate bar from *Nestlé* (Heilpern, 2016).

#### Sex/gender-specific advertising

The heavily sexist advertising of food products from decades gone by feels totally unacceptable in today's day-and-age, where the move, if not always fully realized, is firmly toward gender equality.<sup>2</sup> Indeed, looking back it is certainly hard to imagine the typical *Flake* chocolate advert, shown in the UK since the 1960s, succeeding in today's climate. This line of adverts, note, being stopped by *Kraft* when they took over *Cadbury* in 2010. In the iconic ads of yesteryear, an attractive lady would normally be shown luxuriating in a warm bath sensuously enjoying her chocolate treat.<sup>3</sup> It is pretty much inconceivable to imagine a man in the model's role. By contrast, the advertising of *Nestlé's Yorkie* chocolate went to the other extreme, with

<sup>2</sup> Those who are old enough, and grew up in the West, may well remember the days when the fancy restaurants would have the prices of the dishes printed on the man's menu, but not for his partner/female companion, assuming that the former would be the one picking up the tab (Spence & Piqueras-Fiszman, 2014).

<sup>&</sup>lt;sup>3</sup> These adverts have been criticized for what some see as their oral/phallic undertones (Edwards, 2010; though see also Cozens, 2001).

advertising slogans such as "It's <u>not</u> for girls"; "Don't feed the birds"; "Not available in pink"; & "King size not queen size" (Heilpern, 2016). In the latter case, the adverts typically showed a hungry (not to mention hairy) trucker gaining sustenance from the energy-giving chocolate bar, biting off a 'manly' chunk in front of the cameras. In both cases, there was only one unisex chocolate product. However, in one case, the marketing positioned the product as an indulgent sensuous treat (*Flake*) whereas in the other, it was an on-the-go snack for the hungry worker (*Yorkie*).<sup>4</sup> The implication implicit in all this being that the former would appeal to women while the latter would appeal more to the working man.<sup>5</sup>

A more subtle approach to targeting beverage sales specifically at the female consumer was tried some years ago by Louis Cheskin. The legendary marketer worked on a project with Fleishmann's Gin in North America in which the corners of the label were rounded specifically because the marketer thought that the change would be more appealing to women. Note that at the time this change was made, women accounted for almost 40% of shoppers at the liquor store.<sup>6</sup>

## Problematic product launches explicitly targeting female consumers

A number of the food or beverage companies that have attempted to launch new products targeted specifically at women have run into negative publicity in the popular press. The research reviewed in this section concerns four controversial product launches from 2018 and the problems, in terms of negative publicity, that the companies concerned have run into. The hope is that this may provide a salutary lesson for other food marketers who may be thinking of entering into this (gendered product) space. Here, though, it is worth noting that a successful marketing campaign comes in many guises. Hence, it cannot be assumed that just because the publicity surrounding a particular gendered product launch is hostile/negative that that necessarily means failure for the campaign, or brand.

BrewDog IPA for girls

<sup>&</sup>lt;sup>4</sup> Though, despite its positioning, it turns out that a surprisingly large proportion of these chocolate bars were actually purchased/consumed by women.

<sup>&</sup>lt;sup>5</sup> See also Redfern (2002) on the female positioning of the *Echo (Fox's)* chocolate bar.

<sup>&</sup>lt;sup>6</sup> See http://en.wikipedia.org/wiki/Louis Cheskin.

While there is little evidence for meaningful sex/gender differences in the chemical senses (see Spence, 2019a, for a recent review), sex/gender differences have often been reported in the literature on people's colour preferences (e.g., Hurlbert & Ling, 2007; Jonauskaite, Dael, Chèvre, Althaus, Tremea, Charalambides, & Mohr, 2018). That said, it is worth stressing the fact that many of the sex-based colour conventions, such as pink for girls and blue for boys in the case of clothing, say (Alexander, 2003), while firmly entrenched in many cultures nowadays, were once quite different (e.g., Grisard, 2017, for a review). One brand that played unsuccessfully with the use of such gendered colour stereotypes in their product packaging was BrewDog. In 2018, the company launched a new BrewDog IPA with a pink bottle label for women. This change in packaging colour contrasted with the brand's well-recognized standard blue label. The pink-labelled beer, which was referred to as 'beer for girls' was then made available at a discount to anyone who identified as female. That said, though, the claim from the company was that this marketing intervention was designed to highlight issues around gender pay inequality in the workplace. However, this (to some, crass) use of colour-sex/gender stereotypes was not well received by commentators (e.g., Sweney, 2018). What is more, there was at least one lawsuit from a disgruntled male customer who was refused one of the pink bottled beers (see Tingle, 2019).

## Whisky for women

Diageo's Johnnie Walker recently came out with the Jane Walker brand, supposedly helping to support causes linked to female empowerment (Paskin, 2018a). However, the move soon led to controversy when Stephanie Jacoby, vice president of the Johnnie Walker brand in the US was quoted as saying that the launch provided a means of appealing to a female audience because: "Scotch as a category is seen as particularly intimidating by women... It's a really exciting opportunity to invite women into the brand." (quoted by Bloomberg News, in Paskin, 2018a). However, given the controversy that such comments understandably elicited amongst the press, Jacoby was soon forced to backtrack, saying that: 'This was not about creating a

<sup>&</sup>lt;sup>7</sup> It is also worth noting, in passing, that this kind of approach also runs the danger of setting the wrong expectations regarding the likely flavour of the product itself, if the consumer takes the colour cue to refer to product qualities (see Spence & Velasco, 2018, on the well-established impact of packaging colour on taste/flavour expectations, and thereafter, on product perception).

<sup>&</sup>lt;sup>8</sup> KFC also announced its first female Colonel Sanders in 2018, too (Carr, 2018).

whisky for women; it was about taking our iconic Black Label and repackaging it in a way that celebrates women's progress.' (quoted in Paskin, 2018a). Just take the following exchange:

# "Do you really believe women are intimidated by whisky?

'I was of course quoted as saying that, but a better way to have put it is that the wonderful thing about whisky is that there is so much to learn. It is a category that at first can appear complex to anyone, much like when you're learning about wine for the first time. There are so many layers, there's so much to know, there's a huge array to choose from. But it's one of those things where once you take the first step it's incredibly rewarding.'

# So you believe whisky is difficult to understand regardless of gender?

'Tastebuds have no gender, so there is absolutely no difference between a man's and a woman's palate, so that's why at the heart of Jane Walker is Black Label, because we would never make a whisky for a woman's palate, because that notion doesn't really exist in my mind.' (quoted in Paskin, 2018a)

Men and women are, though, widely held to have somewhat different preferences as far as alcoholic drinks are concerned. Furthermore, the latest sensory science research has highlighted differences between the sexes in the case of wine-tasting (Mora, Urdenata, & Chaya, 2018; cf. Sorokowski, Karwowski, Misiak, Marczak, Dziekan, Hummel, & Sorokowska 2019). Notice here only how the latter findings were soon picked-up by the popular press as suggesting that women make for better wine-tasters than men (McGinn, 2018). Indeed, it is perhaps interesting to ask why it is that Mora et al.'s suggestion that women taste wine differently from men didn't itself give rise to controversy. One possibility is that it may seem more legitimate, and apparently uncontroversial, for sensory scientists working in the chemical senses to report on such sex/gender differences. That is, at least as long as they are careful about what they attribute those differences to – genes or environment – or else preferably remain neutral on the topic. By contrast, it is quite another matter for a drinks brand, or glassware manufacturer to explicitly market a new product based on such apparent differences. Alternatively, however, it may be as

much that explicit claims suggesting that women are 'better' tasters appears more acceptable to the general public than the implicit suggestion that 'men' are in some way better, or else are the ones who are currently catered for in an already-existing product variant.

# Gendered glassware

A third problematic product launch concerns the 'elegant and stylish' whisky glassware from Luxor Crystal, based in Austria supposedly targeted at women (Paskin, 2018b). Glasses while not a food or beverage product, per se, nevertheless often do influence the consumer's perception of the drink that is placed in them. The glass has rounded dimples on the lower part of the outer surface rather than the angular cut glass that one finds on many a traditional whisky glass. Here, one can think of the traditional Glencairn glass. Furthermore, the glass, which is apparently still at the concept stage, is also a little smaller than the traditional glass. For according to Luxor Crystal co-owner Caro Reindl: "We wanted to create a new shape especially for women to enjoy their whisky with ice, or mixed or whatever. I think the normal whisky tumblers are often a little bit too big for the women's hands". Note that, on average, men have a slightly larger grip aperture than women, and will thus presumably feel more comfortable lifting somewhat larger diameter/heavier food or beverage packaging/glassware than their female counterparts. 9

However, almost as soon as they were announced, some commentators suggested that the new whisky glasses were simply ridiculous. Just take the following: "Geraldine Murphy, founder of the Pot Still Whisky Girls club, said a glass designed specifically for women is 'pretty ridiculous'. 'The same as there is no such thing as a "woman's whisky", we do not need our own special glass." (quoted in Paskin, 2018a). The problem here is not that the glass may not make whisky more 'approachable' (or at least change how it is experienced by the drinker) but rather the implicit claim that women may need 'help' when it comes to enjoying whisky. So, to the extent that the glass really does impact the multisensory tasting experience, it might be better positioned at the whisk(e)y novice rather than specifically targeting the female drinker, given the numerous female whisky experts out there (McCormack, 2017).

There is certainly evidence to suggest that the pointy angular, cut-glass indentations that one finds on a traditional Glencairn whisky glass may do something different to the taste/flavour

<sup>9</sup> There have been occasional anecdotal reports, for instance, of some women finding the cutlery at one London restaurant (in)famous for its weighty silverware too heavy (Spence & Piqueras-Fiszman, 2014).

than the newly-designed glasses that have smooth sides covered with small round dimples. Indeed, given the literature on shape symbolism, feeling angularity (e.g., on the outer surface of a whisky glass) is likely to accentuate the harsh notes in the drink (Spence, 2019b, for a review). Furthermore, the latest research shows that drinking from a receptacle with a rounded outer texture can help to make the beverage contained within taste sweeter (Van Rompay, Finger, Saakes, & Fenko, 2017; though see also Machiels, 2018; and Spence & Van Doorn, 2017, for a review). Note here also that giving a drink a sweeter-taste often helps acceptance of something that people may initially find hard to palate – think only of how many people first acquire a liking for the bitter taste of coffee by adding sugar.

According to the results of consumer research, men and women sometimes do prefer a somewhat different shape of glassware. Some British women, for example, when questioned a few years ago, reported that they felt self-conscious drinking beer from a traditional pint glass, because it required them to reveal their neck to all and sundry, thus making them feel vulnerable (Spence & Wan, 2016). No wonder, then, that having spotted a gap in the market, several brands have already introduced novel glassware forms especially for the female drinker who doesn't want to reveal too much (of her neck, that is; Black, 2010; Hook, 2009). In this case, however, the glassware was launched without any explicit mention that the glass was specifically targeting women drinkers. Indeed, given what we have seen so far in this review, implicitly, rather than explicitly, gender stereotyping (i.e., targeting one's product at either men or women) is perhaps more likely to work as a strategy.

# Lady Doritos: Gendered packaging

The fourth and final problematic product launch from the last year comes from Frito Lay with their Lady Doritos. According to Indra Nooyi, the CEO of PepsiCo, women: "don't like to crunch too loudly in public. And they don't lick their fingers generously and they don't like to pour the little broken pieces and the flavor into their mouth" (Bruner, 2018). Nooyi continued: "The brand has been working on developing chips that are "low-crunch" with the same "taste profile," but with less of the flavour sticking to fingers. "And how can you put it in a purse?" Nooyi mused; apparently the current chip bags aren't cutting it for the handbag wielders of the world. "Because," she said, "women love to carry a snack in their purse." However, following some vociferous online criticism, the company was again forced to clarify their position. According to Paskin (2018a): "The reporting on a specific Doritos product for female

consumers is inaccurate," a spokeswoman told PEOPLE. "We already have Doritos for women — they're called Doritos, and they're enjoyed by millions of people every day. At the same time, we know needs and preferences continue to evolve and we're always looking for new ways to engage and delight our consumers."

# **Physical & nutritional differences**

In all four of the cases just mentioned, the marketing effort led to a negative backlash online / in the press. This is in part perhaps because in each and every case, the company ended-up appealing to an essentially non-existent sex difference in the world of taste/flavour perception between men and women (see Spence, 2019a, for a review), or else played to gender stereotypes that were deemed outdated and/or demeaning to women in some way. The one contrast case where products that are ingested have successfully been marketed at men and women is in the area of nutritional supplements. <sup>10</sup> The Seven Seas Perfect 7 nutritional supplements are also targeted separately at men and women. Most consumers do not seem to have any problems with such nutritional supplements being targeted specifically at one sex or the other (Malone, 2018). After all, menstruating women need more iron than their male counterparts, given that they their reserves will be depleted.

On average, men also tend to be slightly larger than women and, as such, there are slight, but well-recognized differences in terms of the recommended daily intake of calories for the two sexes. According to Anonymous (2006), a moderately active 125-pound woman ought to consume somewhere in the region of 2000 calories daily as compared to a figure closer to 2,800 calories for a similarly-active 175-pound man. In terms of the recommended daily allowance of vitamins and essential micro- and macro-nutrients, there are also sex differences, but they are often pretty small. Furthermore, any such differences in nutritional needs are typically swamped by the range of needs seen within either sex – stretching all the way from morbid obesity at one extreme to anorexia at the other. As such, product portions should probably be targeted at the needs of specific groups of consumers, rather than being formulated, or packaged, for those who may come from Venus or Mars.

One area where clear sex differences in recommended daily allowance do emerge is in relation to cancer-causing ingredients/foods such as alcohol for women (associated with an increased risk of breast cancer, and hence have a recommended allowance that is half that of their male

<sup>&</sup>lt;sup>10</sup> E.g., https://www.vitabiotics.com/wellman; https://www.vitabiotics.com/wellwoman.

counterparts). For males, the concern is with dietary fat (specifically alpha-linolenic acid, ALA) and calcium (both associated with an increased risk of prostate cancer). It would, though, seem pretty unlikely that any food or drink marketer would want to have a discussion with the consumer about which food product (or product size) was associated with a lower-risk of cancer (Anonymous, 2006).

As these various examples, both successful and unsuccessful, have hopefully made clear, any company hoping to launch a new product specifically for one sex needs to think carefully about, and may need to make a commitment toward, the kind of sex difference that their product is targeting. They will likely also need to be clear about the underlying cause(s) – i.e., is it a genetically-determined sensory difference, a psychological difference resulting from disparities in socialization between the sexes, or a physical, and/or nutritional difference. What is more, it is important to recognize that launching a product specifically for women will likely be taken by commentators and the general public alike as implying that the original product was somehow formulated for the male palate/consumer.

## **Conclusions**

As this brief review has hopefully made clear, one of the problems with trying to market separate food and beverage products explicitly at men and women is that it runs counter to the everyday intuition that men and women actually live in the same taste world (Chandler, 2018). A large body of empirical research has now convincingly shown that sensory receptors are not gendered (see Spence, 2019a, for a recent review). As such, one can perhaps understand why it should be that women become suspicious/offended when the food marketers try to offer them a product that has been 'specially' formulated just for them. As already mentioned, one of the problems here relates to concerns about a 'pink-tax', the name given to the observation that near-identical products are more expensive for women (Carey, 2015; Chandler, 2018; Malone, 2018).

A second potential concern is that when one formulates/creates a new version of an already-existing product especially for one sex, normally women, then it can be taken to imply that the original unisex product must, in some sense, actually have been designed for the other sex. Given that the majority of sex/gender-specific product launches in the food and beverage space, or at least those that generate controversy, are designed 'especially for women', the implicit suggestion would seem to be that the original food or beverage product was, in some sense,

been developed to satisfy men's taste buds (though see Chandler, 2018, on McCoy's Man Crisps). It is the latter inference that so many customers/commentators find undesirable. One obvious solution here would simply be to come out with product variants targeted at both sexes/genders, and by so doing, try to bypass concerns about the current state of the market. This latter approach, though, undoubtedly leads to a host of other potential challenges related to logistics, shelf space, and advertising for two products, rather than just one. The final problem that has been mentioned at several points throughout the text is that by targeting a product at one sex/gender, based on psychological differences between men and women, one may be seen as supporting the inequality that can all too easily look dated, and undoubtedly fails to fit with the current goal of trying to reach gender equality. Taken together, therefore, it is hard to find any evidence from the food and beverage category at least to suggest that explicitly targeting a new product launch at women will necessarily be successful as a marketing strategy, at least not from the viewpoint of avoiding negative feedback from commentators/the press.

## **Conflict of Interest Statement**

The author(s) confirm that there are no conflicts of interest.

#### REFERENCES

Alexander, G. M. (2003). An evolutionary perspective of sex-typed toy preferences: Pink, blue, and the brain. *Archives of Sexual Behavior*, **32**, 7-17.

Anonymous (2006). Good nutrition: Should guidelines differ for men and women? *Harvard Health Publishing*, **September**. <a href="https://www.health.harvard.edu/newsletter\_article/good-nutrition-should-guidelines-differ-for-men-and-women">https://www.health.harvard.edu/newsletter\_article/good-nutrition-should-guidelines-differ-for-men-and-women</a>.

Baron-Cohen, S. (2012). The essential difference: Men, women, and the extreme male brain. London, UK: Penguin.

Black, R. (2010). Woodpecker has a glass for the girls. *Publican's Morning Advertiser*, **September 26<sup>th</sup>**. <a href="http://www.morningadvertiser.co.uk/content/view/print/444423">http://www.morningadvertiser.co.uk/content/view/print/444423</a>.

Bruner, R. (2018). The internet thinks 'lady-friendly' Doritos are in pretty bad taste. *Time*, **February 6**<sup>th</sup>. <a href="http://time.com/5133674/lady-doritos/">http://time.com/5133674/lady-doritos/</a>.

Bunting, M. (2010). The truth about sex difference is that if men are from Mars, so are women. *The Guardian*, **November 14**<sup>th</sup>. <a href="https://www.theguardian.com/commentisfree/2010/nov/14/women-men-differences-science-stereotypes">https://www.theguardian.com/commentisfree/2010/nov/14/women-men-differences-science-stereotypes</a>.

Cameron, D. (2007). The myth of Mars and Venus. Oxford, UK: Oxford University Press.

Carey, T. (2015). Why is it SO expensive to be a woman? It's been called the pink tax – how women pay more than men for everything from dry cleaning to razors. *Daily Mail Online*, **February 19**<sup>th</sup>. <a href="http://www.dailymail.co.uk/femail/article-2959383/Why-expensive-woman-called-pink-tax-women-pay-men-dry-cleaning-razors.html">http://www.dailymail.co.uk/femail/article-2959383/Why-expensive-woman-called-pink-tax-women-pay-men-dry-cleaning-razors.html</a>.

Carr, F. (2018). KFC just announced its first female Colonel Sanders. *Time*, **January 26**<sup>th</sup>. <a href="http://time.com/5120101/colonel-sanders-reba-mcentire/">http://time.com/5120101/colonel-sanders-reba-mcentire/</a>.

Chandler, A. (2018). Food and drink isn't gendered – so can companies please stop marketing it as if it is? *Metro*, **March 8**<sup>th</sup>. <a href="https://metro.co.uk/2018/03/08/food-and-drink-isnt-gendered-so-can-companies-please-stop-marketing-it-as-if-it-is-7369052/">https://metro.co.uk/2018/03/08/food-and-drink-isnt-gendered-so-can-companies-please-stop-marketing-it-as-if-it-is-7369052/</a>.

Chao, A. M., Loughead, J., Bakizada, Z. M., Hopkins, C. M., Geliebter, A., Gur, R. C., & Wadden, T. A. (2017). Sex/gender differences in neural correlates of food stimuli: A systematic review of functional neuroimaging studies. *Obesity Review*, **18**, 687-699.

Cozens, C. (2001). ASA clears Cadbury ad of sexual innuendo. *The Guardian*, October 31<sup>st</sup>. https://www.theguardian.com/media/2001/oct/31/advertising.asa.

Cristovam, E., Russell, C., Patterson, A., & Reid, E. (2000). Gender preference in hedonic ratings for espresso and espresso-milk coffees. *Food Quality & Preference*, **11**, 437-444.

Dan, A. (2015). 11 marketing trends to watch for in 2015, *Forbes*, **November 9**<sup>th</sup>. <a href="http://www.forbes.com/sites/avidan/2014/11/09/11-marketing-trends-to-watch-for-in-2015/#63a810e67e83">http://www.forbes.com/sites/avidan/2014/11/09/11-marketing-trends-to-watch-for-in-2015/#63a810e67e83</a>.

Edwards, J. (2010). Puritans at Kraft may end five decades of risque Cadbury Flake ads. *CBS News*, **March 8**<sup>th</sup>. <a href="https://www.cbsnews.com/news/puritans-at-kraft-may-end-five-decades-of-risque-cadbury-flake-ads/">https://www.cbsnews.com/news/puritans-at-kraft-may-end-five-decades-of-risque-cadbury-flake-ads/</a>.

Fausto-Sterling, A. (2008). *Myths of gender: Biological theories about women and men.* New York, NY: Basic Books.

Gray, J. (1992). Men are from Mars, women are from Venus. New York, NY: HarperCollins.

Grisard, D. (2017). "Real men wear pink"? A gender history of color. In R. L. Blaszczyk & U. Spiekermann (Eds.), *Bright modernity: Color, commerce, and consumer culture* (pp. 77-96). London, UK: Palgrave Macmillan.

Grissom, N. M., & Reyes, T. M. (2019). Let's call the whole thing off: Evaluating gender and sex differences in executive function. *Neuropsychopharmacology*, **44(1)**, 86-96. doi: 10.1038/s41386-018-0179-5.

Harrington, R. J., Miszczac, D. C., & Ottenbacher, M. C. (2008). The impact of beer type, pizza spiciness and gender on match perceptions. *PASOS. Journal of Tourism and Cultural Heritage*, **6(2)**, 173-188. <a href="http://dx.doi.org/10.25145/j.pasos.2008.06.014">http://dx.doi.org/10.25145/j.pasos.2008.06.014</a>.

Heilpern, A. (2016). How Yorkie came to be the world's first openly sexist chocolate bar. *Business Insider*, **March 15**<sup>th</sup>. <a href="https://www.businessinsider.com/the-story-behind-the-yorkie-chocolate-bar-2016-3">https://www.businessinsider.com/the-story-behind-the-yorkie-chocolate-bar-2016-3</a>.

Hook, S. (2009). Girl glasses to be designed. *Publican's Morning Advertiser*, **October 8th**. <a href="http://www.morningadvertiser.co.uk/content/view/print/437544">http://www.morningadvertiser.co.uk/content/view/print/437544</a>.

Hurlbert, A. C., & Ling, Y. (2007). Biological components of sex differences in color preference. *Current Biology*, **17**, R623-R625.

Jonauskaite, D., Dael, N., Chèvre, L., Althaus, B., Tremea, A., Charalambides, L., & Mohr, C. (2018). Pink for girls, red for boys, and blue for both genders: Colour preferences in children and adults. *Sex Roles*, <a href="https://doi.org/10.1007/s11199-018-0955-z">https://doi.org/10.1007/s11199-018-0955-z</a>.

Jordan-Young, R. M. (2011). *Brainstorm: The flaws in the science on sex differences*. Cambridge, MA: Harvard University Press.

Lindqvist, A. (2013). Perfumes between Venus and Mars: How gender categorization of perfumes is (not) related to odor perception and odor preference. Doctoral thesis in psychology, Stockholm University, Sweden.

Machiels, C. J. A. (2018). Bittersweet findings: Round cups fail to induce sweeter taste. *Beverages*, **4**(1):12.

Malone, A. (2018). Can you guess the price difference between these men's and women's products? Are women's razors really more expensive than men's? *Buzz Feed*, **March 13<sup>th</sup>**. <a href="https://www.buzzfeed.com/ailbhemalone/guess-price-difference-between-male-and-female-products">https://www.buzzfeed.com/ailbhemalone/guess-price-difference-between-male-and-female-products</a>.

McCormack, R. (2017). Chasing the dram. London, UK: Simon & Schuster.

McGinn, H. (2018). Scientists say women have a better palate. But that's far from the only reason why you should never let a man pick the wine! *Daily Mail Online*, **June 21**<sup>st</sup>. http://www.dailymail.co.uk/femail/food/article-5867785/Never-let-man-pick-wine.html.

Mora, M., Urdaneta, E., & Chaya, C. (2018). Emotional response to wine: Sensory properties, age and gender as drivers of consumers' preferences. *Food Quality & Preference*, **66**, 19-28.

Mulder, M. B. (2004). Are men and women really so different? *Trends in Ecology & Evolution*, **19**, 3-6.

Paskin, B. (2018a). Jane Walker backlash is a misunderstanding. *Scotch Whisky*, **March 2<sup>nd</sup>**. <a href="https://scotchwhisky.com/magazine/in-depth/18055/jane-walker-backlash-is-a-misunderstanding/">https://scotchwhisky.com/magazine/in-depth/18055/jane-walker-backlash-is-a-misunderstanding/</a>.

Paskin, B. (2018b). Whisky glasses for women are condemned as sexist. *Scotch Whisky*, **March 6**<sup>th</sup>. <a href="https://scotchwhisky.com/magazine/latest-news/18071/whisky-glass-for-women-condemned-as-sexist/">https://scotchwhisky.com/magazine/latest-news/18071/whisky-glass-for-women-condemned-as-sexist/</a>.

Pinker, S. (2002). The blank slate: The denial of human nature. London, UK: Penguin.

Pinker, S. (2005). Sex Ed. *The New Republic*, **February 14**<sup>th</sup>. <a href="https://newrepublic.com/article/68044/sex-ed">https://newrepublic.com/article/68044/sex-ed</a>.

Redfern, C. (2002). Not for girls? The Yorkie and Echo adverts. *The f Word*, **May 16**<sup>th</sup>. <a href="https://www.thefword.org.uk/2002/05/not\_for\_girls\_t/">https://www.thefword.org.uk/2002/05/not\_for\_girls\_t/</a>.

Rippon, G. (2019). How neuroscience is exploding the myth of male and female brains. *New Scientist*, **February 28**<sup>th</sup>.

Robin, O., Rousmans, S., Dittmar, A., & Vernet-Maury, E. (2003). Gender influence on emotional responses to primary tastes. *Physiology & Behavior*, **78**, 385-393.

Rubin G. (1975/2009). The traffic in women: The "political economy" of sex. In R. Reiner (Ed.), *Toward an anthropology of women* (pp. 157-210). New York, NY: Monthly Reviews Press.

Sorokowski, P., Karwowski, M., Misiak, M., Marczak, M. K., Dziekan, M., Hummel, T., & Sorokowska A (2019). Sex differences in human olfaction: A meta-analysis. *Frontiers in Psychology*, **10**:242. doi: 10.3389/fpsyg.2019.00242

Spelke, E. S. (2005). Sex differences in intrinsic aptitude for mathematics and science?: A critical review. *American Psychologist*, **60**, 950-958.

Spence, C. (2017a). Gastrophysics: The new science of eating. London, UK: Viking Penguin.

Spence, C. (2017b). Comfort food: A review. *International Journal of Gastronomy and Food Science*, **9**, 105-109.

Spence, C. (2019a). Do men and women really live in different taste worlds? *Food Quality & Preference*, **73**, 38-45.

Spence, C. (2019b). Tactile/haptic aspects of multisensory packaging design. In C. Velasco & C. Spence (Eds.), *Multisensory packaging: Designing new product experiences* (pp. 127-159). Cham, Switzerland: Palgrave MacMillan.

Spence, C., & Piqueras-Fiszman, B. (2014). *The perfect meal: The multisensory science of food and dining*. Oxford, UK: Wiley-Blackwell.

Spence, C., & Van Doorn, G. (2017). Assessing the impact of the shape of the drinking receptacle on taste/flavour perception: A review. *Beverages*, **3**:33.

Spence, C., & Velasco, C. (2018). On the multiple effects of packaging colour on consumer behaviour and product experience in the 'food and beverage' and 'home and personal care' categories. *Food Quality & Preference*, **68**, 226-237.

Spence, C., & Wan, I. (2016). Assessing the influence of the drinking receptacle on the perception of the contents. In B. Piqueras-Fiszman & C. Spence (Eds.), *Multisensory flavor perception: From fundamental neuroscience through to the marketplace* (pp. 269-296). Duxford, CB: Elsevier.

Swanson, R. A. (2004). Unisex research. *Human Resource Development Quarterly*, **15**, 117-119.

Sweney, M. (2018). Brewdog's pink 'beer for girls' criticised as marketing stunt. *The Guardian*, **March 6**<sup>th</sup>. <a href="https://www.theguardian.com/business/2018/mar/06/brewdog-pink-beer-for-girls-punk-ipa">https://www.theguardian.com/business/2018/mar/06/brewdog-pink-beer-for-girls-punk-ipa</a>.

Tempesta, E. (2019). 'Woke' Gillette's 'pink tax' on women: Razor firm slammed for hypocrisy for charging women more for the same products as men - while bashing sexism in controversial ad. *Daily Mail Online*, **January 16**<sup>th</sup>. <a href="https://www.dailymail.co.uk/femail/article-6596095/Gillette-slammed-pink-tax-wake-controversial-ad-campaign.html">https://www.dailymail.co.uk/femail/article-6596095/Gillette-slammed-pink-tax-wake-controversial-ad-campaign.html</a>.

Tingle, R. (2019). Man is awarded £1,000 in damages after suing Brewdog for sex discrimination when he was refused a 'Pink IPA' drink because of his gender. *Daily Mail Online*, **June 18<sup>th</sup>**. <a href="https://www.dailymail.co.uk/news/article-7153225/Software-engineer-27-successfully-sues-sex-discrimination-refused-beer.html">https://www.dailymail.co.uk/news/article-7153225/Software-engineer-27-successfully-sues-sex-discrimination-refused-beer.html</a>.

Van Rompay, T. J. L., Finger, F., Saakes, D., & Fenko, A. (2017). "See me, feel me": Effects of 3D-printed surface patterns on beverage evaluation. *Food Quality & Preference*, **62**, 332-339.

York, E. B. (2011). Chocolate gets personal: Nestle to launch customization pilot program. *Chicago Tribune*, **October 20**<sup>th</sup>. <a href="http://articles.chicagotribune.com/2011-10-20/business/ct-biz-1020-chocolate-20111020\_1\_chocolate-business-premium-chocolate-chocolate-preferences">http://articles.chicagotribune.com/2011-10-20/business/ct-biz-1020-chocolate-20111020\_1\_chocolate-business-premium-chocolate-chocolate-preferences</a>.