

Designing Tailored Messages About Smoking and Breast Cancer: A Focus Group Study With Youth

**Joan L. Bottorff, Rebecca Haines-Saah,
John L. Oliffe, Laura L. Struik, Laura J. L. Bissell,
Chris P. Richardson, Carolyn Gotay,
Kenneth C. Johnson, Peter Hutchinson**

The purpose of this study was to design an approach to supporting the development of gender- and Aboriginal-specific messages regarding the link between tobacco exposure and breast cancer, drawing on youth perspectives. Focus groups were held with 18 girls (8 First Nations and Métis) and 25 boys (12 First Nations and Métis) to solicit advice in the design of messages. Transcribed data were analyzed for themes. Girls preferred messages that included the use of novel images, a personal story of breast cancer, and ways to avoid second-hand smoke. Boys endorsed messages that were “catchy” but not “cheesy” and had masculine themes. First Nations and Métis participants confirmed the use of Aboriginal symbols in messages as signalling their relevance to youth in their communities. The results can be used as a guide in developing tailored health promotion messages. Challenges in developing gender-appropriate messages for youth are described.

Keywords: gender, youth health, health promotion, tobacco use, second-hand smoke, breast cancer

La création de messages adaptés sur le tabagisme et le cancer du sein : une étude fondée sur des groupes de discussion auprès des jeunes

**Joan L. Bottorff, Rebecca Haines-Saah,
John L. Oliffe, Laura L. Struik, Laura J. L. Bissell,
Chris P. Richardson, Carolyn Gotay,
Kenneth C. Johnson, Peter Hutchinson**

Notre étude visait à mettre au point une approche propice à la création de messages axés sur le lien entre l'exposition au tabac et le cancer du sein, qui s'adresseraient aux jeunes Autochtones de chaque sexe et s'inspireraient de leurs perspectives. Nous avons tenu des groupes de discussion formés de 18 filles (issues de huit Premières nations et du peuple métis) et de 25 garçons (issus de 12 Premières nations et du peuple métis), dans le but d'obtenir leur avis sur cette question. Les données transcrites ont été analysées pour en dégager les thèmes principaux. Chez les filles, on préfère des messages qui proposent des images originales, une histoire personnelle sur le cancer du sein et des conseils sur les façons d'éviter de s'exposer à la fumée secondaire. Les garçons préfèrent quant à eux des messages « accrocheurs », qui ne sont pas « de mauvais goût » et comportent des thèmes masculins. Tous et toutes ont jugé que le recours à des symboles autochtones dans les messages était pertinent pour les jeunes de leurs communautés. Ces résultats pourront servir de guide en vue de créer des messages ciblés axés sur la promotion de la santé. On explique les difficultés que présente la formulation de messages adaptés en fonction du sexe des jeunes.

Mots clés : sexe, santé des jeunes, promotion de la santé, tabagisme, fumée secondaire, cancer du sein

Background

Tobacco smoke exposure has been reported recently as a modifiable risk factor for premenopausal breast cancer (BC), based on evidence from epidemiological and toxicological studies demonstrating a link between active smoking and long-term regular second-hand smoke (SHS) exposure and premenopausal BC (Collishaw et al., 2009; Dossus et al., 2014; Gantz & Johnson, 2014; Johnson, 2012; Johnson et al., 2011). Given evidence that breast tissue in its growth stage (from the beginning of puberty to the end of the first pregnancy) is especially sensitive to exposure to carcinogens in tobacco smoke (Innes & Byers, 2001; Lash & Aschengrau, 1999; Okasha, McCarron, Gunnell, & Smith, 2003), we need to raise awareness about smoking as a modifiable risk factor for BC among adolescents (Bottorff et al., 2010; Haines et al., 2010). Young women should be aware of the evidence indicating that tobacco smoke is consistent with causality for premenopausal BC. Because young men may expose young women to tobacco smoke, it is important that they also be aware of girls' increased risk for premenopausal BC when exposed to tobacco smoke.

Despite decreases in smoking prevalence in many countries, adolescent girls' and boys' uptake of smoking continues to be a concern. For example, rates of smoking among US youth (grades 9–12) are reported to range from 8.5% to 26.1% across state surveys (Eaton et al., 2010), while in Canada recent data indicate that 13% of boys and 14% of girls aged 15 to 19 smoke tobacco (Health Canada, 2012). Many young women are also exposed to SHS in their homes (Health Canada, 2012). Furthermore, there is evidence that girls who smoke are more likely to be surrounded by more smokers in their social environment than boys who smoke and their romantic partners are also more likely to be smokers (Branstetter, Blossnich, Dino, Nolan, & Horn, 2012).

In Canada, Aboriginal youth have a higher prevalence of smoking and start smoking earlier than the general population (Hutchinson, Richardson, & Bottorff, 2009; Johnson et al., 2004; National Aboriginal Health Organization, 2002/03). High rates of cigarette smoking in Aboriginal communities are also associated with increased levels of exposure to SHS among Aboriginal girls (Elton-Marshall, Leatherdale, & Burkhalter, 2011).

Puberty is marked by physical changes and development of gender identity related to social norms and expectations for women and men (Johnson & Repta, 2012). Periods of heightened awareness and shifting identities have been identified as presenting teachable moments for cancer prevention initiatives (McBride, Emmons, & Lipkus, 2003). Youth may, therefore, be especially receptive to gender-specific messages about

the link between tobacco exposure and BC. Although gender differences with respect to smoking initiation and patterns of exposure to tobacco are beginning to be described, few gender-specific approaches for tobacco reduction have been developed (Haines et al., 2010). The value of gender-specific messages for tobacco reduction and prevention is evident in the consistent use of gendered marketing strategies by the tobacco industry (Campaign for Tobacco-Free Kids, 2009; White, Oliffe, & Bottorff, 2013). Reviews of anti-smoking advertising directed towards youth indicate a positive influence, although the findings are not consistent (Wakefield, Flay, Nichter, & Giovino, 2003). Researchers have argued that to improve the effectiveness of tobacco control messages it is critical that audience research be conducted in order to develop messages that are “in tune” with youth (Farrelly, Niederdeppe, & Yarsevich, 2003). Although there is limited evidence related to the use of anti-tobacco messages for Aboriginal groups, we need tobacco control messages that are perceived as socially and culturally relevant for Aboriginal communities (Aboriginal Cancer Care Unit, 2008; Gould, McEwen, Watters, Clough, & van der Zwan, 2013). Involving Aboriginal youth in developing and delivering anti-smoking messages has been recommended (Valentine, Dewar, & Wardman, 2003). The purpose of this study was to draw on the perspectives of youth in developing gender- and Aboriginal-specific messages about the link between tobacco exposure and BC.

Methods

The study employed a qualitative descriptive design as described by Sandelowski (2000) and drew upon the tenets of naturalistic inquiry (Lincoln & Guba, 1985) through the use of focus groups. First Nations and Métis (FNM) and non-Aboriginal boys and girls between the ages of 12 and 17 were recruited through referrals, advertisements, and contact with leaders of community youth groups in a mid-sized city in British Columbia, Canada. Both smokers and non-smokers were eligible for the study. Youth were invited to participate in a focus group discussion on the topic of smoking. Approval was granted by a university ethics board.

Participants

The sample comprised 43 youth (mean = 15.0 years; males = 58%; FNM = 46%). Most participants (98%) were born in Canada. Two non-FNM participants self-identified as Asian and one as Black; the remainder identified as Caucasian. Over one third (34%) of the participants smoked at least once in the previous month. A larger proportion of girls (43%) than boys (32%) reported smoking in the previous month. In comparison to the other groups, FNM girls were twice as likely to state that they had

ever smoked a whole cigarette. Over half (60%) of the participants had smokers living in their home. The majority (88%) of FNM girls and half (50%) of non-FNM girls were living with someone who smoked. Having a family member with BC was reported by 10% of non-FNM girls, 63% of FNM girls, 18% of non-FNM boys, and 17% of FNM boys.

Data Collection

Eight semi-structured focus groups were held outside school hours in community locations over a period of 4 months. Two focus groups were held with each of the following groups: FNM girls, non-Aboriginal girls, FNM boys, and non-Aboriginal boys. Two focus groups were held with each subgroup to capture diversity of opinion within each subgroup and to meet target participant numbers.

The objective of the focus groups was to engage youth in discussing the merits and limitations of a variety of sample messages related to smoking and BC and in generating ideas to guide youth-friendly message development and delivery media. The research team developed gender-neutral and gender-specific sample messages as discussion prompts and to explore youth responses to both types of message. Gender-neutral messages included images that could be used with either girls or boys (e.g., iPhone with text messages). Whereas feminine images and colours (e.g., pastel bras) as well as words (e.g., BFF) were used in sample messages for girls, masculine images and colours (e.g., sports images) and words (e.g., MVP) were used for boys. The messages drew on team members' extensive experience with youth, gendered norms (e.g., socially prescribed roles that influence who smokes and how, where, and when), our previous research (Bottorff et al., 2010; Haines et al., 2010), and current evidence regarding tobacco exposure and BC. Building on the findings of previous tobacco research (Lee, Capella, Lerman, & Strasser, 2011), the messages omitted smoking images to avoid inadvertently promoting smoking. Also excluded were fear appeal messages, due to a lack of evidence demonstrating the effectiveness of this approach for youth (Prevention First, 2008). The team was aware that the topic of BC is often depicted using sexualized stereotypes and we debated the use of provocative images to capture boys' attention on this topic and the potential for reinforcing heteronormativity and heterosexism. In the end, the sample images shared with boys included one plain-coloured message with silhouettes (recognizable as female by their long hair and skirts) along with the following text: "Guys love boobs. It's that simple. Cigarette smoke – even second-hand – puts girls at twice the risk of getting early breast cancer. Respect the girls in your life by not exposing them to the harmful effects of SHS. If you smoke, think about reducing and quitting. Do it yourself and for all the girls you know!" While

this message reflected gender stereotypes and an assumption of heterosexuality, we reasoned that its inclusion with sample messages containing sporting images might engage boys on the topic of sexualized messages without the use of overtly sexualized images and might prompt suggestions for improving messages directed at boys. We also included a girls' message about a young woman who died of BC (Team Shan Breast Cancer Awareness for Young Women; www.teamshan.ca). Although it was not possible to directly link tobacco exposure to her BC diagnosis, we developed this message in order to extend the range of the discussion. We added recognizable symbols (i.e., medicine wheel, feathers) to the sample messages to gauge their effectiveness in engaging FNM youth. These symbols have been recognized as enhancing health message saliency in Aboriginal communities (Stout & Kipling, 2002). The sample messages developed as focus group prompts are shown in Figure 1.


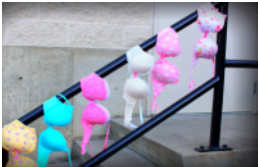

The focus group discussions were facilitated by members of the research team. Following dual consent (parental and youth), participants completed a brief questionnaire on demographics, smoking history, and family history of BC. At the beginning of each focus group, participants were introduced to evidence linking tobacco exposure with BC through an interactive question-and-answer activity. The sample messages specific to the gender of the group along with gender-neutral messages were displayed as large posters. Participants were asked to write comments about what they liked, disliked, and would change about the messages under these headings on a sheet of paper placed beside each poster. Open-ended questions were then posed to encourage youth to expand on these comments and to reflect on ways of conveying and disseminating information on smoking and BC to other youth. Finally, participants were asked to develop a youth-friendly message using the information they had acquired during the session.

Participants were provided a \$40 honorarium to cover travel costs and as an expression of appreciation for their time. All focus groups were audiorecorded and transcribed verbatim. Written comments about posters related to each message were also transcribed for analysis.

Data Analysis


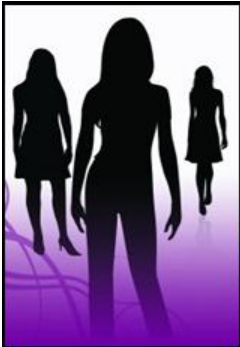

As is common in qualitative research, we took a data-driven, inductive approach to analysis (Morse & Richards, 2013; Sandelowski, 2000). Team members read transcripts independently, highlighting important comments and identifying topic codes by making notations in the margins. Team discussion of initial coding and observations in the data were used to reach consensus on categories and subcategories for a coding framework. Data were then entered and coded using the framework in NVivo to facilitate data retrieval and further analysis. Subgroup node reports

Figure 1 Overview of Sample Messages to Prompt Focus Group Discussions

Targeted Gender	Image and Message Title	Message Content
Girls	<p><i>It Might Be Pretty</i></p> 	<p>It might be pretty . . . but it will not stop the dangerous effects of cigarette smoke. Tell your friends. Smoking — even second-hand — puts girls at twice the risk of getting early breast cancer. If someone is smoking near you or your friends, try saying, “I’d like to ask you a favour. Would you please not smoke around me/us?” If you smoke, think about reducing and quitting. Do it yourself and for all the girls you know. It’s your right to protect yourself. Declare your body a smoke-free zone.</p>
	<p><i>Hanging With Your BFF</i></p> 	<p>Hanging with your BFF [breast friends forever]? Clear the air and be breast friends for life. Cigarette smoke — even second-hand — puts girls at twice the risk of getting early breast cancer. It’s your right to protect yourself. Declare your body a smoke-free zone. Avoid places where you and your friends will be exposed to second-hand smoke.</p>
	<p><i>A BC Story</i></p> 	<p>Young women get breast cancer too! Shanna Larsen 1981–2005. A beloved daughter, sister, and friend, Shanna baffled her doctors when she was diagnosed with breast cancer following months of symptoms. She was only 24 when she lost her battle with breast cancer. Know your risks. Girls who smoke or are exposed to second-hand smoke have double the risk of developing breast cancer at a young age. Shanna did not smoke cigarettes but was exposed to second-hand smoke while working in the service industry. Remember Shanna’s story and reduce your risks. If you smoke, think about quitting.</p>

Designing Tailored Messages About Smoking and Breast Cancer

Joan L. Bottorff et al.

Targeted Gender	Image and Message Title	Message Content
Boys	<p><i>Step Up and Step Out</i></p> 	<p>Second-hand cigarette smoke puts girls at twice the risk of getting early breast cancer. Step up and step out. Protect girls from the harmful effects of tobacco by not exposing them to second-hand smoke.</p>
	<p><i>Most Valuable Protector</i></p> 	<p>It doesn't matter what you play. You can be a most valuable protector. Second-hand cigarette smoke puts girls at twice the risk of getting early breast cancer. If you smoke, think about reducing and quitting. Do it for yourself and for all the girls you know.</p>
	<p><i>It's That Simple</i></p> 	<p>Guys love boobs. It's that simple. Cigarette smoke — even second-hand — puts girls at twice the risk of getting early breast cancer. Respect the girls in your life by not exposing them to the harmful effects of second-hand smoke. If you smoke, think about reducing and quitting. Do it for yourself and for all the girls you know!</p>
Gender-neutral	<p><i>Getting the Message Out</i></p> 	<p>Smoking around girls doubles their risk of getting early breast cancer. Protect the girls you know from the harmful effects of cigarette smoke. Tell your friends that you care about your health and ask them to “Clear the air. Please don't smoke around me.”</p>

were reviewed and important ideas that might advance the development of gender-specific messages were highlighted and placed in table format to facilitate comparison. Sample messages that received the most favourable and least favourable responses by each group were reviewed in conjunction with youth comments. Particular attention was paid to each group's suggestions for improving messages and its ideas for other types of message. Comparisons were made to identify similarities and differences in perspectives within and among groups based on gender and Aboriginal/non-Aboriginal status.

Results

The results are summarized in relation to three categories: assessments of the tailored messages, suggestions for messaging other youth, and strategies for disseminating information about tobacco exposure and BC. Table 1 provides an overview of key themes among the participant groups.

Youth Assessments of the Tailored Messages

General assessments by youth. Overall, participants indicated that, while they understood the health risks associated with tobacco use, they were not aware of the connection between smoking and BC. Although youth were doubtful that the draft messages were enough to convince current smokers to quit, they thought that the messages held potential for encouraging youth to think about how smoking impacts not only their own health but also the health of those around them. In general, messages tailored to gender were more strongly endorsed for messaging youth about active smoking and SHS and BC than the generic message. Also, the inclusion of Aboriginal symbols was perceived as an effective way to attract the attention of FNM youth as well as enhance the relevancy of the messages for them specifically: "It's just something we can relate to."

Girls' messages. Images that were atypical and creative were the most successful with both FNM and non-Aboriginal girls (e.g., bras in unexpected places). These images caught their attention and encouraged them to read the full message. The girls also indicated that they were more inclined to be receptive to the health information displayed in "Hanging With Your BFF" because it was portrayed in a way they could relate to: "The bras on that one, they're more youthful, so it showed that it impacts younger people too, not just older women."

Messages that drew attention to the effect of SHS on other girls (especially girlfriends) resonated with the girls. Although one non-Aboriginal smoker talked about why and how she attempted to protect others from SHS, her comments reflect important misconceptions about SHS exposure:

Girls' messaging preferences	
Non-Aboriginal	FNM
<ul style="list-style-type: none"> • Images of activities/contexts popular among girls their age • Promote self-efficacy by offering choice • Real-life stories • Creative/novel images • Include significant others in messages • Promote protecting girlfriends/family members • Minimal written detail 	<ul style="list-style-type: none"> • Images of activities/contexts popular among girls their age • Promote self-efficacy by offering choice • Real-life stories • Creative/novel images • Strategies and advice for avoiding exposure to tobacco • Aboriginal images
Boys' messaging preferences	
Non-Aboriginal	FNM
<ul style="list-style-type: none"> • Images of activities/contexts popular among boys • Humour • Genuine vs. unrealistic/cheesy • Include significant others in messages • Represent masculinity (respect/protect girls) 	<ul style="list-style-type: none"> • Images of activities/contexts popular among boys • Humour • Genuine vs. unrealistic/cheesy • Emphasis on images • Minimal written detail • Use of graphics, such as graffiti • Represent masculinity (respect/protect girls) • Omit stereotypical "sexy" images of girls • Aboriginal images

It's just out of respect. Like, any little kid or a non-smoker, I blow it [smoke] away in a different direction. . . . I smoke in my house — everyone does — but when my friend comes over who doesn't smoke, I keep it away from her. I don't want to be caught up in it, so I don't want her to be caught up in it either.

Some girls thought that the multiple bras and the “breast friends forever” message in “Hanging With Your BFF” created a sense of solidarity in protecting each other from tobacco exposure: “It gives a sense of being more united, I guess, or having more people to send your message across to.” This sense of unity was thought to be important because girls

did not want to feel alone in their efforts to either protect their non-smoking friends or stay smoke-free themselves. These quotes reflect the importance of intimate friendships and peer support among adolescent girls. Messages offering girls strategies for avoiding SHS were also endorsed. For example, the “Hanging With Your BFF” message was described as “helpful” because it provided advice: “It gave you the information that you needed to know. Because it might be hard to tell your friend to quit smoking [or], like, go somewhere else. It might be a little awkward to bring it up. And having a suggestion would make it a little easier.” Evident here is the difficulty girls might have, within relationship-oriented friendships, in addressing friends’ smoking. This could partly explain their receptivity to suggestions.

The girls expressed a high level of interest in the message that included a real-life example of a young woman with BC. They suggested that the message generated an emotional response and encouraged them to think more deeply about the risk of BC from smoking. One girl who had recently reduced her smoking was prompted to rethink her exposure to tobacco smoke:

I thought it was a little bit plain, but when I started reading it, it caught my eye, because I don't really smoke that much any more and just reading about how she [might have] got it from just second-hand smoke really made me think about where I'm hanging around when people are smoking.

Peers and peer relationships were often brought up as an influence in girls’ receptivity to health messages, reflecting the influence of friends on behaviours, including smoking, within female networks. For example, one girl discussed how peer pressure can override the importance of avoiding health-risk behaviours, such as smoking: “When I started smoking I knew all the risks, but I started smoking anyway. It depends how you’re starting smoking, if you’re being peer-pressured.” Therefore, messages that appeared to challenge the notion that smoking is “cool” were perceived as encouraging them to consider the risks that tobacco posed to their health. Another girl, who was in the process of quitting, summarized her understanding of “It Might Be Pretty”: “I like the saying at the top, because some people might think that it’s cool, or [that] you look better if you smoke, but it’s not really cool. And [I like the fact that] it tells you about the effects of second-hand smoke.”

These views suggest that girls are likely to be responsive to messages that challenge attitudes towards smoking as a cool or mature behaviour.

Boys’ messages. All of the boys in the focus groups endorsed messages that used humour or catchy images, such as “graffiti,” to attract the attention of young men around the topic of SHS and BC. The boys indicated

that they identified with humour and that any attempts to make the message go viral would require an inspirational and humorous message.

Some of the messages developed for boys were criticized as being “cheesy.” When asked to explain, participants indicated that the messages lacked authenticity. For example, one boy offered the following comment on “Step Up and Step Out”: “My friends would see that and laugh, and be, like, ‘that’s a joke’ and wouldn’t even bother reading it.” Participants thought that the use of more masculine images would enhance the effectiveness of the messages. One boy suggested using masculine endorsements, such as Nike, to gain the receptivity of young men around messages linking smoking to BC: “If you’re saying, ‘step up and step out,’ you should get a Nike shoe to do that, because it’s advertising, obviously . . . and it makes it better because it’s Nike.”

Another participant suggested using more masculine terminology, such as “man up and show respect.” One non-Aboriginal boy explained that the topic of BC was not something he and his friends would usually associate with, and therefore required a more masculine focus.

These data show adolescent boys’ awareness of masculine norms and could reflect a need to prove their masculinity. By being brand-conscious, the boys were able to reinforce their masculine identity. A strategy that is commonly used is to display an image or status in order to gain the social acceptance of peers.

“It’s That Simple” was the only message perceived to be gender-specific to young men. The idea of respecting girls depicted in this message resonated with the boys in the focus groups. They described how respecting girls was something that they “live by” and said that messages promoting the masculine role of protecting and respecting girls held potential for messaging boys about SHS in relation to BC. However, while they wanted to protect girls from smoke, boys who smoked did not want to reduce their own smoking. Discussions about tobacco reduction appeared to be a contentious topic among the boys who smoked, because quitting smoking was associated with being less of a man. One non-Aboriginal boy talked about how he would hear people saying that “quitting is for quitters” and this was a major reason for his own continued smoking and that of other males. A dominant theme underlying these responses to the sample messages was the emerging importance of masculinity in the way that boys project identities that align with strength, risk-taking, and protecting.

The use of sexualized images and messages proved to be distracting for some boys and inhibited their ability to engage in a close reading of the message. For example, several admitted that they did not pay much attention to the content of the message in “It’s That Simple” and that they “stopped caring about the tobacco [message]” because they were

focused on the silhouette of the girl. One boy in an FNM focus group stated, “It catches your attention, but it’s distracting. You stop thinking about cigarettes and start thinking about boobs.” Conversely, some boys stated that the message had encouraged them to keep reading: “I read the whole thing, not just because it had a sexy image, but I wanted to know what it had to do with it.”

Suggested Practices for Messaging Youth

The boys and girls in the focus groups made suggestions for reaching youth with messages about BC and tobacco exposure. The use of images over text was especially endorsed: “Of the posters I’ve seen, the best [are] the ones that are strong and simple. If you put too [many] words, I just don’t think that works as much for kids and teenagers.” Participants further stressed the importance of choosing the right images for youth and suggested that these be gender-, culture-, and age-specific.

Diverse messaging strategies were recommended. While youth agreed that a standard print campaign (e.g., posters in school hallways) would be appropriate, they proposed a number of additional interactive and creative methods. For example, most participants indicated that they frequently used social networking (e.g., Facebook) and believed that using this medium would be one of the best strategies for reaching out to youth. Various multimedia outlets to broadcast the message were also proposed, including online videos (e.g., YouTube), radio and television ads, and ads in movie theatres. Bringing the issue directly to schools by organizing “special days,” holding assemblies such as Breast Cancer Awareness Week, and holding group discussions similar to the focus groups was also suggested. One non-Aboriginal boy thought that school assemblies were particularly effective: “School assemblies are the best way to get points across, if you think about it, because I’ve heard the stupidest things at school assemblies, but I still remember them, and I still know them, and everyone still talks about them.” In combination with these strategies, there was strong support for the development and sale of items (e.g., T shirts, water bottles) communicating information about the risks of BC and smoking, provided they be youthful and have “cool designs . . . like graffiti.”

Discussion

The methods described in this article for developing health messages targeting youth contribute to a growing body of literature on the need for health promotion strategies tailored to sub-populations. The methodology provides a useful guide for including youth perspectives, illuminating important misconceptions (e.g., regarding SHS exposure, BC), and taking account of social influences (e.g., gender and culture) in tailoring mes-

sages to the needs and characteristics of particular groups. Although the perspectives were gathered from a small sample of youth, the approach was effective in generating messages that depart from the neutral approaches used in many BC messages to reflect the perspectives of “ordinary” youth. Nevertheless, we acknowledge that some youth (e.g., gay, lesbian) were not well represented in this study.

Based on the themes identified in the analysis of these data, the team developed a set of tailored messages. While mindful of youth input, we also drew on the team’s expertise, the technical expertise of graphic designers, and our desire to infuse the messages with a gender-specific approach (while avoiding gender stereotypes), which is often lacking in youth health promotion messages. The gendered message for girls included catchy images of girls holding brightly coloured bras to attract their attention, brief information about the risk of tobacco exposure in relation to BC, a strategy for reducing SHS risk, and encouragement to quit smoking for their own sake and the sake of their girlfriends. In the photo shoot, we purposely included non-Aboriginal and FNM girls. Developing a gender-specific message for boys about a women’s health issue was particularly challenging. The gendered message we developed for boys drew on their interest in demonstrating respect. The colours and image were selected to achieve a masculine look without heteronormative overtones. We focused on the effects of SHS and included a message to boys who smoke to think about quitting for themselves and for the girls they know. In the messages for FNM girls and boys, a feather was added to the background as a symbol of Aboriginal culture. Two of the resulting images are shown in Figures 2 and 3.

The methods used to develop tailored messages about smoking and BC raise important issues in designing gendered messages. As we have indicated throughout this article, when tackling the issue of gender-specific messaging for adolescents, tension arises between developing messages that mobilize gender roles in a way that appeals to a younger audience and reinforcing heteronormative gender ideals or identities. For example, the message that “guys love boobs” used in the focus groups sparked intense debate among members of the research team. In addition to believing that this message could be interpreted as sexually objectifying young women’s bodies, team members thought it had the potential to marginalize non-heterosexual youth and gender minorities (i.e., not “all guys” love boobs). A similar issue arose in relation to the “Most Valuable Protector” message, encouraging boys to safeguard girls from exposure to SHS. While the intention was to mobilize young men around a “positive” gendered role — men as caring for and being protective of women — such messaging can position young women as vulnerable and *in need of* protection and promote passive gender roles for

Figure 2 *Message for Aboriginal Girls*



Smoking affects more than your lungs.

Cigarette smoke, even second hand smoke, puts girls at risk of **breast cancer** at an early age.

Avoid places where you and your friends are exposed to second hand smoke.

START Leading breast cancer risk  a place of mind

If you smoke, think about quitting. Do it for yourself and for all the girls you know.

Figure 3 *Message for Non-Aboriginal Boys*



HEY GUYS, SHOW YOU CARE!

Respect the girls around you by not exposing them to second hand smoke.

SMOKING AFFECTS MORE THAN GIRLS' LUNGS.

Second hand smoke increases their risk of **breast cancer** at an early age.

START Leading breast cancer risk  a place of mind

If you smoke, think about quitting. Do it for yourself and for all the girls you know.

women. Concerns about heteronormativity are not often addressed in messaging to youth. This article offers direction for further exploration of these issues in health messaging for youth when it is important to account for gender-related factors; it also acknowledges the need to address stereotypes in gendered messaging (Haines-Saah, 2011).

Nevertheless, our findings support gender-specific strategies for messaging about tobacco exposure and BC. For young women, messages oriented to relationships and friendships were most strongly endorsed. Other authors have also recommended health promotion initiatives that support and promote social ties (Umberson & Montez, 2010), especially for young women, because they attach great importance to their relationships with significant others (Hurdle, 2011). The girls' preference for hearing young women's BC stories is perhaps not surprising given the power of personal narratives of cancer. Messaging young women about the link between tobacco smoke and BC through women's narratives of BC is challenging, however, because the causal mechanisms are not yet known (Collishaw et al., 2009). While it is important to incorporate girls' gender-specific preferences in messaging, we must be careful not to do so in misleading ways.

Messaging young men about a young women's health issue creates a different set of challenges in that it disrupts idealized heterosexual gender relations in the context of health and illness. Women are expected to, and most often do, look after the health of the men in their lives (Lee & Owens, 2002). In addition, males typically have been depicted as estranged from health-related concerns, especially female ones. However, the findings of this study suggest that appealing to the protector instinct as a "masculine" virtue focused on equality and respect holds potential for summoning young men to action. Thus, the patriarchal power so often criticized in men can be implicitly repositioned as an opportunity for young men to embody the power differential for the benefit of others.

The use of humour to message men draws on longstanding masculine ideals for how best to entice men to "do health" (Oliffe, Ogrodniczuk, Bottorff, Hislop, & Halpin, 2009). However, the final message we developed for boys (Figure 3) breaks with those ideals by speaking plainly to men. It is possible that the humorous overtones in the message titled "It's That Simple," and the young men's responses to it, gave purchase to some participants to signal their straight masculine identity in ways that lightened the connections between smoking and BC. While researchers have demonstrated empirically in other health and illness contexts that masculine ideals are neither all good nor all bad for men's health (Oliffe, Bottorff, & Sarbit, 2012; Sloan, Gough, & Conner, 2010), gender researchers are forced to make difficult decisions about how gender iden-

tities can be effectively taken up to advance health and well-being. By defaulting to the end-user's interpretations, some of these researcher dilemmas are eased in this regard.

Our findings also confirm the importance of including the views of Aboriginal youth when developing health messages. Although the perspectives of FNM youth were similar to those of their non-Aboriginal peers, a noteworthy departure was the perceived need for symbols as an entry point for Aboriginal youth to interact with the messages. This is in line with recommendations by others that symbols be used to recognize Aboriginal people's interest in their culture and their values (Stout & Kipling, 2002). The addition of meaningful symbols in health messages can be a discreet yet creative way to increase the relevance of health messages for Aboriginal youth.

Finally, participants' recommendations for reaching a wide range of youth are informative. The use of social media (e.g., Facebook) for message dissemination is supported in recent research investigating ways to message young women about the link between tobacco smoke and BC (Haines et al., 2010) and recent evidence that one third of teens who go online search the Internet for health information (Lenhart, Purcell, Smith, & Zickuhr, 2010). Furthermore, the consumer-generated nature of online health information offers opportunities to tailor messages to specific youth populations (Sarasohn-Kahn, 2007).

Conclusion

Our findings suggest that, while challenges exist, youth perspectives are a promising starting point when designing health messages for this group. The methodology used in our study provides an avenue for developing gender- and culture-specific approaches to messaging youth about health-related issues.

References

- Aboriginal Cancer Care Unit, Cancer Care Ontario. (2008). *A case study approach: Lessons learned in Ontario – Aboriginal tobacco cessation*. Toronto: Author. Retrieved December 9, 2013, from <https://www.cancercare.on.ca/common/pages/UserFile.aspx?fileId=13636>.
- Bottorff, J. L., McKeown, S., Carey, J., Haines, R., Okoli, C., Johnson K. C., . . . Ptolemy, E. (2010). Young women's responses to smoking and breast cancer information. *Health Education Research*, 25, 668–677.
- Branstetter, S. A., Blossnich, J., Dino, G., Nolan, J., & Horn, K. (2012). Gender differences in cigarette smoking, social correlates and cessation among adolescents. *Addictive Behaviors*, 37, 739–742.

- Campaign for Tobacco-Free Kids. (2009). *Deadly in pink: Big tobacco steps up its targeting of women and girls*. Retrieved December 9, 2013, from <http://www.lung.org/assets/documents/publications/other-reports/deadly-in-pink.pdf>.
- Collishaw, N. E., Boyd, N. F., Cantor, K. P., Hammond, S. K., Johnson, K. C., Millar, J., . . . Turcotte, F. (2009). *Canadian Expert Panel on Tobacco Smoke and Breast Cancer Risk – Full report*. Toronto: Ontario Tobacco Research Unit. Retrieved December 9, 2013, from http://www.otru.org/pdf/special/expert_panel_tobacco_breast_cancer.pdf.
- Dossus, L., Boutran-Ruault, M.-C., Kaaks, R., Gram, I. T., Vilier, A., Fervers, B., . . . Clavel-Chapelon, F. (2014). Active and passive cigarette smoking and breast cancer risk: Results from the EPIC cohort. *International Journal of Cancer*, *134*(8), 1871–1888.
- Eaton, D. K., Kann, L., Kinchen, S. A., Shanklin, S., Ross, J. G., Hawkins, J., . . . Wechsler, H. (2010). Youth risk behavior surveillance – United States, 2009. *Morbidity and Mortality Weekly Report* *2010*, *59*(SS05), 1–142.
- Elton-Marshall, T., Leatherdale, S. T., & Burkhalter, R. (2011). Tobacco, alcohol, and illicit drug use among Aboriginal youth living off-reserve: Results from the Youth Smoking Survey. *Canadian Medical Association Journal*, *183*(8), e480–e486.
- Farrelly, M., Niederdeppe, J., & Yarsevich, J. (2003). Youth tobacco prevention mass media campaigns: Past, present, and future directions. *Tobacco Control*, *12*(Suppl 1), i35–i47.
- Gantz, S. A., & Johnson, K. C. (2014). The Surgeon General Report on Smoking and Health 50 years later: Breast cancer and the cost of increasing caution. *Cancer Epidemiology, Biomarkers and Prevention*, *23*(1), 37–46.
- Gould, G. S., McEwen, A., Watters, T., Clough, A. R., & van der Zwan, R. (2013). Should anti-tobacco media messages be culturally targeted for Indigenous populations? A systematic review and narrative synthesis. *Tobacco Control*, *22*, e7.
- Haines, R. J., Bottorff, J. L., Barclay-McKeown, S., Ptolemy, E., Carey, J., & Sullivan, K. M. (2010). Breast cancer messaging for younger women: Gender, femininity, and risk. *Qualitative Health Research*, *20*(6), 731–742.
- Haines-Saah, R. J. (2011). Pretty girls don't smoke – gender and appearance imperatives in tobacco prevention messaging. In K. Bell, A. Salmon, & D. McNaughton (Eds.), *Alcohol, tobacco, obesity: Morality and the new public health* (pp. 191–211). New York: Routledge.
- Health Canada. (2012). *Tobacco use statistics: 2011*. Ottawa: Author. Retrieved December 9, 2013, from <http://www.hc-sc.gc.ca/hc-ps/tobac-tabac/research-recherche/stat/index-eng.php>.
- Hurdle, D. E. (2011). Social support: A critical factor in women's health and health promotion. *Health and Social Work*, *26*(2), 72–79.
- Hutchinson, P. J., Richardson, C. G., & Bottorff, J. L. (2009). Emergent cigarette smoking, correlations with depression and interest in cessation amongst Aboriginal adolescents in British Columbia. *Canadian Journal of Public Health*, *99*(5), 418–422.
- Innes, K. E., & Byers, T. E. (2001). Smoking during pregnancy and breast cancer risk in very young women. *Cancer Cause Control*, *12*(2), 179–185.

- Johnson, J. L., & Repta, R. (2012). Sex and gender: Beyond the binaries. In J. Oliffe & L. Greaves (Eds.), *Designing and conducting gender and sex health research* (pp. 17–37). Thousand Oaks, CA: Sage.
- Johnson, J. L., Tucker, R. S., Ratner, P. A., Bottorff, J. L., Prkachin, K. M., Shoveller, J. A., & Zumbo, B. (2004). Socio-demographic correlates of cigarette smoking among high school students: Results from the British Columbia Youth Survey on Smoking and Health. *Canadian Journal of Public Health, 95*(4), 268–271.
- Johnson, K. C. (2012). Tobacco smoke and breast cancer risk: Rapid evolution of evidence and understanding in the early 21st century. In G. G. Chen (Ed.), *Cigarette consumption and health effects* (pp. 1–19). Ottawa: Nova Science.
- Johnson, K. C., Miller, A. B., Collishaw, N. E., Palmer, J. R., Hammond, K. S., Salmon, A. G., . . . Turcotte, F. (2011). Active smoking and secondhand smoke increase breast cancer risk: The report of the Canadian Expert Panel on Tobacco Smoke and Breast Cancer Risk (2009). *Tobacco Control, 20*(e2).
- Lash, T. L., & Aschengrau, A. (1999). Active and passive cigarette smoking and the occurrence of breast cancer. *American Journal of Epidemiology, 149*(1), 5–12.
- Lee, C., & Owens, R. G. (2002). *The psychology of men's health*. Buckingham, UK: Open University Press.
- Lee, S., Cappella, J. N., Lerman, C., & Strasser, A. A. (2011). Smoking cues, argument strength, and perceived effectiveness of antismoking PSAs. *Nicotine and Tobacco Research, 13*(4), 282–290.
- Lenhart, A., Purcell, K., Smith, A., & Zickuhr, K. S. (2010). *Social media and mobile Internet use among teens and young adults*. Washington: Pew Research Center. Retrieved December 9, 2013, from <http://www.pewinternet.org/Reports/2010/Social-Media-and-Young-Adults.aspx>.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- McBride, C., Emmons, K., & Lipkus, I. (2003). Understanding the potential of teachable moments: The case of smoking cessation. *Health Education Research, 18*(2), 156–170.
- Morse, J. M., & Richards, L. (2013). *README FIRST for a user's guide to qualitative methods* (3rd ed.). Thousand Oaks, CA: Sage.
- National Aboriginal Health Organization. (2002/03). *NAHO fact sheet: Breast cancer and Aboriginal women*. Retrieved December 9, 2013, from <http://www.naho.ca/documents/naho/publications/breastCancer.pdf>.
- Okasha, M., McCarron, P., Gunnell, D., & Smith, G. D. (2003). Exposure in childhood, adolescence and early adulthood and breast cancer risk: A systematic review of the literature. *Breast Cancer Research and Treatment, 78*, 223–276.
- Oliffe, J. L., Bottorff, J. L., & Sarbit, G. (2012). Mobilizing masculinity to support fathers who want to be smoke free. In S. Coen & E. Banister (Eds.), *What a difference sex and gender make: A gender, sex and health research casebook* (pp. 94–101). Vancouver: CIHR Institute of Gender and Health.
- Oliffe, J. L., Ogrodniczuk, J. S., Bottorff, J. L., Hislop, T. G., & Halpin, M. (2009). Connecting humor, health, and masculinities at prostate cancer support groups. *Psycho-Oncology, 18*(9), 916–927.

- Prevention First. (2008). *Ineffectiveness of fear appeals in youth alcohol, tobacco, and other drug (ATOD) prevention*. Springfield, IL: Author. Retrieved December 9, 2013, from <https://www.prevention.org/resources/SAPP/documents/IneffectivenessofFearAppealsinYouthATODPrevention-FINAL.pdf>.
- Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing and Health*, 23, 334–340.
- Sarasohn-Kahn, J. (2007). Health 2.0: It's not a noun, it's a verb, a movement. *iHealth Beat*, October 3. Retrieved December 9, 2013, from: <http://www.ihealthbeat.org/perspectives/2007/health-20-its-not-a-noun-its-a-verb-a-movement>.
- Sloan, C., Gough, B., & Conner, M. (2010). Healthy masculinities? How ostensibly healthy men talk about lifestyle, health and gender. *Psychology and Health*, 25(7), 783–803.
- Stout, M., & Kipling, G. (2002). *The Health Transition Fund synthesis series: Aboriginal health*. Ottawa: Health Canada.
- Umberson, D., & Montez, J. K. (2010). Social relationships and health: A flash-point for public policy. *Journal of Health and Social Behavior*, 51(Suppl), S54–S56.
- Valentine, J., Dewar, M., & Wardman, D. (2003). An exploration of smoking cessation and prevention interventions for Aboriginal youth. *Pimatzivin: A Journal of Aboriginal and Indigenous Community Health*, 1(2), 135–152.
- Wakefield, M., Flay, B., Nichter, M., & Giovino, G. (2003). Effects of anti-smoking advertising on youth smoking: A review. *Journal of Health Communication*, 8, 229–247.
- White, C., Oliffe, J. L., & Bottorff, J. L. (2013). Marketing manhood: Catalyzing African American and White American masculinities in cigarette advertising. *American Journal of Public Health*, 103(4), e44–e55.

Acknowledgements

This research was supported by funding from the Canadian Breast Cancer Research Alliance and the Canadian Breast Cancer Foundation (grant #020659) and also through a Michael Smith Foundation for Health Research scholar award to Dr. Oliffe and a Canadian Institutes of Health Research scholar award to Dr. Richardson.

Competing interests: The authors have no competing interests to declare.

Joan L. Bottorff, RN, PhD, is Professor, School of Nursing, and Director, Institute for Healthy Living and Chronic Disease Prevention, University of British Columbia, Okanagan campus, Kelowna, Canada. Rebecca Haines-Saah, PhD, is Research Associate, School of Nursing, University of British Columbia, Okanagan. John L. Oliffe, RN, PhD, is Professor, School of Nursing, University of British Columbia, Vancouver campus. Laura L. Struik, RN, MSN, is a PhD

Designing Tailored Messages About Smoking and Breast Cancer

Joan L. Bottorff et al.

student, Institute for Healthy Living and Chronic Disease Prevention, University of British Columbia, Okanagan. Laura J. L. Bissell, MA, is Research Coordinator, Institute for Healthy Living and Chronic Disease Prevention, University of British Columbia, Okanagan. Chris P. Richardson, PhD, is Associate Professor, School of Population and Public Health, University of British Columbia, Vancouver. Carolyn Gotay, PhD, is Professor, School of Population and Public Health, University of British Columbia, Vancouver. Kenneth C. Johnson, PhD, is Adjunct Professor, Department of Epidemiology and Community Health, University of Ottawa, Ontario, Canada. Peter Hutchinson, PhD, is Manager, Chronic Disease Surveillance Program, Métis Nation of British Columbia, Abbotsford.