



“Refueling” Athletes: Social Media’s Influence on The Consumption of Chocolate Milk as a Recovery Beverage

Sharon Lauricella

University of Ontario Institute of Technology

Kayla Koster

Ryerson University/York University

ABSTRACT: Chocolate-flavoured cow’s milk has changed its image from a playful beverage for young children to a powerful post-workout beverage suitable for and helpful to elite athletes such as Ironman competitors. Elite athletes, as a respected hegemonic cultural class, have fuelled this shift in perception by endorsing chocolate milk consumption amongst both their own group and less elite athletes. This paper examines the twitter handle @gotchocomilk, and how its presence in social media has served to promote the consumption of chocolate milk as a post-workout recovery beverage. It considers how elite athletes, as a ruling hegemonic group, have become marketers by proxy given their role in the dominant class by incorporating new media and technology into the hegemonic role. Particular attention is given to the questionable health benefits of chocolate milk and problems with its consumption by athletes and the general public. While twitter has served to promote chocolate milk as a beneficial post-workout recovery beverage, a closer examination of physiological and medical literature questions the benefits of this product. The paper identifies a meaningful phenomenon in our food culture: the promotion of food products via extant hegemonic structure.

KEYWORDS: Twitter, social media, athletes, hegemony, chocolate milk

***Contact information:** Please address all communication to the corresponding author. Sharon Lauricella, Ph.D, Communication & Digital Media Studies, University of Ontario Institute of Technology, Bordessa Hall, Room 308, Ontario, Canada. Sharon.lauricella@uoit.ca

Medical, sports, and agricultural literature has given increased attention to the potential use of cow's milk as a post-exercise recovery beverage. Chocolate-flavoured cow's milk, in particular, has been identified as an effective product to assist with recovery after high-endurance or resistance sports (Karp et al, 2006; Lunn et al, 2012). Chocolate milk is of particular interest to both athletes and the dairy industry given that it is often sold at a lower price point than bottled sports drinks (Newland, Chalip & Ivy, 2012) and has been shown to contain a desirable balance of proteins and carbohydrates to fuel athletes post-recovery (Saunders, 2011). This paper considers how technology has changed how elite athletes, as a dominant hegemonic group, have come to promote the consumption of chocolate milk as a post-exercise recovery beverage, and how new social media technology facilitates consumption of this sports drink to elite athletes themselves. Particular attention is given to the questionable healthful properties of chocolate milk, despite the ways in which current social media trends have promoted its benefits.

Chocolate Milk as a Recovery Drink: Science & Marketing

Scientific literature on the efficacy of cow's milk, and specifically chocolate milk, as a post-workout beverage indicates the physiological benefits of its consumption. Pritchett et al (2011) suggest that low-fat chocolate milk is just as effective as a commercial recovery beverage in aiding post-cycling recovery, at least in the short-term. Spaccarotella & Andzel's (2011) study similarly indicates that chocolate milk may be as good as a carbohydrate-electrolyte beverage in aiding recovery during preseason and individual training sessions. In a study comparing chocolate milk with a carbohydrate replacement drink and a fluid replacement drink, Thomas, Morris & Stevenson (2008) found that chocolate milk is an effective recovery aid after endurance exercise. A more comprehensive review of sports nutrition literature on bovine milk (Roy, 2008) suggests that, overall, cow's milk is as or more effective than commercial sports drinks as a rehydration beverage, and is a more nutrient-dense choice for athletes engaging in strength and endurance activities. Milk has been shown to aid in post-exercise rehydration (Shirreffs, Watson & Maughan, 2007) and muscle growth when consumed after rigorous resistance exercise compared to equivalent amounts of soy protein (Hartman et al, 2007; Wilkinson et al, 2007). Some nutritional literature focusing on cow's milk, and specifically chocolate milk, therefore suggests that it is a reasonable choice for rigorous athletes seeking rehydration and nutritional balance after athletic activities, and particularly after activities demanding significant endurance and strength.

The dairy industry is, not surprisingly, a notable voice in promoting literature suggesting the benefits of bovine milk for athletes. Marketing information distributed to milk processors repeatedly cites Karp et al's (2006) study and suggests that the dairy industry should broadly share such research-based information; the promotion of scientific literature by the dairy industry can persuade athletes and their trainers to take note of milk's benefits and propel chocolate milk as a sports nutrition beverage from a "niche market to a mass-market opportunity" (Miller, 2012). This may be the golden egg for the dairy industry, as they have been "trying for decades to find some sort of pivot that would allow it to turn around the decline of liquid milk sales" (Mellentin, 2010, p. 2).

One of the most powerful strategies for marketing milk – and specifically chocolate milk – includes connecting with athletes at sporting events (Godfrey, 2011) and

engaging local public leaders to spread the word about scientific research on milk's recovery benefits. For example, the dairy industry has targeted sports and community leaders by sponsoring 25 American milk-drinking high school seniors who excelled in academics, athletics, community service and leadership; winners received a \$7,500 scholarship, appearance in a Milk Mustache advertisement, and a weekend with their families at Disney World. Miranda Abney, Senior marketing manager of the National Milk Mustache Campaign demonstrated the recognition of leaders: "We are so excited to... recognize and reward these exceptional teens who not only excel in their respective sports and communities but also serve as role models for drinking milk – especially chocolate milk – after exercise" (Milk Processor Education Program, 2011). Additional milk marketing strategies include taking scientific literature on chocolate milk, together with "lots of icy cold samples" to where athletes compete, and targeting "super jocks" (Simmons, 2007, 30) at local races and marathons.

Hegemonic Theory

The marketing strategies embraced and endorsed by the dairy industry are an example of social and cultural hegemony at work. In its original inception as a political philosophy, hegemony is a form of political power whereby a leader-state "rules" smaller or less powerful states not by military force but rather by a sense of implied power. A cultural perspective on hegemony, attributed primarily to Gramsci (1971), gives particular attention to the structure of social class. Gramsci argued that cultural hegemony operates such that some social classes have superiority or control over others; Gramsci defines cultural hegemony as "the 'spontaneous' consent given by the great masses of the population to the general direction imposed on social life by the dominant fundamental group" (Gramsci, 1971, 12). The prestige and confidence of the dominant group implies that less dominant groups willingly or consensually follow the examples set by "ruling" cultural classes. In so doing, dominant social groups achieve rulership or leadership by influencing social cohesion and/or consensus (Joseph, 2002).

In marketing chocolate milk to elite athletes, milk producers and marketing boards target a dominant hegemonic group. Elite athletic competitors – even high school or university athletes – represent an enviable group of healthy, physically fit, competitive individuals who occupy elevated status in western culture. Overall, physically attractive, healthy, athletic men and women are given a prestigious place in western culture in which they demonstrate leadership by inspiring the "great masses," as Gramsci describes, to aspire to be as healthy, physically fit and confident as this "ruling" cultural class. The consensus in western culture is that physical fitness is a positive, enviable quality, athletic prowess is admirable, and that a competitive spirit is an attractive quality. The promotion of milk, and in particular chocolate milk, capitalizes on the general acceptance that elite athletes are a dominant, respected group, and that the "masses" will aspire to be like them. In so doing, milk marketers enlist elite athletes to endorse their products and therefore convince other, less competitive, less successful, or less physically fit individuals to consume milk and/or chocolate milk as a symbol of what they aspire to attain both physically and culturally. This approach by marketers both supports and promotes the extant hegemonic structure in western culture.

Problems with Chocolate Milk as a Post-Workout Recovery Beverage

Whether chocolate milk is embraced by “super jocks” (Simmons, 2007, 30) as a post-exercise beverage or not, there are issues with its consumption and the scientific literature upon which dairy advertising depends so much. First, chocolate milk contains more than double the amount of sugar as white milk: three added teaspoons of sugar per 8 oz glass (Weingarten, 2009). Serious elite athletes and their trainers are unlikely to embrace that much added sugar in any beverage, whether it is an electrolyte drink such as Gatorade or any brand of chocolate milk. School boards have begun eliminating chocolate milk from their daily offerings to students, citing a need to reduce sugar and total calories in their nutritional program. Ann Cooper, author, chef, and advocate for children’s health, explains that chocolate milk is “soda in drag” given its high sugar content (Aubrey, 2011), and advocates for healthier nutritional programs at schools (www.chefann.com).

A significant problem with claims of chocolate milk’s efficacy as a post-workout beverage is the legitimacy of the publicized research associated with such claims. Lunn et al’s highly cited (2012) publication included data from only six male runners who participated in the clinical trial. Karp et al’s (2006) and Thomas, Morris & Stevenson’s (2008) studies both included 9 male cyclists, while Pritchett et al’s (2011) included 10 male cyclists. Given the small sample sizes of these studies, together with their unanimous gender exclusivity, results of these studies hardly justify the media hype over the efficacy and desirability of chocolate milk as an athlete’s choice post-workout.

One of the most objectionable issues with the studies cited above which endorse the efficacy of bovine chocolate milk as a post-workout recovery beverage is the potential for lack of objectivity. For example, a closer examination of Lunn et al’s (2012) study shows that it was supported by a grant from Dairy Management, Inc. Similarly, Karp et al’s (2006) study was supported, in part, by the Dairy and Nutrition Council, Inc. Further, Zemel et al’s research (see, for example, 2004), which identified that an increase in dairy products assisted in weight and fat loss in the trunk region amongst obese individuals in a clinical trial, was funded by the National Dairy Council and General Mills. Zemel’s published work is listed on the Dairy Council’s website: www.nationaldairycouncil.org.

As director of the Nutrition Institute at the University of Tennessee, Zemel has been awarded \$1.68 million in research grants from the National Dairy Council and upwards of \$275,000 from General Mills for the purposes of studies on yoghurt and calcium-enriched cereals. Further, Zemel agreed that he has received royalties from GM and Dairy Management, Inc. for the license to use the findings in his research, and to link weight control to dairy consumption; such fees result in upwards of \$50,000 yearly to him directly and to the Nutrition Institute at the University of Tennessee (Warner, 2005). Astute academic scholars would surely discover or notice funding disclosures at the conclusion of scholarly articles; however, media promoters and the general public (including athletes) are unlikely to have access or the ability to source original, published clinical trials and to examine their methods, discussion, conclusion, and any funding disclaimers. It is for these reasons that small, limited research studies have accounted for a great deal of media fanfare regarding the validity of bovine milk and/or chocolate milk as a meaningful beverage for athletes.

The case of incomplete or inaccessible academic references is clearly demonstrated by the reference on the www.gotchocolatemilk.com website which cites Karfonta, et al (2010): <http://gotchocolatemilk.com/science/refuel>. An attempt to

retrieve the Karfonta, et al (2010) study using academic databases showed no reference to this paper; the reference resulted in a citation to a conference paper cited in a supplement to the journal *Medicine & Science in Sports & Exercise* authored by Lunn, et al. The general public not trained in academic references and lacking access to scholarly journals would be unable to search for this study and is unlikely to learn that the reference cited on the gotchocolatemilk.com website is nonexistent.

Given the growing media attention to chocolate milk as a post-exercise beverage, together with North America's cultural approval of elite and aspiring athletes, the following research question is examined in this paper:

RQ: How does social media (twitter) reinforce the established power system (fitness/athleticism) by promoting chocolate milk as a recovery drink?

Method

While twitter was originally purposed as a means for friends to communicate, it has evolved into a legitimate business marketing tool, and current marketing strategies have evolved to not only include but also embrace this form of social media. Scott's (2013) revised bestseller argues that "twitter is an essential tool of marketing" (p. 8). Part of the reason for both business and consumer enthusiasm about using twitter to learn about and promote products and services is the specific nature of the tool. Twitter offers brief (140-character) posts, whereby information is direct and precise, and appears in a user's homepage when one's account is followed. Twitter is therefore a venue in which businesses can release new information, offers, or content regarding their products or services. Further, twitter users incorporate "hashtags," or keywords preceded by a pound/number sign (#) which allows users to search specifically and quickly for information on a particular theme or information relative to a product or service. Given the social and professional popularity of twitter, it is no longer considered a trend or fad in marketing; rather, use of social media, and twitter, in particular, "has become a must for any business seeking to secure a place in both the traditional and digital marketplace" (Bosari, 2012).

The twitter handle "@gotchocomilk" is an offshoot of the website www.gotchocolatemilk.com. Both the website and twitter account are copyright of Milk Processors Education Program, which also copyrights the well-known phrase and marketing tagline "Got Milk?", a trademark of the California Milk Processor Board. While "Got Milk?" markets white milk primarily by means of the "milk mustache" photos of famous athletes, actors, and celebrities, "Got Chocolate Milk?" targets elite athletes and is the "official refuel beverage" of Ironman, Rock 'n Roll Marathon Series, USA Men's Hockey and USA Women's Ski Jumping teams. The twitter handle @gotchocomilk endorses drinking chocolate milk as a means to "refuel" (or recover) after a workout, profiles elite Ironman athletes as they train for major competitions, and promotes the application of individuals to become members of Team Chocolate Milk.

Tweets sent by @gotchocomilk, together with those sent by twitter users mentioning @gotchocomilk, were identified and collected for an 8 month period from November 2012 – June 2013 which resulted in a total of 984 tweets. Both the tweets created and posted by the @gotchocomilk handle as well as those sent out by the general public mentioning @gotchocomilk were included in the data collected so that a broader picture of the social media discourse on chocolate milk could be assessed. The

@gotchocomilk handle would be expected to promote chocolate milk, though it was of interest to examine how the public participated in online discourse with the @gotchocomilk handle. Thus tweets mentioning @gotchocomilk were included in the analysis so that an examination of the main topics of discussion or promotion relative to chocolate milk was possible. Hashtags such as #chocomilk, #gotchocomilk, or #refuel, for example, were not included in this study in order to keep the integrity of the data; with this limitation, the intent of the MilkPEP is revealed more clearly in the analysis.

The majority of the tweets in the data (n=620) were made by @gotchocomilk. About one-third (n=339) tweets were made by other twitter users and mentioned @gotchocomilk. The @gotchocomilk handle retweeted 25 messages created by others which mentioned @gotchocomilk. The month with the majority of tweets was May, 2013, which constituted 319 of the 984 tweets in the data. This coincides with four Ironman events worldwide (Australia, Texas, Lanzarote, and Brazil), hence the increase in relevant tweets. May is also a time in which many elite athletes begin serious training for the well-publicized Kona event. Table 1 details the quantity of tweets made each month from or mentioning @gotchocomilk.

Table 1: Monthly frequency of tweets from or mentioning @gotchocomilk

Month	# of tweets
Oct-12	1
Nov-12	202
Dec-12	27
Jan-13	57
Feb-13	87
Mar-13	100
Apr-13	152
May-13	319
Jun-13	39
Total	984

To analyze the content of the tweets, a grounded theoretical approach (Charmaz, 2006) was employed. The two authors conducted an independent analysis of the data, and together created a coding scheme. Through dialogue between the authors, seven categories were established, with clear criteria indicating to which theme a tweet could be allocated based on its content. The data were again independently coded in a line-by-line coding process. Most tweets were coded into more than one category (i.e., based on its content, a tweet could be allocated to the themes, “refuel,” “triathlete,” and “competition”). For the full coding guide, see Appendix A. Inter-rater reliability was calculated via the Phi coefficient (Scott, 1955) with an acceptable result at .97.

Results

Table 2 shows the distribution of data according to thematic category amongst all tweets examined in the study. The most frequently occurring theme was “refuel,” which occurred in 41% of the tweets. Expressions of refuelling include @gotchocomilk’s tweet

which read:

“Refuel w/ lowfat choco milk post-workout & get ready to hit it again:
<http://gotchocolatemilk.com/science/how-it-stacks-up>”

This tweet shows how the @gotchocomilk handle promotes chocolate milk as a post-workout beverage for athletes, and it even directs readers to the gotchocolatemilk.com website so that they can consider the benefits of chocolate milk post-workout. Closely related to, and almost as frequently occurring as references to “refuel” is the acknowledgement or promotion of triathletes, which occurred in 39% of the tweets. For example, @gotchocomilk tweeted that:

“Endurance athletes training for #IMKona #refuel w/it too:
<http://www.youtube.com/watch?v=3NIu5H9cPYQ&feature=youtu.be>”

In this case, the @gotchocomilk handle promotes chocolate milk as a helpful post-workout beverage for Ironman athletes training for the forthcoming event in Hawaii. While “refuel” and “triathletes” were clearly the most frequently occurring themes in the data, the theme “motivation” occurred in almost one-quarter of the data. The @gotchocomilk twitter account quoted UCLA basketball coach John Wooden:

“Make each day your masterpiece.” – John Wooden. #Motivation

This tweet utilized the hashtag #motivation, and clearly offers encouragement to readers. Less frequent themes occurring in the data included “best refueller,” (8%) in which chocolate milk is promoted as the “best” or “only” post-workout beverage, and “improvement,” (8%), in which users promoted the progression of training or performance. The least occurring themes in the data included “competition,” (5%) in which users promoted their own candidacy for becoming recognized athletes, and “miscellaneous,” the category in which tweets not relative to chocolate milk or athleticism were placed (such tweets included references to topics such as music or weather).

Table 2: Themes in tweets from and mentioning @gotchocomilk

Theme	Count	Proportion
Refuel	401	41%
Triathlete	383	39%
Motivation	217	22%
Best refueller	74	8%
Improvement	52	8%
Competition	83	5%
Misc	49	5%

Discussion

It is not surprising that the most frequent themes in the tweets from and mentioning @gotchocomilk focus on recovery after a workout, elite athletes, and motivation in sports. The tone and objective of the twitter handle is in concert with its affiliate website,

www.gotchocolatemilk.com; both media outlets promote the consumption of chocolate milk, particularly to triathletes and other high performance athletes. Reference to athletic events, post-workout recovery, and athletic performance are clearly the most prolific themes in the data and are not surprising given the consistency between the two media outlets. However, what is of particular interest is use of the specific term “refuel” in the tweets. General diction includes “refuel” as a term referring to gasoline/petrol, though in the sense of chocolate milk, it is specifically considered a means of athletic recovery post-workout. Use of the term “refuel” in this context is both new and particular to chocolate milk as an athletic recovery product. In doing so, the Milk Processors Education Program has made a clear niche for consumers, and one which is adopted by the consumers themselves.

One of the more meaningful applications of the term “refuel” in the tweets is reference to “Team Refuel.” Individual athletes are invited to sign up on the www.gotchocolatemilk.com website to apply as a member of Team Refuel to receive \$500 in sponsorship, race gear, and other perquisites of being in this group (applicants are required to articulate how and why they drink milk after a workout). Inviting high performance athletes to specifically apply to be representatives of the brand is a clear demonstration of hegemony. In this case, elite athletes are approved and promoted by the brand; they then act as ambassadors and promoters for chocolate milk. In this case, such athletes are performing advertisers for this specific product. The practice of endorsement of amateur athletes by elite athletes supports this hegemonic group whereby they are sponsored, supported, and promoted. This group is concurrently expected to “inspire others” to both strive for their athletic goals and to drink chocolate milk in pursuit of athletic excellence.

While inspiring other (presumably less elite) athletes to perform to the best of their abilities is not a negative practice, promotion of drinking chocolate milk is problematic. Chocolate milk, as above, contains significant amounts of added sugar than does white milk; such added sugar is undoubtedly not desirable to truly elite athletes. Further, medical and health research on chocolate milk as a post-workout beverage is sketchy at best. Small sample sizes (e.g., Karp, et al, 2006; Lunn, et al, 2012) do not lend convincing legitimacy to the physiological benefits of drinking chocolate cow’s milk. In contrast to the growing support for chocolate dairy milk as an athlete’s beverage, Brendan Brazier, former professional Ironman triathlete and endurance athlete, advocates a plant-based diet and maintains that eating processed, animal-based foods (such as chocolate milk) depletes the digestive system and does not provide optimum performance to an athlete (Brazier, 2011). Brazier (2007) further suggests that processed foods and foods low in nutrients (including cow’s milk), stress the body and undermine an athlete’s sleep, cognition, and physical performance. This work is in marked contrast to the scientific studies sponsored by the dairy industry.

Further to the questionable research on the benefits of chocolate milk, there exists medical literature which spells out the detrimental effects of milk itself, together with the benefits of eliminating milk products from one’s diet. For example, high intakes of dairy foods has been shown to increase the risk of ovarian cancer (Larsson, Orsini & Wolk, 2006), Parkinson’s disease for men (Chen, et al, 2002), prostate cancer (Chan & Giovannucci, 2001), and breast cancer (Cho, et al, 2003). Decades-long consumption of milk and milk products may bring on senile cataracts (Simoons, 1982), and a correlation

between liquid cow milk and the prevalence of multiple sclerosis has been shown to be highly significant (Malosse, Perron, Sasco & Seigneurin, 1992). This research, while unpopular amongst those seeking to promote domestic dairy products, indicates a lack of healthfulness of milk and milk products in a variety of health contexts. These findings are in contrast to conventional “wisdom” that schoolchildren are taught to drink their milk, and government programs, including the USDA and its Healthy Eating Plate (<http://www.choosemyplate.gov/>), continue to promote the consumption of bovine milk products. America’s Milk Processors, not surprisingly, continues to actively promote the consumption of milk, and in finding elite athletes as a niche market, identified a new and participatory group to whom they can market chocolate milk in order to boost sales, together with an active delivery system in the form of social media.

Given that 39% of the tweets examined in this study made direct reference to triathletes, training for a triathlon/Ironman event, or a specific Ironman event, the triathlete is very clearly a target market for chocolate milk consumption. By marketing chocolate milk to this group, MilkPEP is able to market to one identifiable section, and then by nature of the hegemonic system, the elite athlete then functions as a passive marketer themselves. The marketing of chocolate milk is therefore directed to one leading social group (the Ironman athlete) and then by nature of this group’s social status, chocolate milk becomes a product that is desirable to more amateur athletes who seek to imitate and aspire to elite athleticism.

This hegemonic influence is problematic because while chocolate milk (and indeed, milk in general) is not a beverage that is beneficial to elite athletes, it also brings chocolate milk to populations which will not benefit from its consumption, including children. Jamie Oliver, British chef and restaurateur, has become an advocate for the elimination of processed foods in national schools. According to Oliver’s fact sheet on flavoured milk, this product “has no place in schools” (Jamie Oliver Food Foundation). Flavoured varieties of milk have more calories, are highly processed, and contain unnecessary sugars and additives that do not add any nutritional value to children’s diets. Schools across the US are eliminating flavoured milk from their offerings so as to reduce sugar consumption; this is no small task as upwards of 76% of the milk served in some school districts is flavoured (Zimmerman & Ricanati, 2011).

The @gotchocomilk handle focuses on motivation and encouragement of athletes. Almost ¼ of the tweets in the data were included in the theme “motivation.” For example, @gotchocomilk acknowledged twitter user @chocmilkman7 by tweeting:

“@ChocoMilkMan7 way to crush your first triathlon this weekend! How are you feeling?”

This “shout-out” to a specific user offering congratulations and inviting discourse is of particular importance. Given that the @gotchocomilk account engages with users directly, this creates one-to-one contact with athletes and fosters a sense of connection to chocolate-milk drinking athletes and twitter users. Motivation is an added benefit that social media provides to users in this context; it is not directly relative to the product, though rather fosters a sense of community amongst chocolate milk drinkers and athletes. The motivation offered in the tweets includes additional encouragement between users. @paulanewbyfrase tweeted:

“Congrats to @YearToTri for her cold (hybrid Xterra) Olympic Tri t'day - driving home drinking

@GotChocoMilk. Up next Kansas! #Ourtoughgal”

In this case, one user who follows @gotchocomilk offered encouragement and acknowledgement to another. This endorsement and connection amongst users is another element of the sense of cohesion and continuity amongst elite athletes who drink chocolate milk. This cohesion is an inherent element of hegemony; the dominant social group maintains and promotes its status by endorsing and promoting one another. Therefore the dominant hegemonic group becomes more visible and gains both popularity and recognition. This connection and acknowledgement promotes the exclusivity of elite athletes, and serves to make this group increasingly enviable and admired.

Limitations & Future Directions

The purpose of this paper was to examine two phenomena: how twitter, as a social media tool, has been used to promote the consumption of chocolate milk, and how such promotion serves to perpetuate an extant hegemonic construct. Impact of this twitter handle and the chocolate milk campaign on actual sales and consumer consumption of chocolate milk is an avenue for future research, as it was not explicitly analyzed in this study. To this end, research on specific hashtags (for example, #refuel or #chocomilk) is an area for future research. While this paper analyzed the milk industry’s efforts to increase awareness and adoption of chocolate milk, analysis of hashtags from consumers could help to discover more about the public concept of chocolate milk. Complimentary studies in business (in particular, by the food industry) which disclose chocolate milk sales and consumption would be a complimentary route to better understanding marketing strategy and impact. Given that the Milk Processors Education Program clearly recognizes the potential impact of elite athletes on chocolate milk consumption, it would be helpful to better understand sales figures specifically amongst this hegemonic group. This paper identifies a phenomenon which affects the general public in a socio-cultural context; economic impact of this phenomenon is an area for potential research.

Conclusion

This paper examined how social media (in this case, twitter) reinforces the established power system (fitness/athleticism) by promoting chocolate milk as a recovery drink. Nearly 1,000 tweets sent by and mentioning the @gotchocomilk handle were analyzed so as to better understand how social media is used to promote both a product (chocolate milk) and a ruling hegemonic group (elite athletes). The @gotchocomilk twitter handle is part of a larger marketing concept by the Milk Processors Education Program to bring elite athletes, together with aspiring athletes, to drink chocolate milk as a post-workout beverage. The main themes in the data examined in this study were all relevant to athletic performance. References to the terms “refuel,” “triathlete,” and “motivation” are all relative to athleticism, and particularly to elite performance. In creating a social media presence via twitter, the @gotchocomilk handle operated to endorse the extant hegemonic structure associated with athleticism in North America. Elite athletes, particularly Ironman triathletes, are a “ruling” cultural class, and a group which many athletes emulate. This prestigious class, by participating in chocolate milk discourse via twitter, operated as marketers by proxy. Concurrently, medical literature has identified a variety of health hazards associated with the consumption of milk. Further, chocolate

milk, given its added sugar, is questionable as a healthy, unprocessed product that will aid elite athletes with optimal performance. America's MilkPEP, in recruiting and promoting a ruling hegemonic group, have identified a potential "golden egg" in a declining market, despite the potential hazards associated with chocolate bovine milk consumption for children, adults, and athletes. The promotion of chocolate milk as a post-recovery workout beverage by elite athletes therefore exemplifies hegemony's capability to engage "the great masses" in consuming products that a ruling cultural group endorses, despite its physiologically questionable benefits, by incorporating social media tools.

References

- Aubrey, A. (2011, November 21). What's to love and loathe about chocolate milk? NPR. Retrieved from <http://www.npr.org/blogs/thesalt/2011/11/21/142517141/whats-to-love-and-loathe-about-chocolate-milk>
- Bosari, J. (2012, August 8). The developing role of social media in the modern business world. *Forbes*. Retrieved from <http://www.forbes.com/sites/moneywisewomen/2012/08/08/the-developing-role-of-social-media-in-the-modern-business-world/>
- Brazier, B. (2007). *The thrive diet*. Toronto: Penguin.
- Brazier, B. (2011). *Whole foods to thrive*. Toronto: Penguin.
- Chan, J. M., & Giovannucci, E. L. (2001). Dairy products, calcium, and vitamin d and risk of prostate cancer. *Epidemiologic Reviews*, 23(1), 87-92.
- Chen, H., Zhang, S. M., Hernan, M. A., Willett, W. C., & Ascherio, A. (2002). Diet and Parkinson's Disease: A potential role of dairy products in men. *Annals of Neurology*, 52(6), 793-801.
- Cho, E., Spiegelman, D., Hunter, D. J., Chen, W. Y., Stampfer, M. J., Colditz, G. A., & Willett, W. C. (2003). Premenopausal fat intake and risk of breast cancer. *Journal of the National Cancer Institute*, 95(14), 1079-1085.
- Cooper, A. (2013). Chef Ann Cooper. Retrieved from <http://www.chefann.com/>
- Godfrey, V. (2011). Chocolate milk peps up athletes (and sales). Retrieved from http://digital.bnppmedia.com/display_article.php?id=801963
- Gramsci, A. (1971). *Selections from the prison notebooks*. Quintin Hoare and Geoffrey Nowell Smith, Trans., Eds. New York: International Publishers.
- Hartman, J. W., Tang, J. E., Wilkinson, S. B., Tarnopolsky, M. A., Lawrence, R. L., Fullerton, A. V., & Phillips, S. M. (2007). Consumption of fat-free fluid milk after resistance exercise promotes greater lean mass accretion than does consumption of soy or carbohydrate in young, novice, male weightlifters. *The American Journal of Clinical Nutrition*, 86(2), 373-81.
- Jamie Oliver Food Foundation USA. Flavoured milk: Toolkit one – get the facts. Retrieved from <http://www.jamieoliver.com/us/foundation/jamies-food-revolution/pdf/milktoolkit1.pdf>
- Joseph, J. (2002). *Hegemony: A realist analysis*. London: Routledge.
- Karp, J. R., Johnston, J. D., Tecklenburg, S., Mickleborough, T. D., Fly, A. D., & Stager, J. M. (2006). Chocolate milk as a post-exercise recovery aid. *International Journal of Sport*

- Larsson, S. C., Orsini, N., & Wolk, A. (2006). Milk, milk products and lactose intake and ovarian cancer risk: A meta-analysis of epidemiological studies. *International Journal of Cancer*, 118, 431-441.
- Lunn, W. R., Pasiakos, S. M., Colelto, M. R., Karfonta, K. E., Carbone, J. W., Anderson, J. M., & Rodriguez, N. R. (2012). Chocolate milk and endurance exercise recovery: Protein balance, glycogen, and performance. *Medicine and Science in Sports and Exercise*, 44(4), 682-691. doi: 10.1249/MSS.0b013e3182364162
- Malosse, D., Perron H., Sasco, A., & Seigneurin, J. (1992). Correlation between milk and dairy product consumption and multiple sclerosis prevalence: A worldwide study. *Neuroepidemiology*, 11(4-6), 304-312.
- Mellentini, J. (2010, May 1). Chocolate milk enjoying new healthy image as sports recovery drink. Dairy Industries International. Retrieved from <http://business.highbeam.com/137612/article-1G1-229009854/chocolate-milk-enjoying-new-healthy-image-sports-recovery>
- Milk Processor Education Program. (2011). High school seniors who refuel with chocolate milk earn college scholarship. Retrieved from <http://www.prnewswire.com/news-releases/high-school-seniors-who-refuel-with-chocolate-milk-earn-college-scholarship-122324398.html>
- Miller, G. (2012). Chocolate milk is nature's sports drink. Dairyfoods.com. Retrieved from
- Newland, B. L., Chalip, L., & Ivy, J. L. (2012). Coping with a cluttered marketplace: Athlete choice of products to support training. *Journal of Sport Management*, 27, 59-72.
- Roy, B. D. (2008). Milk: The new sports drink? A review. *Journal of the International Society of Sports Nutrition*, 5. Retrieved from <http://www.jissn.com/content/5/1/15>. doi:10.1186/1550-2783-5-15
- Saunders, M. (2011). Carbohydrate-protein intake and recovery from endurance exercise: Is chocolate milk the answer? *Nutrition and Ergogenic Aids*, 10(4), 203-210.
- Scott, D. M. (2013). The new rules of marketing & pr: How to use social media, online video, mobile applications, blogs, news releases, and viral marketing to reach buyers directly. Hoboken, NJ: John Wiley & Sons.
- Scott, W. A. (1955). Reliability of content analysis: The case of nominal scale coding. *Public Opinion Quarterly*, 19, 321-325. Retrieved from <http://poq.oxfordjournals.org/content/19/3/321.full.pdf>
- Shirreffs, S. M., Watson, P., & Maughan, R. J. (2007). Milk as an effective post-exercise rehydration drink. *The British Journal of Nutrition*, 98(1), 173-80.
- Simoons, F. J. (1982). A geographic approach to senile cataracts: Possible links with milk consumption, lactase activity, and galactose metabolism. *Digestive Diseases and Sciences*, 27(3), 257-264.
- Simmons, M. (2007). Chocolate milk: A natural sports drink. Dairyfoods.com. Retrieved from <http://www.dairyfoods.com/articles/print/chocolate-milk-a-natural-sports-drink>
- Spaccarotella, K. J. & Andzel, W. D. (2011). The effects of low fat chocolate milk on postexercise recovery in collegiate athletes. *Journal of Strength and Conditioning Research*, 25(12), 3456-3460. doi: 10.1519/JSC.0b013e3182163071

- Thomas, K., Morris, P., & Stevenson, E. (2009). Improved endurance capacity following chocolate milk consumption compared with 2 commercially available sport drinks. *Applied Physiology, Nutrition, and Metabolism*, 34, 78-82. doi: 10.1519/JSC.0b013e3182163071
- United States Department of Agriculture. Choose my plate. Retrieved from <http://www.choosemyplate.gov/>
- Warner, M. (2005, 21 June). Chug milk, shed pounds? Not so fast. *New York Times*. Retrieved from www.nytimes.com/2005/06/21/business/media/21adco.html?pagewanted=print&r=0
- Weingarten, H. (2009, November 9). Sugar: The unhealthy side of chocolate milk. *Huffington Post*. Retrieved from http://www.huffingtonpost.com/hemi-weingarten/sugar-in-chocolate-milk_b_350355.html
- Wilkinson, S. B., Tarnopolsky, M. A., Macdonald, M. D., Macdonald, J. R., Armstrong, D., & Phillips, S. M. (2007). Consumption of fluid skim milk promotes greater muscle protein accretion after resistance exercise than does consumption of an isonitrogenous and isoenergetic soy-protein beverage. *The American Journal of Clinical Nutrition*, 85(4), 1031-40.
- Zemel, M. B., Thompson, W., Milstead, A., Morris, K. & Campbell, P. (2004). Calcium and dairy acceleration of weight and fat loss during energy restriction in obese adults. *Obesity Research*, 12(4), 582-90.
- Zimmerman F.J & Warshawsky Ricanati B. (2011, August 21). Chocolate milk? Not in the schools. *Los Angeles Times*. Retrieved from <http://articles.latimes.com/2011/aug/21/opinion/la-oe-zimmerman-sugar-milk-20110821>

Appendix A: Coding Guide & Themes

Refuel: Promoting drinking milk after a workout, practice, event, or physical activity

After	Vote	Finish Line	Recover	Replenish	Following
Team Refuel	Post	Refuel	Relieve	Repair	Recharge

Triathlete: Promoting practice, workouts, or specific events

Ironman	Tri	Training	Map	Become One	Planks	Ritual
Triathlete	Triathlon	Kona	Track	Routine	Event	Work-out

Motivation: Encouragement to another athlete, excitement about an event

Crush it	Stoked	Ambition	Get it	Atta Boy	Rocked it/on	Greatness	Thanks
Congrats	Get After it	Motivation	Ready for us	Inspire	Awesome	Looking Forward	Looking Good
Support	Keep at it	Get it	Great	Excite	Good	Achieve	Perfect
Good Luck	Killed it	Perfect	Nice One	Focus	Amaze	Opportunity	

Best Refueller: Promotion of chocolate milk as the BEST refuel, promoting chocolate milk as the only option as a refueller, promoting nutrition or vitamins, promoting national chocolate milk day, promoting that elite athletes and athletes are drinking chocolate milk, comparing chocolate milk to other drinks, presenting chocolate milk as an inferior to its competition

King	Nutritious	Nothing Like	Castle	Delicious	Love
Only way	Good Stuff	Love	Recharge	Experts	Facts
Facts	Believer	Pro	Better	Protein & Carbs	Vitamins

Improvement: Promoting pushing/challenging to improve as an athlete, promoting progression in an athlete's practice

Progress	Improve	Challenge	Give More	Push Limits	Give more
----------	---------	-----------	-----------	-------------	-----------

Competition: Becoming the best athlete, competing with other athletes, self-improvement and challenges

Toughest	Vote	Win	Endurance	Campaign	Victory	Competitor
----------	------	-----	-----------	----------	---------	------------

Miscellaneous: Represents a Tweet that has no meaning towards, explanation about, or interest in how chocolate milk is utilized by athletes

Music	Happy Birthday	Weather	Weekend
-------	----------------	---------	---------

AUTHOR DETAILS

Sharon Lauricella is Associate Professor in the Communication Program at UOIT in Oshawa, ON. She holds a doctoral degree from Cambridge University, England.
www.sharonlauricella.com

Kayla Koster is an MA student in the joint graduate program at Ryerson and York Universities.