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# Initial recall and understanding of a multimedia communication campaign to promote physical activity among tweens: A process evaluation study



Ariane Bélanger-Gravel <sup>a,b,\*</sup>, Lise Gauvin <sup>a,b</sup>, François Lagarde <sup>c</sup>, Marilie Laferté <sup>d</sup>

- <sup>a</sup> Research Center of the Centre Hospitalier de l'Université de Montréal, Montréal, Québec, Canada
- <sup>b</sup> School of Public Health, Department of Social and Preventive Medicine, Université de Montréal, Montréal, Québec, Canada
- <sup>c</sup> Fondation Lucie et André Chagnon, Montréal, Québec, Canada
- d Ouébec en forme, Trois-Rivières, Ouébec, Canada

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#### ABSTRACT

Objective. To examine the degree of awareness and understanding of a multimedia communication campaign (WIXX) aimed at promoting physical activity among tweens (9–13 years old) during the early phases of campaign implementation.

Methods. This study adopted a repeated posttest-only design. Two cross-sectional web-based surveys were conducted in Québec, Canada, among tweens three  $(T_1; N = 400)$  and nine  $(T_2; N = 403)$  months after the launch of the campaign in 2012. The activities of the WIXX campaign included website development, community events and paid advertisements. Recall, recognition and understanding of the campaign were the three outcomes. Logistic regression analyses were conducted to examine factors associated with the assessed outcomes.

Results. The likelihood of having unaided/aided recall (OR = 0.7; 95%CI: 0.5, 0.9) rather than no recall decreased between  $T_1$  and  $T_2$ . A significant sex \* survey period interaction effect was observed for recall (p = .04). Tweens were also less likely to recognize the WIXX advertisements at  $T_2$  (OR = 0.6; 95%CI: 0.5, 0.9) and a significant school grade \* survey period interaction was observed for recognition (p = .002).

Conclusions. The likelihood of recall and recognition decreased across survey periods. Girls were generally more likely to be aware of the WIXX multimedia campaign. Further efforts are required to maintain and increase awareness of WIXX among tweens.

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#### Introduction

High prevalence of childhood overweight/obesity (Roberts et al., 2012) and low levels of participation in physical activity (PA) among youth (Colley et al., 2011) are likely to have significant negative impacts on the population health (Lee et al., 2012). Hence, the promotion of active lifestyles among children and youth represents an important public health priority. To date, interventions to increase PA among children and/or adolescents show overall modest effects (Metcalf et al., 2012).

In recent years, mass media campaigns have been identified as being among the best investments to promote PA at the population level (Global Advocacy for Physical Activity (GAPA) and the Advocacy Council of the International Society for Physical Activity and Health (ISPAH), 2010 Global Advocacy for Physical Activity (GAPA) and the Advocacy Council of the International Society for Physical Activity and Health (ISPAH), 2011). Regarding the promotion of PA among children,

E-mail address: ariane.belanger-gravel@com.ulaval.ca (A. Bélanger-Gravel).

the VERB campaign (Wong et al., 2004) led to significant and sustained increases in PA among 9 to 13 year old children (tweens) (Huhman et al., 2005, 2007, 2010). Based on this evidence for effectiveness, *Québec en Forme* (a partnership between the Quebec government and the Lucie & André Chagnon Foundation dedicated to the promotion of healthy lifestyles among youth in Québec, Canada) decided to replicate and extend the VERB campaign by developing a multimedia communication campaign (the WIXX campaign: www.wixx.ca) that was adapted to the Quebec context and that integrated components accounting for changes in the use of the internet and social media. The WIXX campaign was based on behavior change and communication theories and cast within an ecological perspective to support active lifestyle among tweens (Sallis et al., 2006; Ajzen, 1991; Bandura, 1986; McGuire, 1985; Petty and Cacioppo, 1986).

As part of a broad evaluation framework (see the Logic model in Supplementary File 1) (Lemay et al., 2012), process evaluation efforts were carried out during the early phases of campaign implementation to monitor the initial reach of the WIXX communication campaign. Since high awareness and understanding are two major proximal indicators of mass media campaigns effectiveness (McGuire, 1985;

<sup>\*</sup> Corresponding author at: Department of Information and Communication, Pavilion Casault, room 5419. Université Laval. Ouébec G1V 0A6. Canada.

Bauman et al., 2008; Cavill and Bauman, 2004), these key elements were examined in the present study. For instance, awareness and understanding of the VERB campaign were consistently associated with increases in, and maintenance of, PA among tweens (Huhman et al., 2005, 2007, 2008, 2010). Moreover, positive changes in awareness and understanding were shown to be significant predictors of future PA in the context of branding PA to tweens (Québec en forme, 2012a). Thus, the objective of this study was to examine tweens' awareness (recall and recognition) and understanding of the WIXX multimedia communication campaign during the first months of campaign implementation.

#### Methods

#### Design and Sample

This study adopted a repeated posttest-only design to examine prevalence and variations in awareness and understanding of the WIXX campaign among tweens. The first phase of the WIXX campaign unfolded between September and November 2012 whereas the second and third phases occurred between January and May 2013. Two cross-sectional web-based surveys were conducted in December 2012 (T<sub>1</sub>: three months after the initial launch of the multimedia campaign in September 2012) and June 2013 (T2: nine months after the launch of the multimedia campaign) in Québec, Canada, among 400 and 403 tweens, respectively. To recruit tweens, adults from a consumer web panel were randomly selected and contacted through e-mails. For this purpose, 2962 and 3629 invitations were sent in December 2012 and June 2013, respectively. Among those invited, 689 (23.3%; 2012) and 671 (18.5%; 2013) expressed an interest in the survey and the final participation rates were 14.2% and 12.5% for December 2012 and June 2013, respectively. It is noteworthy that this particination rate does not differentiate between those who were eligible from those who were not. The eligibility criteria were to reside in the province of Québec, Canada, to be in charge of a child aged 9-13 years, to be able to answer survey questions in French or English, Parents who authorized the participation of their child were asked to invite the child to complete an online questionnaire. Both parents and children provided an online consent to participate in the study and the study was approved by the Human Ethic committee of the Centre hospitalier de l'Université de Montréal.

#### The WIXX campaign

The main objectives of the WIXX campaign were to: 1) increase knowledge, attitudes, and self-efficacy as well as promoting favorable social norms with regard to PA; 2) increase support from parents and other persons; 3) publicize opportunities for PA; and 4) increase and maintain high levels of PA among tweens. Based on the 4A principles for social marketing (Hasting, 2007), the WIXX activities had to be *Appealing*, *Affordable*, *Available*, and *Appreciated*. The intervention components delivered during the first year of the WIXX campaign included paid advertising campaigns (see below), experiential marketing, public relations, and the development of community partnerships. The coordination of the WIXX campaign was assumed by Québec en Forme. To reach the 600,000 tweens living in the Province of Québec in their new media environment, a web ecosystem was created and included three websites for each of the targeted audiences: tweens, parents (web magazine), and partners, including an online merchandise shop.

To develop the WIXX campaign, formative research (focus groups, surveys and pretesting) was conducted to acquire information on the targeted audience in addition to information gathered from the scientific literature on children's PA behavior (Québec en forme, 2012a). Based on these preliminary steps, an advertising agency developed a brand name and a branding strategy for the campaign. This process resulted in the adoption of WIXX (an invented word that sound like a rallying cry) as the name of the campaign, a name that could express the energy of tweens through positive attitude and active lifestyle. To ensure the integrity of the brand, campaign planners developed guidelines for the correct uses of the WIXX brand by partners (Québec en forme, 2012b).

The branding strategy adopted during the first year of the WIXX communication campaign was dedicated to introduce this new brand among tweens. The main objective was to associate the WIXX brand with coolness and fun (www. wixx.tv). Given that dramatic decreases in PA are observed among adolescent girls (Colley et al., 2011), specific attention was devoted to reaching this particular segment of the targeted audience. To position the brand as being fun and cool, the WIXX brand was associated, for instance, with a popular Quebec hip

hop male choreographer and a popular Quebec music band. The themes of the advertising campaign conducted during the first year were around hip hop dancing, playing outside, and having fun with friends. The advertisements were developed in French and English, although the TV channels targeted to broadcast these advertisements were mostly French-speaking channels. Three waves of paid advertisements were broadcasted on tween's popular (and associated with coolness) Quebec TV channels during the fall of 2012 (September-December, ~1200 GRPs), winter of 2013 (January-February, ~400 GRPs), and the spring of 2013 (April-May, ~500 GRPs). Given that a large majority of Quebec residents identify French as the language spoken in the home, the consumption of news and print media is often (but not exclusively) in French. Therefore, Quebec tweens are very likely to view these ads as opposed to channels with English programming elsewhere in Canada and in the United States. The WIXX advertisements were also broadcast on general TV channels and on the tweens WIXX campaign websites (www.wixx.ca; www. wixx.tv). Print media advertisements were continuously released from the fall of 2012 through the spring of 2013 in a popular (particularly among girls) tween magazine.

#### Primary outcome measures

#### Awareness of the WIXX campaign

To assess the recall of the campaign, tweens were asked the following question: "In the last few weeks, have you seen, read or heard any advertising on nine to thirteen year old kids' PA?". Those who responded "yes" were then asked the name (or the brand) associated with these advertisements. Inspired from the algorithm developed by Bauman et al. (2008), in the context of the VERB campaign, four mutually exclusive categories of recall were constructed: 1) unaided recall, 2) aided recall, 3) other recall, and 4) no recall. Tweens who recalled having seen advertisements on PA and named WIXX unaided were classified as having ungided recall. Aided recall of the campaign was assessed by providing a narrative description of the key features of the WIXX advertisements: "In the last few weeks, there were TV or magazine advertisements in which some kids where showed moving, jumping, having fun doing some activities like cycling, dancing, playing hockey, doing skateboard, cheerleading, etc. Do you remember having seen one of these ads on TV?". Those who answered "ves" to this question and were not previously classified as having unaided recall were categorized as having aided recall. Tweens who recalled having seen a PA campaign (aided or unaided) but were not able to recall its name were categorized as having other recall. Finally, those who did not recall having seen advertising about PA (aided or unaided) were classified as having no recall of the WIXX

In addition to the recall measures, selected screenshots of the TV and print advertisements were visually shown to tweens to further assess their recognition of the campaign. Tweens who had seen at least one of the advertisements depicted in the photos were classified as having a *visual recognition* of the campaign (Singh and Rothschild, 1983). These recall and recognition measures have been shown to be valid indicators of communication campaign exposure (Niederdeppe, 2005).

#### Tweens' understanding of the message

Similarly to the VERB campaign (Bauman et al., 2008), the understanding of the WIXX campaign message was determined through a summary index of two open-ended questions: 1) the "WIXX about": "In your words, what is the advertisement all about?", and 2) the "WIXX idea": "What ideas came to you from having seen the advertisement?". Tweens could provide up to five responses for each question. These two questions were presented to tweens after the assessment of unaided recall. Consequently, tweens' understanding of the campaign was only documented among those having unaided recall. Three categories of understanding were constructed: 1) no campaign understanding, 2) low campaign understanding and, 3) high campaign understanding. Tweens who answered "I don't know" or reported non PA-related topics (see Table 1) for the "WIXX about" question were classified as having no campaign understanding. Tweens who were classified as having no understanding of the "WIXX about", combined with low or high understanding of the "WIXX idea" were classified as having low understanding. Those who showed low understanding of the "WIXX about" and no or low understanding of the "WIXX idea" were also classified as having low understanding. Finally, tweens showing high understanding of the "WIXX about" and those having low understanding of the "WIXX about" but high understanding of the "WIXX idea" were classified in the high understanding category.

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