

# From Kim Kardashian to Dr. Oz: The Future Relevance of Popular Culture to Our Health and Health Policy

*Timothy Caulfield*

RIGHTLY OR NOT, CELEBRITIES are playing an increasingly large role in how we think and talk about our health. The goals of this paper are modest: 1) to provide examples of the ways in which celebrity culture is having an impact; and 2) to speculate why this influence is likely to increase in the future. It is not meant to be a comprehensive review and I fully recognize that the relationship between popular representations and public perceptions is complex. Celebrity culture is just one part of a complicated and dynamic process related to how people see, select, interpret, and use health information. That said, in this paper I argue that it is an increasingly important part of the health equation, one that is often overlooked. Perhaps it is easy to disregard celebrity culture because it is often seen as frivolous and/or only relevant to those foolish enough to follow celebrity advice. Here, I argue that both of these presumptions are wrong. I hope to underscore the fact that celebrity culture does matter and, in the future, it seems likely that it will matter more and more.

À JUSTE TITRE OU non, les célébrités jouent un rôle de plus en plus important dans la manière dont nous considérons notre santé et en discutons. Cet article vise des objectifs assez modestes, soit: 1) de fournir des exemples à propos des différentes manières dont le culte des célébrités a une incidence; et 2) de spéculer sur les raisons pour lesquelles cette influence va fort probablement aller en s'accroissant à l'avenir. L'article ne prétend pas être une étude exhaustive de la question et je reconnais que le rapport entre les représentations populaires et les perceptions du public est complexe. Le culte des célébrités n'est cependant qu'une partie d'un processus aussi compliqué que dynamique relié à la manière dont les gens voient, sélectionnent, interprètent et utilisent l'information en matière de santé. Cela dit, dans ce texte, je soutiens que cela joue un rôle de plus en plus important dans l'équation de la santé, mais que cet aspect est souvent occulté. Certes, il est sans doute facile de négliger le culte des célébrités en raison de son caractère frivole ou du fait qu'il ne vise que ceux et celles qui sont assez naïfs pour suivre les conseils de vedettes. Je maintiens toutefois que ces deux présomptions sont erronées car le culte des célébrités tient une grande place dans notre société et il faut s'attendre à ce qu'il occupe une place de plus en plus importante.

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## I. INTRODUCTION

Celebrities love to talk about health. It has become a standard part of the celebrity interview process. “What do you do, Mr. Famous Person, to look so darn fabulous?” And, of course, there are a growing number of celebrities who provide health advice as part of their celebrity brand. In the past year alone, Gwyneth Paltrow, my favourite purveyor of pseudoscience,<sup>1</sup> has suggested that women should steam their vaginas,<sup>2</sup> that infrared saunas are a good way to treat the flu,<sup>3</sup> that we should all get regular colonics,<sup>4</sup> and that wearing a bra increases your risk of getting breast cancer.<sup>5</sup> Not only are all of these recommendations completely science-free, but they are also potentially harmful. Of course, Gwyneth Paltrow is not alone. I could pick on other celebrities, such as Katy Perry and her pushing of vitamin

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- 1 Timothy Caulfield, *Is Gwyneth Paltrow Wrong About Everything? When Celebrity Culture and Science Clash* (Toronto: Viking, 2015) [Caulfield, “Gwyneth”].
- 2 Ann Robinson, “Sorry, Gwyneth Paltrow, but Steaming Your Vagina is a Bad Idea”, *The Guardian* (30 January 2015), online: <[www.theguardian.com](http://www.theguardian.com)>.
- 3 Alexandra Sowa, “Gwyneth Paltrow’s Dangerous Advice”, *Slate* (19 October 2015), online: <[www.slate.com](http://www.slate.com)>.
- 4 Britt Aboutaleb, “Gwyneth Paltrow: Ring in the New Year with a Colonic to Rid Your Body of Fire Retardants”, *Yahoo! Style* (2 January 2015), online: <[www.yahoo.com](http://www.yahoo.com)>.
- 5 Ashley Welch, “Gwyneth Paltrow Under Fire for Recirculating Breast Cancer Bra Myth”, *CBS News* (27 October 2015), online: <[www.cbsnews.com](http://www.cbsnews.com)>.

supplements,<sup>6</sup> or, most notorious and infuriating, Jenny McCarthy and her embrace of the vaccines-cause-autism myth.<sup>7</sup> The examples are endless.

This flood of celebrity health advice, endorsements, and musings is having a significant and measurable impact on our behaviour, our beliefs, and even our health systems. It is not simply a benign cultural distraction. And given the expanding reach of celebrity culture, it seems certain that the influence of celebrities, and celebrity culture more broadly, will continue.

The goals of this paper are modest: 1) to provide examples of the ways in which celebrity culture is having an impact on public health behaviours and beliefs; 2) to speculate why this influence is likely to increase in the future; and 3) to outline measures that will protect the public from this celebrity misinformation. It is not meant to be a comprehensive review, as I fully recognize that the relationship between popular representations and public perceptions is complex. Celebrity culture is just one part of a complicated and dynamic process related to how people see, select, interpret, and use health information.<sup>8</sup> That said, below I seek to argue that it is an increasingly important part of the health equation, one that is often overlooked. Perhaps it is easy to disregard celebrity culture because it is often only seen as frivolous and/or relevant to those foolish enough to follow celebrity advice.<sup>9</sup> Here, I argue that both of these presumptions are

6 Kelby McNally, "Is Katy Perry Harming Herself with Too Many Vitamins?", *Express* (23 May 2013), online: <www.express.co.uk>.

7 Ellie Hall, "11 Things That Jenny McCarthy Has Said About Vaccines", *BuzzFeed* (14 April 2014), online: <www.buzzfeed.com>.

8 Much has been written about the impact that popular culture can have on public perceptions and the framing of health and science policy issues; see e.g. Matthew C Nisbet, Dominique Brossard & Adrienne Kroepsch, "Framing Science: The Stem Cell Controversy in an Age of Press/Politics" (2003) 8:2 *Intl J Press/Politics* 36; Allan Mazur, "Media Coverage and Public Opinion on Scientific Controversies" (1981) 31:2 *J Communication* 106; Tania Bubela et al, "Science Communication Reconsidered" (2009) 27:6 *Nature Biotechnology* 514. For the purpose of this paper, my reference to celebrity culture includes those individuals who are viewed as celebrities by virtue of their fame and all the associated pop culture representations; for example, the marketing of celebrity endorsed products, celebrity focused news coverage, social media, and so on.

9 Since the publication of my book, Caulfield, "Gwyneth", *supra* note 1, I have heard this claim often. Indeed, while I do not have empirical evidence in the context of celebrity culture, it is my impression that many people feel it is an important topic, but that it does not apply to them or to their families—this is an issue for other people. This phenomenon has also been noted in other contexts. See e.g. Phillips Davison, "The Third-Person Effect in Communication" (1983) 47:1 *Public Opinion Q* 1 ("an individual who is exposed to a persuasive communication via the mass media will see this communication as having a greater effect on other people than on himself or herself" at 4).

wrong. I hope to underscore the fact that celebrity culture *does* matter, and that it seems likely that it will matter more and more in the future.

## II. CELEBRITY AND HEALTH BEHAVIOURS AND BELIEFS

It is still unclear exactly why and how celebrity culture has an impact on our health behaviours and beliefs.<sup>10</sup> There has been speculation that we are evolutionarily predisposed to follow the influence of individuals with prestige and profile.<sup>11</sup> That our interest in celebrities relates to our universal love of gossip is a predisposition that has been linked to primate grooming behaviour.<sup>12</sup> And that we cannot help but compare ourselves to others—a phenomenon that happens unconsciously—even when the *other* is a celebrity image on our smartphone.<sup>13</sup> Regardless of the underlying biological, social, and psychological mechanisms at play, there is a growing body of empirical work that demonstrates the degree to which celebrity culture is linked to a range of health behaviours.<sup>14</sup> To cite just a few examples, there are numerous studies that have associated celebrity cancer screening behaviour with an increase (for better or worse) in public interest in and use of the associated technologies.<sup>15</sup> Media reports

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- 10 See e.g. Steven J Hoffman & Charlie Tan, “Following Celebrities’ Medical Advice: Meta-Narrative Analysis” (2013) 347 *BMJ* f7151, online: <[www.bmj.com](http://www.bmj.com)>; and Steven J Hoffman & Charlie Tan, “Biological, Psychological and Social Processes that Explain Celebrities’ Influence on Patients’ Health-Related Behaviors” (2015) 73:3 *Archives Public Health*, online: <[www.archpublichealth.biomedcentral.com](http://www.archpublichealth.biomedcentral.com)>.
- 11 Jamie Tehrani, “Did Our Brains Evolve to Foolishly Follow Celebrities?”, *BBC News* (26 June 2013), online: <[www.bbc.com](http://www.bbc.com)>.
- 12 RIM Dunbar, “Gossip in Evolutionary Perspective” (2004) 8:2 *Rev General Psychology* 100.
- 13 For a discussion of this theory, see Jiyoung Chae, “Interest in Celebrities’ Post-Baby Bodies and Korean Women’s Body Image Disturbance After Childbirth” (2014) 71:11 *Sex Roles* 419; Marika Tiggemann & Belinda McGill, “The Role of Social Comparison in the Effect of Magazine Advertisements on Women’s Mood and Body Dissatisfaction” (2004) 23:1 *J Social & Clinical Psychology* 23; Sang Yup Lee, “How Do People Compare Themselves with Others on Social Network Sites? The Case of Facebook” (2014) 32 *Computers in Human Behavior* 253; and Joan C Chrisler et al, “Suffering by Comparison: Twitter Users’ Reactions to the Victoria’s Secret Fashion Show” (2013) 10:4 *Body Image* 648.
- 14 Of course, there is also evidence and academic analysis about the links between celebrity culture and a range of other traits, behaviours, and social concerns, including potential impact on body image and a growth in narcissism. See e.g. Jean M Twenge & W Keith Campbell, *The Narcissism Epidemic: Living in the Age of Entitlement* (New York: Free Press, 2009).
- 15 See e.g. Elizabeth Payne, “The Angelina Effect: More Canadian Women Getting Both Breasts Removed Despite Cancer Diagnosis in Only One”, *The National Post* (28 October 2015), online: <[www.nationalpost.com](http://www.nationalpost.com)>; Robin J Larson et al, “Celebrity Endorsements of Cancer Screening” (2005) 97:9 *J National Cancer Institute* 693; D Metcalfe, C Price & J

of celebrity suicides are associated with an increase in suicide rates.<sup>16</sup> Celebrity endorsements can have a significant impact on the consumption of unhealthy foods.<sup>17</sup> And celebrity culture is connected to a range of unhealthy behaviours, including smoking, drinking, and sunbathing.<sup>18</sup>

Cosmetic surgery presents another powerful example of the impact celebrities have on our health. Research tells us that many of the aesthetic norms that drive the industry are established and reinforced by celebrity culture. Kate Middleton's nose.<sup>19</sup> Michelle Obama's arms.<sup>20</sup> Hugh Jackman's jawline.<sup>21</sup> And Kim Kardashian's gluteus maximus.<sup>22</sup> These are the features that are often requested by individuals seeking to modify their bodies through surgery. The last example is of particular interest. Butt enlargement was, until recently, a relatively rare procedure. Now it is one of the fastest growing forms of cosmetic surgery.<sup>23</sup> And its popularity can be

Powell, "Media Coverage and Public Reaction to a Celebrity Cancer Diagnosis" (2011) 33:1 *J Public Health* 80; and Helen Briggs, "Breast Cancer Test 'Angelina Jolie Effect' Found", *BBC News* (19 September 2014), online: <www.bbc.com> ("[r]eferrals to breast cancer clinics more than doubled in the UK after Angelina Jolie announced she had had a double mastectomy to prevent breast cancer").

- 16 Thomas Niederkrotenthaler et al, "Changes in Suicide Rates Following Media Reports on Celebrity Suicide: A Meta-analysis" (2012) 66 *J Epidemiol Community Health* 1037.
- 17 Emma J Boyland et al, "Food Choice and Overconsumption: Effect of a Premium Sports Celebrity Endorser" (2013) 163 *J Pediatrics* 339 (the first study "to quantify the powerful influence of celebrity endorsement on children's brand preferences and actual consumption" at 341).
- 18 Caulfield, "Gwyneth", *supra* note 1.
- 19 Kristene Quan, "What New York Women Want: Kate Middleton's Nose", *Time* (19 March 2013), online: <www.time.com>.
- 20 Julie Miller, "Michelle Obama's Arms are More Coveted than Jennifer Aniston's, Inspire 4,000% Surge in Tricep-Centric Plastic Surgery", *Vanity Fair* (29 April 2013), online: <www.vanityfair.com>.
- 21 "Hugh Jackman's a Cut Above Everyone When it Comes to Plastic Surgery Requests", *news.com.au* (7 October 2009), online: <www.news.com.au>.
- 22 Katie Chang, "The Business of Cosmetic Surgery", *The New York Times* (14 July 2015), online: <www.nytimes.com>; Rachael Schultz, "Wait—How Many People Got Butt Implants Last Year?", *Shape* (4 March 2015), online: <www.shape.com>.
- 23 The American Society for Aesthetic Plastic Surgery (ASAPS) reports that buttock augmentation was the fastest growing procedure, with a 58% increase in 2013; see The American Society for Aesthetic Plastic Surgery, News Release, "The American Society for Aesthetic Plastic Surgery Reports Americans Spent Largest Amount on Cosmetic Surgery Since The Great Recession of 2008" (20 March 2014), online: <www.surgery.org>; and The American Society for Aesthetic Plastic Surgery, *Cosmetic National Data Bank Statistics* (New York: 2013) at 5, online: <www.surgery.org>. See also Marisa Amorasak, "Top 5 Fastest Rising Plastic Surgery Procedures" (2 July 2011), online: Plastic Surgery Portal <www.plasticsurgeryportal.com>.

traced to the pop culture interest in just a handful of celebrities.<sup>24</sup> Thus, celebrity culture influences a range of beliefs and behaviours that have a direct and significant impact on health and health policy, including altering the utilization patterns of various health services. But the reach of popular culture goes much further than that. Indeed, we should not underplay its influence on the broader lifestyle issues that are core to our health, such as diet and exercise.

While there is no research directly on this point,<sup>25</sup> there is little doubt that endorsements by high-profile celebrities have contributed to the growth in the popularity of many evidence-free health trends, such as gluten-free eating,<sup>26</sup> juicing,<sup>27</sup> and colonics.<sup>28</sup> Without celebrity endorsement, it seems unlikely that these practices would have gained such a large amount of cultural traction. Billions of dollars are being spent. And, as I will argue below, these kinds of trends create a large amount of fact-free noise about nutrition and health that distracts us from the simple, evidence-based truth. For example, the juicing industry—which includes juice bars, speciality products, and a host of new production methods—continues to increase in size, despite the fact that there is no evidence to suggest that it provides any real health benefits.<sup>29</sup> Pictures of celebrities holding their favourite green

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- 24 See Lenny Bernstein, “Thanks, Kim, Nicki, Iggy and JLo. Love, Plastic Surgeons Everywhere”, *The Washington Post* (27 February 2015), online: <[www.washingtonpost.com](http://www.washingtonpost.com)> (where Scot Glasberg, President of the American Society of Plastic Surgeons, notes, “[t]he media effect, Kim Kardashian, Jennifer Lopez, are having a phenomenal effect on what patients want, what they are coming in and asking for”).
- 25 There is a good deal of evidence showing the influence celebrity endorsement has on the consumption of food, usually for the worse. See Boyland et al, *supra* note 18.
- 26 Here I am *not* referring to the approximately 1% of Canadians that have celiac disease. For these individuals, avoiding gluten is an absolute necessity. Canadian Celiac Association, “About Celiac Disease”, online: <[www.celiac.ca](http://www.celiac.ca)>.
- 27 Julia Belluz, “Cold-Pressed Juices are a Waste of Money”, *Vox* (28 October 2015), online: <[www.vox.com](http://www.vox.com)>.
- 28 See e.g. Ruben D Acosta & Brooks D Cash, “Clinical Effects of Colonic Cleansing for General Health Promotion: A Systematic Review” (2009) 104:11 *American J Gastroenterology* 2830 (“[t]he most striking observation from this analysis is the lack of published, methodologically rigorous trials of these therapies. Although multiple review articles . . . allude to the potential benefits of colonic cleansing in very general terms, these claims are not substantiated by a review of the mainstream or complementary and alternative medicine literature” at 2834); Amy Kraft, “Colon Cleansing Health Benefits Debunked” (2011) 211:2824 *New Scientist* 9, online: <[www.newscientist.com](http://www.newscientist.com)>; and E Ernst, “Colonic Irrigation and the Theory of Autointoxication: A Triumph of Ignorance over Science (1997) 24:4 *J Clinical Gastroenterology* 196.
- 29 See Mary MacVean, “Juicing Trend Still Going Strong in 2015”, *LA Times* (29 January 2015), online: <[www.latimes.com](http://www.latimes.com)> (the US cold-pressed juice market alone “is estimated at \$100

juice or smoothie can be found everywhere. They are in magazines, newspapers, and on Instagram and Twitter.<sup>30</sup> It is, as a *Forbes* headline noted in 2012, “A Celebrity Trend Gone Wild.”<sup>31</sup>

One of my favourite illustrations of the impact of celebrity culture on health behaviours is the emergence of the huge detox and cleansing industry. The idea behind the phenomenon is that special foods, supplements, or a particular way of eating will help rid your body of unwanted and harmful toxins. There is absolutely no evidence to support this practice.<sup>32</sup> Nor is it ever explained how, exactly, the proposed regimens work on the toxins that are supposedly residing in our bodies. But despite the absurdity of detoxing, its market and cultural profile continues to grow. And, as with juicing, celebrity culture seems to have played a dominant role.<sup>33</sup>

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million a year”); Jeff Gordinier, “The Juice-Bar Brawl”, *The New York Times* (16 April 2013), online: <www.nytimes.com>. While there is no harm associated with juicing (although the drinks are calorie dense), it is better to simply eat the real fruit and veggies, which are more satiating and have more fibre; see Sophie Egan, “Making the Case for Eating Fruit”, *The New York Times* (31 July 2013), online: <www.nytimes.com>. See also Katie M Palmer, “Nobody Can Prove That Cold-Pressed Juice Is Better for You”, *Wired* (7 April 2015), online: <www.wired.com> (there is no evidence juicing actually helps you flush “toxins”); and Jennifer K Nelson, “Is Juicing Healthier than Eating Whole Fruits or Vegetables?” (30 January 2014), online: Mayo Clinic <www.mayoclinic.org> (“there’s no sound scientific evidence that extracted juices are healthier than the juice you get by eating the fruit or vegetable itself”).

30 “11 Models and Celebrities Share Their Green Juice and Smoothie Recipes”, *Vogue* (3 November 2014), online: <www.vogue.com.au>.

31 Dina Gachman, “A Celebrity Trend Gone Wild: Pressed Juice”, *Forbes* (26 July 2012), online: <www.forbes.com>.

32 See e.g. AV Klein & H Kiat, “Detox Diets for Toxin Elimination and Weight Management: A Critical Review of the Evidence” (2014) 28:6 *J Human Nutrition & Dietetics* 675 (“there is no compelling evidence to support the use of detox diets for weight management or toxin elimination” at 682); Marc Cohen, “Detox’: Science or Sales-Pitch? (2007) 36:12 *Australian Family Physician* 1009; Dara Mohammadi, “You Can’t Detox Your Body. It’s a Myth. So How Do You Get Healthy?”, *The Guardian* (5 December 2014), online: <www.theguardian.com>; and Sense About Science, Voice of Young Science, *The Detox Dossier* (2009), online: <www.senseaboutscience.org>.

33 See e.g. Mintel, *Australia and New Zealand Consumer Trends 2015* (Sydney: Mintel Group Ltd, 2014), online: <www.mintel.com> (“[d]etoxing, and in particular juice detoxes, have been increasing in popularity, off the back of numerous celebrities who advocate the fasts as a way to cleanse the body of impurities”). It should also be noted that in popular culture, detox diets and cleansing are frequently presented as celebrity endorsed and efficacious; see e.g. “Celeb Cleanses: We Tried ‘Em!”, *People Magazine* (17 February 2014), online: <www.people.com>; Angela Bekiaris, “Celebrity Detox Tips”, *People Magazine* (25 November 2015), online: <www.peoplemagazine.co.za>; and Kirsten Yovino, “5 Detox Diets Celebrities Use to Lose Weight”, *CheatSheet* (14 February 2015), online: <www.cheatsheet.com>.

These may seem like frivolous examples that only have a marginal impact on public health. But they highlight the broad impact of celebrity culture and, more importantly, how it can impact public perceptions of what it takes to live a healthy lifestyle, and how it can have an adverse impact on food literacy.<sup>34</sup> In total, there is little doubt that celebrity culture can increase or facilitate unhealthy trends, such as lower vaccination rates and increased smoking and tanning; lead to requests for unnecessary services, such as diagnostic services and prophylactic surgery; and contribute to confusion and wasted investment in less-than-ideal health gimmicks.

Of course, I recognize that celebrity involvement in a health issue can have a positive impact, such as when basketball star Magic Johnson revealed his HIV status.<sup>35</sup> But even when a celebrity action or endorsement seems, on the surface, to be socially beneficial, the true impact on public health is often much more complex and mixed.<sup>36</sup> When it comes to celebrities and health advice, there is rarely a clear “win.”<sup>37</sup> For example, much of the health advice provided by celebrities relates to complex issues, such as cancer screening or diet. There is rarely a simple message to be communicated (e.g., more cancer screening does not necessarily mean better health). Unfortunately, nuance is usually missing from the celebrity pitch.

### III. INACCURATE AND UNCRITICAL PORTRAYALS

It goes without saying that much of the health information that flows from celebrity culture is inaccurate or misleading. A recent study of the

34 Rebekah H Nagler, “Adverse Outcomes Associated with Media Exposure to Contradictory Nutrition Messages” (2014) 19:1 *J Health Communication* 24.

35 See e.g. Seth C Kalichman & Tricia L Hunter, “The Disclosure of Celebrity HIV Infection: Its Effects on Public Attitudes” (1992) 82:10 *American J Public Health* 1374 (“[t]he impact of celebrity disclosures on urban men’s perceptions sets the stage for risk-reducing behaviours” at 1376).

36 For example, the mixed reaction to Angelina Jolie’s public announcement about genetic testing and prophylactic surgery; see e.g. Kalina Kamenova, Amir Reshef & Timothy Caulfield, “Angelina Jolie’s Faulty Gene: Newspaper Coverage of a Celebrity’s Preventive Bilateral Mastectomy in Canada, the United States, and the United Kingdom” (2013) 16:7 *Genetics in Medicine* 522; and Dina LG Borzekowski et al, “The Angelina Effect: Immediate Reach, Grasp, and Impact of Going Public” (2013) 16:7 *Genetics in Medicine* 516.

37 See e.g. Geof Rayner, “Does Celebrity Involvement in Public Health Campaigns Deliver Long Term Benefit? No” (2012) 345 *BMJ* e6362, online: <www.bmj.com>; and Robin J Larson et al, *supra* note 16 (“[t]here is little question that celebrities can have a powerful impact on the public and that their influence can be put to good use. However, when it comes to public health endorsements, we feel that celebrities should be judicious in using their powers of persuasion . . . . Thus, we see no obvious role for celebrity endorsement of cancer screening” at 695).

health advice provided on shows like Dr. Oz, for example, found that approximately “half of the recommendations have either no evidence or are contradicted by the best available evidence.”<sup>38</sup> And, as noted, much of the explicit health advice provided by celebrities like Gwyneth Paltrow is frequently debunked.

But we need to recognize that a significant portion of the celebrity-associated health commentary that appears in popular culture is usually presented in an entirely uncritical manner. The associated products, techniques, or recommendations are offered in a way that suggests efficacy, implicitly or explicitly. Pop culture is often a science-free zone. There are many examples of this reality, such as the world of cosmetics and anti-aging products. However, the endorsement of pseudoscience and questionable therapies by sport celebrities might be the most egregious.<sup>39</sup> Because professional athletes are willing to try anything to gain a competitive edge or heal an injury, they seem particularly susceptible to the use of unproven products and procedures.<sup>40</sup> Examples are abound, such as the use of supplements, “breathe right” nose strips,<sup>41</sup> Kinesio tape,<sup>42</sup> and platelet-rich plasma injections.<sup>43</sup>

38 Christina Korownyk et al, “Televised Medical Talk Shows—What They Recommend and the Evidence to Support their Recommendations: A Prospective Observational Study” (2014) 349 *BMJ* g7346 at Abstract, online: <www.bmj.com> (“Recommendations made on medical talk shows often lack adequate information on specific benefits or the magnitude of the effects of these benefits. . . . Potential conflicts of interest are rarely addressed. The public should be skeptical about recommendations made on medical talk shows.”). See also Steve Hoffman & Julia Belluz, “Steve Hoffman and Julia Belluz: Don’t Believe Medicine’s Wizards of Oz”, *The National Post* (24 January 2013), online: <www.nationalpost.com>.

39 I explore the lack of evidence in this domain in Timothy Caulfield, “The Pseudoscience of Beauty Products”, *The Atlantic* (2 May 2015), online: <www.theatlantic.com>.

40 The use of illegal products, such as steroids and human growth hormone, is beyond the scope of this paper. But it is worth noting that celebrity culture also plays a role in the use of these kinds of performance enhancing drugs. See e.g. Bryan Toporek, “Survey: Youth Athletes Feel Pressured by Steroid Use in Pro Sports”, *Education Week* (29 July 2013), online: <www.edweek.org>.

41 See e.g. Greg W Boggs, Jesse R Ward & Stasinios Stavrianeas, “The External Nasal Dilator: Style Over Function?” (2008) 22:1 *J Strength & Conditioning Research* 269; and Samuel Case et al, “The Effects of the Breathe Right(R) Nasal Strip on Interval Running Performance” (1998) 12:1 *J Strength & Conditioning Research* 30 at Abstract: “Based on this study, it can be concluded that Breathe Right(R) nasal strips are ineffective in enhancing performance.”

42 See e.g. Patrícia do Carmo Silva Parreira et al, “Current Evidence Does Not Support the Use of Kinesio Taping in Clinical Practice: A Systematic Review” (2014) 60:1 *J Physiotherapy* 31.

43 Gustaaf Reurink et al, “Platelet-Rich Plasma Injections in Acute Muscle Injury” (2014) 370:26 *New Eng J Med* 2546 (“our study demonstrated no benefit for intramuscular PRP

The use of these products gets a great deal of positive exposure because the relevant stories often appear in sports media, a venue where the critical analysis of science gets little or no attention. The use and media coverage of stem cell therapies by sports stars is a good illustration of this phenomenon. For example, reports of quarterback Peyton Manning and tennis star Rafael Nadal receiving unproven stem cell treatments for their sports-related injuries received substantial coverage in popular press, and the vast majority of that coverage did not engage the relevant science.<sup>44</sup> The therapies were simply presented as cutting edge and efficacious.

More worrisome is when celebrities receive a health or disease related treatment that is, once again, presented in a completely indiscriminating and inaccurate manner. In late 2014, hockey great Gordie Howe went to Mexico to obtain an unproven stem cell therapy after having a stroke. Despite the lack of good clinical evidence to support the procedure, the popular press presented his recovery as miraculous.<sup>45</sup> And the sports media coverage was particularly uncritical, giving the impression that Howe's recovery was remarkable and entirely due to the unproven therapy.<sup>46</sup>

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injections, as compared with placebo injections, in patients with acute hamstring injuries" at 2547).

- 44 See e.g. Timothy Caulfield, "Athletes and Unproven Stem Cell Therapies", *Policy Options* (January 2015), online: <policyoptions.irpp.org>; Timothy Caulfield & Amy McGuire, "Athletes' Use of Unproven Stem Cell Therapies: Adding to Inappropriate Media Hype?" (2012) 20:9 *Molecular Therapy* 1656; and Timothy Caulfield, "What Does It Mean When Athletes Get 'Stem Cell Therapy'?", *The Atlantic* (22 October 2012), online: <www.theatlantic.com>.
- 45 See e.g. Betsy Blaney, "How Stem Cell Treatment Brought Gordie Howe Back From Death's Door: 'It Was Life Changing for Him and Us'", *The National Post* (14 April 2015), online: <www.nationalpost.com>. For an analysis of how the media covered this story, see Christen Rachul & Timothy Caulfield, "Gordie Howe's Stem Cell 'Miracle': A Qualitative Analysis of News Coverage and Readers' Comments in Newspapers and Sports Websites" (2015) 11:5 *Stem Cell Reviews & Reports* 667 ("[m]edia coverage that presents uncritical perspectives on as-of-yet unproven stem cell therapies may create patient expectations. . .and may have an affect on policy discussions. A bigger concerns is that uncritical portrayals of stories like Gordie Howe's help to feed the marking of unproven therapies" at 673) [Rachul & Caulfield, "Gordie Howe"].
- 46 See Rachul & Caulfield, "Gordie Howe", *supra* note 42. See e.g. "Howe 'Comfortable' After Stem-Cell Treatment: Report" (9 June 2015), online: NHL.com <www.nhl.com>; and Ken Campbell, "Gordie Howe 'Comfortable and Happy' After Second Stem Cell Treatment", *The Hockey News* (9 June 2015), online: <www.thehockeynews.com>. See also Niall Byrne, "How Celebrities, Personal Stories and Misplaced Hope Sell Questionable Treatments", *National Stem Cell Foundation of Australia* (5 November 2015), online: <www.stemcellfoundation.net.au>.

This kind of media coverage can have an impact on both patients and health policy by influencing patient expectations and creating demand.<sup>47</sup> It can facilitate the marketing of unproven therapies and exploits patients desperate to find a treatment for a life-threatening or severely debilitating disease. The marketing of unproven stem cell therapies, for example, has emerged as a major science and health policy dilemma.<sup>48</sup> Uncritical media portrayals of celebrity athletes allegedly benefiting from unproven treatments may help to legitimize questionable science and serve to encourage patients to spend thousands, in the hopes of benefiting from a similar outcome.<sup>49</sup> This phenomenon may also impact health policy debates by creating a narrative that patient advocates can use to promote the early entry—and some may argue, premature entry—of emerging technologies, thus making evidence-informed health policy decisions more challenging.<sup>50</sup>

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- 47 The media's coverage of health access issues almost always emphasizes the patient's perspective; see Christen Rachul & Timothy Caulfield, "The Media and Access Issues: Content Analysis of Canadian Newspaper Coverage of Health Policy Decisions" (2015) 10 *Orphanet J Rare Diseases* 102 [Rachul & Caulfield, "Media and Access Issues"]. It has also been found that this kind of coverage can have an impact on the utilization of health care resources; see e.g. Ross MacKenzie et al, "Media Influence on Herceptin Subsidization in Australia: Application of the Rule of Rescue?" (2008) 101:6 *J Royal Science Medicine* 305.
- 48 See e.g. "ISCT Launches the First Guide on Unproven Cellular Therapy for Patients and Community" (15 October 2015), online: International Society for Cellular Therapy <[www.celltherapysociety.org](http://www.celltherapysociety.org)> (where it is noted that stem cell "tourism" is an "industry currently worth up to \$2.4 billion and involving 60,000 patients annually paying up to \$40,000 per treatment"). See also Timothy Caulfield, Christen Rachul & Amy Zarzeczny, "The Evolution of Policy Issues in Stem Cell Research: An International Survey" (2012) 8 *Stem Cell Reviews & Reports* 1037 (where we find that the marketing of unproven stem cell therapies has emerged as the biggest concern for the research community at 1040).
- 49 To cite one example, an Alberta man went to Mexico for the same treatment that Gordie Howe received. See Doug Neuman, "Stem Cell Treatment Gives Local Family New Lease on Life", *St. Albert Gazette* (28 February, 2015), online: <[www.stalbertgazette.com](http://www.stalbertgazette.com)> (where it was reported that the family heard about the unproven therapy "in the sports section of the newspaper" and that they paid "\$19,000 plus airfare and hotel").
- 50 Indeed, the suggestion that we need to make the therapies available locally—that is, a right of access—was a major theme in our analysis of the public comments on the Gordie Howe story (Rachul & Caulfield, "Media and Access Issues, *supra* note 44). The right of access was also a major theme in the social media response to the Howe story; see e.g. Li Du et al, "Gordie Howe's 'Miraculous Treatment': Case Study of Twitter Users' Reactions to a Sport Celebrity's Stem Cell Treatment" (2016) 2:1 *JMIR Public Health & Surveillance* e8, online: <[publichealth.jmir.org](http://publichealth.jmir.org)>. For example, a large portion of the Twitter activity was focused on questions about access. This was also a topic on TV sports shows. See Paul Knoepfler "Olbermann Puff Interview on Stemedica & Gordie Howe" (22 January 2015), *The Niche* (blog), online: <[www.ipsell.com](http://www.ipsell.com)>.

#### IV. CELEBRITIES AND THE “PRIUS EFFECT”

So far, I have provided examples that highlight how celebrity endorsements or advice (explicit or implicit) can have an impact on behaviour, health, and health policy. But celebrities can have an impact in a variety of more subtle ways that are particularly relevant to future health policy challenges.

While many in the public may concede that popular culture has a significant impact on some individuals, they may feel it does not impact them—at least on their personal health decisions and perceptions. Many in the public may feel that they can recognize pseudoscience and that they would never follow the advice of celebrities. But celebrity culture can influence our behaviour in ways that we do not appreciate, such as through a phenomenon called the “Prius Effect.”<sup>51</sup>

A 2011 study, for example, by economists Steven Sexton and Alison Sexton found that consumers are willing to pay thousands more for Toyota’s environmentally friendly hybrid, the Prius, simply to signal, through an act that has been called conspicuous conservation, their environmental bona fides.<sup>52</sup> This is one reason the car has such a distinctive (some would say “ugly”) look. It is a clear signal to the world how you want to be viewed. It is a form of self-expression. The car forms part of the owner’s identity package.

This kind of consumer behaviour happens in other domains too, including areas relevant to health, nutrition, and wellbeing.<sup>53</sup> For example, a study by Brian Wansink et al. found that a significant predictor of food choices is that the friends and peers of the person making the food deci-

51 Edmund Fantino, “Choice, Conditioned Reinforcement, and the Prius Effect” (2008) 31:2 Behavioral Analysis 95 at 107–108.

52 Steven E Sexton & Alison L Sexton, “Conspicuous Conservation: The Prius Effect and Willingness to Pay for Environmental Bona Fides” (2014) 67:3 J Environmental Economics & Management 303 at 315–16.

53 See Carole A Bisogni et al, “Who We Are and How We Eat: A Qualitative Study of Identities in Food Choice” (2002) 34:3 J Nutrition Education & Behavior 128 (“[t]he identities . . . people held related to eating existed in a reciprocally determinant relationship with eating in that identities were derived from and also shaped eating. People held many different types of identities related to eating, including identities related to eating practices, other personal characteristics, and reference groups and social categories” at 131). See also Roger Cohen, “This Column Is Gluten-Free”, *The New York Times* (20 October 2015), online: <[www.nytimes.com](http://www.nytimes.com)> (“[e]ating local or eating organic or both are lifestyle statements that have become engaged political acts. The pursuit of wellness, increasingly tied to the pursuit of beauty and agelessness, stands at the heart of the current zeitgeist. I eat well therefore I am”).

sions are aware of those decisions to purchase and consume the relevant food.<sup>54</sup> This is, in other words, a food-related Prius Effect.

The tendency in all of us to promote a “personal brand”<sup>55</sup> has also been found to play a role in the decision to take supplements,<sup>56</sup> drink energy drinks,<sup>57</sup> and consume organic food.<sup>58</sup> And others have speculated promoting a personal brand plays a role in views expressed on everything from GMO labeling to climate change. As I have noted elsewhere,<sup>59</sup> this is one reason why the same individual can ignore the scientific consensus on the safety of genetically modified foods, but embrace the consensus in the context of climate change. There is an identity package that must be satisfied.

Closely related to this phenomenon is the tendency of people to allow beliefs of moral goodness to impact their perception of food and, likely, other health-related choices. For example, a 2015 study by Bratanova et al found that the belief that eating organic food is an ethically superior choice to eating nonorganic food impacts how people perceive the taste of organic food.<sup>60</sup> And this taste anticipation results in an actual enhance-

54 See Brian Wansink, Aner Tal & Adam Brumberg, “Ingredient-Based Food Fears and Avoidance: Antecedents and Antidotes” (2014) 38 *Food Quality & Preference* 40 (where they found a phenomenon “[c]onsistent with the Prius Effect” such that “food ingredient avoiders may be partially motivated to manage or promote a specific image of themselves among their friends” at 44).

55 People also seek to brand themselves as not following a trend or a brand—their brand is no brand. But, of course, this is also just a form of self-expression and branding. See Ryan Charmley, Tony Garry & Paul W Ballantine, “The Inauthentic Other’: Social Comparison Theory and Brand Avoidance Within Consumer Sub-Cultures” (2013) 20:6 *J Brand Management* 458. See also Emma N Banister & Margaret K Hogg, “Negative Symbolic Consumption and Consumers’ Drive for Self-Esteem: The Case of the Fashion Industry” (2004) 38:7 *European J Marketing* 850.

56 Mark Nichter & Jennifer Jo Thompson, “For My Wellness, Not Just My Illness: North Americans’ Use of Dietary Supplements” (2006) 30:2 *Culture, Medicine & Psychiatry* 175.

57 See Ronald F Levant et al, “Moderated Mediation of the Relationships Between Masculinity Ideology, Outcome Expectations, and Energy Drink Use” (2015) 34:11 *Health Psychology* 1100 (for how beliefs in masculine stereotypes impact the perception of energy drinks).

58 Elisabeth Von Essen & Magnus Englander, “Organic Food as a Healthy Lifestyle: A Phenomenological Psychological Analysis” (2013) 8 *Intl J Qualitative Studies on Health & Well-being* 20559, online: <[www.ijqhw.net](http://www.ijqhw.net)>.

59 Timothy Caulfield, “Food Choices, the Prius, Celebrities and My Shaved Legs”, *Policy Options* (23 October 2015), online: <[policyoptions.irpp.org](http://policyoptions.irpp.org)>.

60 Boyka Bratanova et al, “Savouring Morality. Moral Satisfaction Renders Food of Ethical Origin Subjectively Tastier” (2015) 91 *Appetite* 137. See also Laura Enax et al, “Effects of Social Sustainability Signaling on Neural Valuation Signals and Taste-Experience of Food Products”, (2015) 9:247 *Frontiers in Behavior Neuroscience*, online: <[www.journalfrontiersin.org](http://www.journalfrontiersin.org)> (This study explored the neurological underpinnings of this phe-

ment of the taste experience, thus reinforcing the original expectation. The belief that organic food is a morally appropriate choice creates a “halo effect” that causes people to perceive the food’s characteristics differently.<sup>61</sup> This happens despite the fact that blinded taste studies have found that, in general, organic food does not taste better.<sup>62</sup>

And this is where celebrity culture comes in. Celebrities like Gwyneth Paltrow, Katy Perry, and Tom Brady have a huge cultural footprint. Even if members of the public do not view them as a credible source of health or lifestyle information, they project a powerful image—an image that is absolutely everywhere—that helps to establish the bounds of the identity package, even if we do not realize they are having this impact. In other words, celebrities help to establish what a particular health behaviour or consumer choice represents—aesthetically and morally—in the broader cultural context.<sup>63</sup> Once a health belief becomes part of an individual’s

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nomenon. This study “also revealed a significant taste-placebo effect, i.e., experienced taste pleasantness and taste intensity were rated higher for [fair trade] labeled chocolates” at 8). The view that eating organic food is morally superior is likely tied to perceptions surrounding its impact on the environment. But even here, the data is far from clear; see e.g. HL Tuomisto et al, “Does Organic Farming Reduce Environmental Impacts? A Meta-analysis of European Research” (2012) 112 *J Environmental Management* 309 (“[t]his meta-analysis has showed that organic farming in Europe has generally lower environmental impacts per unit of area than conventional farming, but due to lower yields and the requirement to build the fertility of land, not always per product unit. The results also showed a wide variation between the impacts within both farming systems. There is not a single organic or conventional farming system, but a range of different systems, and thus, the level of many environmental impacts depend more on farmers’ management choices than on the general farming systems” at 318).

- 61 Jonathan P Schuldt & Mary Hannahan, “When Good Deeds Leave a Bad Taste. Negative Inferences from Ethical Food Claims” (2012) 62 *Appetite* 76.
- 62 Xin Zhao et al, “Consumer Sensory Analysis of Organically and Conventionally Grown Vegetables” (2007) 72:2 *J Food Science* S87.
- 63 Of course, this is precisely why celebrities are paid so much to endorse products and there is a vast literature on this point. See e.g. Abdullah Malik & Bushan D Sudhakar, “Brand Positioning Through Celebrity Endorsement: A Review Contribution to Brand Literature” (2014) 4:4 *Intl Rev Management & Marketing* 259; and Abhishek Dwivedi, Lester W Johnson & Robert E McDonald, “Celebrity Endorsement, Self-Brand Connection and Consumer-Based Brand Equity” (2015) 24:5 *J Product & Brand Management* 449 (“[b]y linking celebrities with brands, advertisers imbue the endorsed brands with desirable associations” at 449). See also Munteanu Claudiu Cătălin & Pagalea Andreea, “Brands as a Mean of Consumer Self-Expression and Desired Personal Lifestyle” (2014) 109 *Procedia* 103 (“[i]n particular, we show that in addition to expressing their identity through the everyday choices they make, consumers will often seek new ways in which they can express their personal identity through brands. As a result, brands can be used to create an unique social identity for each customer” at 106).

identity package, it becomes much more difficult for evidence alone to change the belief, even in the face of conflicting scientific evidence.<sup>64</sup> A critique of the evidence (or lack of evidence) becomes a critique of the individual holding the belief.<sup>65</sup>

## V. OUR CELEBRITY-FILLED FUTURE

While there is abundant evidence that celebrity culture has already had a significant impact on health beliefs, behaviours, and policy issues, there are many reasons to suspect that the influence—and the concomitant social issues—will intensify in the coming decades. First, the reach and power of social media—Twitter, Instagram, Facebook, YouTube—is increasing. Indeed, how we engage with celebrity culture, and popular culture more broadly, is evolving at an incredible pace. For many, particularly the younger generation,<sup>66</sup> this means increased exposure to celebrity culture. And there is some evidence that the nature of the exposure is qualitatively different from past mediums. For example, emerging research suggests that the immediacy and interactive nature (perceived or actual) of social media may enhance its influence. Studies have found that some individuals who use social media may feel they are in a para-social relationship with the celebrities they follow on social media,<sup>67</sup> thus heightening the sway of celebrities' advice and brand. Indeed, social media can be viewed as a high-tech, mobile, and unrelenting social comparison machine.<sup>68</sup> Of

64 For example, it is difficult to change the behaviour of anti-vaccine parents with the presentation of facts alone. See e.g. Brendan Nyhan et al, "Effective Messages in Vaccine Promotion: A Randomized Trial" (2014) 133:4 *Pediatrics* 1.

65 This is a point I argue in Timothy Caulfield, "Organic Ideologies", *Policy Options* (2 November 2014), online: <policyoptions.irpp.org>.

66 While social media "diets" differ significantly, there is no doubt that, for many, the daily exposure is significant. See e.g. Jordan Shapiro, "Teenagers in the U.S. Spend About Nine Hours a Day in Front of a Screen", *Forbes* (2 November 2015), online: <www.forbes.com>.

67 See e.g. Melissa A Click, Hyunji Lee & Holly Willson Holladay, "Making Monsters: Lady Gaga, Fan Identification, and Social Media," (2013) 36:3 *Popular Music & Society* 360.

68 See e.g. Chrisler et al, *supra* note 14; Jasmine Fardouly et al, "Social Comparisons on Social Media: The Impact of Facebook on Young Women's Body Image Concerns and Mood" (2015) 13 *Body Image* 38; Stella C Chia & Yip Ling Poo, "Media, Celebrities, and Fans: An Examination of Adolescents' Media Usage and Involvement with Entertainment Celebrities" (2009) 86:1 *Journalism & Mass Communication Q* 23; Kara Chan & Cong Zhang, "Living in a Celebrity-Mediated Social World: The Chinese Experience" (2007) 8:2 *Young Consumers* 139; Kara Chan & Gerard Prendergast, "Materialism and Social Comparison Among Adolescents" (2007) 35:2 *Social Behavior & Personality* 213; Sang Yup Lee, "How do People Compare Themselves With Others on Social Network Sites? The Case of Face-

course, this is why advertisers are now turning to social media and celebrities to market products—including pharmaceuticals,<sup>69</sup> cosmetics,<sup>70</sup> diets,<sup>71</sup> and supplements<sup>72</sup>—a strategy that will, inevitably, become more common in the future.<sup>73</sup> Once again, Kim Kardashian serves as a fine example of this trend. In August of 2015, she posted an image of herself holding the morning sickness drug Diclegis with the caption “OMG have you heard about this?”<sup>74</sup> This was, of course, a paid endorsement. Given the scope of social media, this controversial advertising approach is hardly surprising.<sup>75</sup>

Second, the ever increasing ubiquity and grasp of celebrity culture—fuelled, in part, by the aforementioned technology and social media—will

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book” (2014) 32 *Computers in Human Behavior* 253; and Trudy Hui Hui Chua & Leanne Chang, “Follow me and Like my Beautiful Selfies: Singapore Teenage Girls’ Engagement in Self-Presentation and Peer Comparison on Social Media” (2016) 55 *Computers in Human Behavior* 190 (this article maps the degree to which social media can shape “teenage girls’ perceptions and presentation of beauty” at 195).

69 Ben Adams, “Pharma Growing its use of Social Media—Report”, *PM Live* (22 April 2015), online: <[www.pmlive.com](http://www.pmlive.com)>; and Joanna Belbey, “FDA Readies Social Media Rules for Big Pharma”, *Forbes* (6 August 2014), online: <[www.forbes.com](http://www.forbes.com)> (“[s]ocial media plays an increasingly important role in the marketing and communications plans for pharmaceutical firms”).

70 Constance Aguilar, “Cosmetic Firms Reinvent Their Marketing Using Instagram”, *Entrepreneur* (2 January 2015), online: <[www.entrepreneur.com](http://www.entrepreneur.com)>.

71 Victoria Dawson Hoff, “Has Instagram Made Dieting More Dangerous?”, *Elle* (20 May 2014), online: <[www.elle.com](http://www.elle.com)>.

72 Darren Heitner, “Instagram Marketing Helped Make This Multi-Million Dollar Nutritional Supplement Company”, *Forbes* (19 May 2014), online: <[www.forbes.com](http://www.forbes.com)>.

73 Indeed, many of the images of celebrities that circulate on social media are actually a subtle form of advertising. For example, popular Twitter and Instagram personalities are often paid to post pictures wearing specific outfits. These shots are not obviously advertisements. Rather, they look candid and spontaneous (they are not). They are product placements in the celebrity’s carefully curated social-media life. See e.g. Eitan Levine, “Former Instagram Model Edits Her Posts to Reveal Truth Behind the Photos”, *Elite Daily* (2 November 2015), online: <[elitedaily.com](http://elitedaily.com)>.

74 Tom Blackwell, “FDA Lashes out at Drug Company for Promoting Canadian Morning-Sickness Pill on Kardashian Instagram Feed”, *The National Post* (11 August 2015), online: <[www.nationalpost.com](http://www.nationalpost.com)>.

75 The use of social media to market drugs seems likely to create future regulatory challenges; see Patricia J Zetler, “Regulating Drug Promotion to Promote the Public Health: A Response to Bennett et al”, (2015) *Biosciences* 1, online: <[jlb.oxfordjournals.org](http://jlb.oxfordjournals.org)>. How will the regulatory agencies, such as the FDA and Health Canada, monitor the subtle advertising that can occur on social media? See e.g. Warning Letter from Robert Dean, Division Director, Office of Prescription Drug Promotion, Food and Drug Administration, to Eric Gervais, Executive Vice President, Duchesnay Inc (7 August 2015), online: <[www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/EnforcementActivitiesbyFDA/WarningLettersandNoticeofViolationLetterstoPharmaceuticalCompanies/UCM457961.pdf](http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/EnforcementActivitiesbyFDA/WarningLettersandNoticeofViolationLetterstoPharmaceuticalCompanies/UCM457961.pdf)>.

allow it to play a bigger and bigger role in our health and health policy decisions.<sup>76</sup> And, as I argued in my most recent book, there is no reason to think that the tide of celebrity will subside anytime soon.<sup>77</sup> Yes, celebrity culture has been with us for thousands of years, but its place in and influence over our lives has never been so great—altering our future ambitions and conceptions of the good life.<sup>78</sup> Given this reality, it will likely play a greater role in a range of areas that shape health beliefs and behaviours, including: the expression and framing of personal identities (and, therefore, how we see and interpret health information and evidence); the role and impact of our numerous cognitive biases (for example, the availability and confirmation biases); and the creation and uptake of inaccurate and confusing health messages.<sup>79</sup> And all of these social and psychological forces work together to enhance the spread and impact of misinformation about health.<sup>80</sup> For example, celebrity culture helps to establish the social relevance of a particular belief or behaviour. The ubiquity of celebrity and the fragmentation of the media (you can now find a source that agrees with almost any belief) allow science-free views to disseminate quickly and play to our cognitive biases (thus, a *People Magazine* cover espousing the virtues of a particular celebrity diet may win out over statistical evi-

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76 A growing portion of children and adolescents view becoming a celebrity as a reasonable and achievable career option, which is yet another metric of the expanding reach of celebrity culture. See Caulfield, “Gwyneth”, *supra* note 1; Yalda T Uhls, Eleni Zgourou & Patricia M Greenfield, “21st Century Media, Fame, and Other Future Aspirations: A National Survey of 9–15 Year Olds” (2014) 8:4 J Psychosocial Research on Cyberspace 1.

77 Caulfield, “Gwyneth”, *supra* note 1. See e.g. marketing reports such as: Euromonitor International, *Strategy Briefing: Celebrity Power and Its Influence on Global Consumer Behaviour*, online: (March 2014) at Report Summary <[www.euromonitor.com](http://www.euromonitor.com)>: “Celebrities are playing an ever greater role in modern culture and consumption patterns, serving as arbiters of taste, style and public opinion the world over.”

78 It has been said that Alexander the Great was the true celebrity. See Jill Neimark, “The Culture of Celebrity”, *Psychology Today* (1 May 1995), online: <[www.psychologytoday.com](http://www.psychologytoday.com)>. See also Timothy Caulfield, “The Celebrity Illusion: Why Does America Invest so Much in the Idea of Fame?”, *The Chronicle of Higher Education* (13 April 2015), online: <[www.chronicle.com](http://www.chronicle.com)>.

79 See e.g. Timur Kuran & Cass R Sunstein, “Availability Cascades and Risk Regulation” (1999) 51:4 *Stan L Rev* 683 (availability cascades are a mechanism “through which expressed perceptions trigger chains of individual responses that make these perceptions appear increasingly plausible through their rising availability in public discourse” at 685).

80 As already noted, I recognize the complexity of the interaction between popular representations and public perceptions. This is not a unilateral process where the public blindly accepts what is provided. See Bubela et al, *supra* note 9. But here I am exploring the unique role of celebrity culture.

dence about its lack of benefit, especially if the narrative the cover represents helps to confirm a preconceived view).<sup>81</sup> And the associated media noise distracts us all from the science-informed basics of how to live a healthy lifestyle. Indeed, research has found that confusion caused by contradictory messaging can cause the public to be “less likely to adhere to healthy lifestyle recommendations.”<sup>82</sup>

Third, traditional sources of health and science information are increasingly turning to social media and celebrity-culture-like tactics to translate research and biomedical news. While these approaches are clearly effective at increasing exposure,<sup>83</sup> they are also altering how science and health information is represented to the public and, I would argue, lead to more hype and misunderstanding.<sup>84</sup> This, in turn, will result in market and media opportunities to leverage enthusiastic portrayals—a phenomenon I have called “scienceploitation”<sup>85</sup>—with celebrity endorsements. We will have more stories like those associated with Gordie Howe and Peyton Manning.<sup>86</sup> And this will, inevitably, lead to more public confusion and celebrity-driven health policy challenges.

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- 81 See Lindsey Conlin & Kim Bissell, “Beauty Ideals in the Checkout Aisle: Health-Related Messages in Women’s Fashion and Fitness Magazines” (2014) 15:2 *J Magazine & New Media Research* 1. In fact, the relationship between narrative and health beliefs and intentions is complex. See e.g. John BF de Wit, Enny Das & Raymond Vet, “What Works Best: Objective Statistics or a Personal Testimonial? An Assessment of the Persuasive Effects of Different Types of Message Evidence on Risk Perception” (2008) 27:1 *Health Psychology* 110; and Simon Zebregs et al, “The Differential Impact of Statistical and Narrative Evidence on Beliefs, Attitude, and Intention: A Meta-Analysis” (2015) 30:3 *Health Communication* 282.
- 82 Valerie DeBenedette, “Contradictory Nutrition News Creates Consumer Confusion”, *Centre for Advancing Health Contradictory* (28 January 2014), online: <[www.cfah.org](http://www.cfah.org)>.
- 83 See e.g. Gunther Eysenbach, “Can Tweets Predict Citations? Metrics of Social Impact Based on Twitter and Correlation with Traditional Metrics of Scientific Impact”, online: (2011) 13:4 *J Medical Internet Research* e123 <[www.jmir.org](http://www.jmir.org)>.
- 84 This is a phenomenon I have explored elsewhere; see T Caulfield & C Condit, “Science and the Sources of Hype” (2012) 15 *Public Health Genomics* 209; and Kalina Kamenova & Timothy Caulfield, “Stem Cell Hype: Media Portrayal of Therapy Translation” (2015) 7:278 *Science Translational Medicine* 1.
- 85 Timothy Caulfield, “Blinded by Science: Modern-Day Hucksters are Cashing in on Vulnerable Patients”, *The Walrus* (September 2011), online: <[thewalrus.ca](http://thewalrus.ca)>.
- 86 Indeed, the day that I worked on this paragraph *The Globe and Mail* published this article about athletes using unproven stem cell therapies: Allan Maki, “Former NHLer Gene Carr and Other Ex-Athletes Offered a Clean Bill of Hope”, *The Globe and Mail* (6 November 2015), online: <[www.globeandmail.com](http://www.globeandmail.com)>.

## VI. CELEBRITY CONUNDRUM

Celebrity culture is not going away. Social media is not going away. Like it or not, celebrity culture *is* our culture and there is little doubt it can shape how we all think about our health. As such, policymakers and legal academics need to recognize the significant influence celebrity culture can have on a range of health policy challenges. We need to consider how, for instance, celebrity culture—and popular culture more broadly—might impact public perceptions, health-related behaviours, and the marketing of unproven therapies. And we should also explore how we can moderate the potential harmful effects and leverage celebrity culture in order to achieve better health.<sup>87</sup>

As a starting point, policy makers and academics should encourage and support efforts to develop creative ways to use the power of celebrity in modes that are more constructive. For example, it has been noted that while celebrities should refrain from involvement in complex health topics, like cancer screening,<sup>88</sup> they may have a role in areas where available evidence is clear and the messaging can be more definitive—such as in the context of public health campaigns to address issues like smoking and organ donation.<sup>89</sup>

In addition, there are regulatory steps that can be taken to address some of the misinformation flowing from celebrity culture. For example, Health Canada should be more active in responding when inaccurate health claims are made in relation to celebrity-endorsed health products.<sup>90</sup> While many celebrity-endorsed products may fall outside the jurisdiction of the federal regulators, when government does have the latitude to get involved, action can help to establish social norms and educate the public about the importance of evidence-based health claims. Regulators should also develop needed strategies and policies to monitor the appropriate-

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87 Timothy Caulfield & Declan Fahy, “Perspective: Science, Celebrities, and Public Engagement” (2016) 32:4 *Issues in Science & Technology*, online: <issues.org>.

88 Larson et al, *supra* note 16.

89 See e.g. Justin Caba, “Anti-Smoking Ads Featuring Celebrities Smoking Try to Get Kids to Rebel, But It Could Backfire”, *Medical Daily* (27 August 2014), online: <www.medicaldaily.com>.

90 For an example of regulatory action see Tom Blackwell, “Hospital, Drug Makers, Alternative Health Firms Among Offenders on List of Advertising Violations”, *The National Post* (21 January 2016), online: <www.nationalpost.com>. I touch on other approaches to fighting the spread of pseudoscience in Timothy Caulfield, “The World is Flat! Bring on Reiki, Homeopathy and all that Other Bunk!”, *Policy Options* (10 February 2016), online: <policy-options.irpp.org>.

ness of emerging, celebrity-centric market strategies, such as the use of various forms of social media.<sup>91</sup>

Finally, the scientific and healthcare community should not shy away from both calling out pseudoscience when they see it and loudly correcting health myths.<sup>92</sup> While we need to recognize the limits of simply providing more science-based facts—this strategy, on its own, rarely changes views—inaccurate health information should not go unchallenged. And, over the long-term, correcting the record can make a difference. To this end, science-based voices need to get engaged in public outreach—through social media, the popular press, and public lectures—and research institutions must recognize the value and impact of such activities. Without credible, science-informed opinions, the public will be left with nothing to counter the pseudoscience flowing from the Gwyneths of the world.

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91 Megan Thielking “Celebrity Selfies, Lax Regulations Drive Booming Supplement Industry”, *Stat* (16 November 2015), online: <[www.statnews.com](http://www.statnews.com)>.

92 It should be noted that there are good journalists out there taking a science-informed approach to the issue. See e.g. Julia Belluz & Sarah Frostenson, “The Celebrity Diet that Bamboozled Your State, According to Google”, *Vox* (23 December 2015), online: <[www.vox.com](http://www.vox.com)>.

