



Taking messages about breast cancer and smoking online: New directions for reducing tobacco exposure among girls

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a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

Smoking affects more than lungs...

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- Tobacco smoke contains approximately 20 mammary carcinogens
(California Environmental Protection Agency, 2005).
- Exposure to tobacco smoke linked to premenopausal breast cancer
(Collishaw et al., 2009; Johnson, 2012).
- Vulnerability high during breast cell growth
(Innes & Byers, 2001; Lash & Aschengrau, 1999; Okasha, McCarron, Gunnell, & Smith, 2003).



START

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Goal: To raise awareness among youth about girls' increased risk for breast cancer (BC) when exposed to tobacco smoke

Objectives:

- To develop gender- and Aboriginal-tailored messages
- To evaluate youths' responses to tailored messages



Program of Research

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START is nested in the British Columbia Adolescent Substance Use Survey (BASUS)

BASUS	Wave 2 (Spring 2010)	Wave 3 (Fall 2010)	Wave 4 (Spring 2011)	Wave 5 (Fall 2011)	Wave 6 (Spring 2012)
START	Phase 1 BASUS data used to identify and characterize groups based on smoking status, gender and ethnicity	Phase 2 Message development (Qualitative; focus groups)	Phase 3 Message delivery and evaluation using a randomized trial (including a partial cross-over) nested within the ongoing BASUS cohort study		

Message Development Phase

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- ▣ Message strategies developed via 8 focus groups
 - 43 youth aged 12 to 17
 - 18 female
 - 20 of Aboriginal descent



Be Breast Friends for Life



STEP UP  **STEP OUT**

Tailored START Messages

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Girls' Messages

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.



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

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.



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

Boys' Messages

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.



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

HEY GUYS, SHOW YOU CARE!

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



SMOKING AFFECTS MORE THAN GIRLS' LUNGS.

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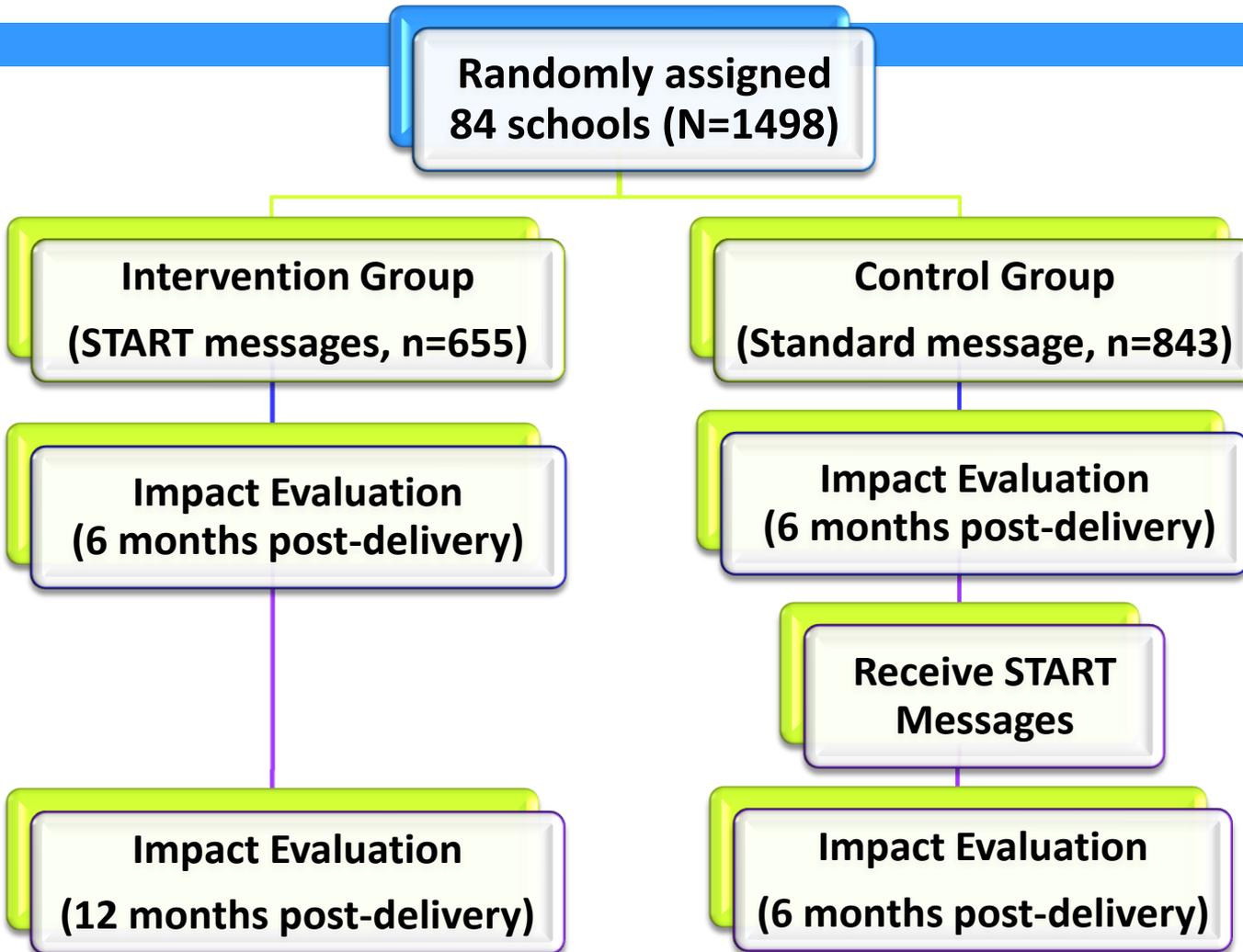
Standard Message

7



START: RCT Phase

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Measures

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- Demographics
- Smoking behaviour
- Message viewing time
- Perceived risk
- Worry
- Information-seeking



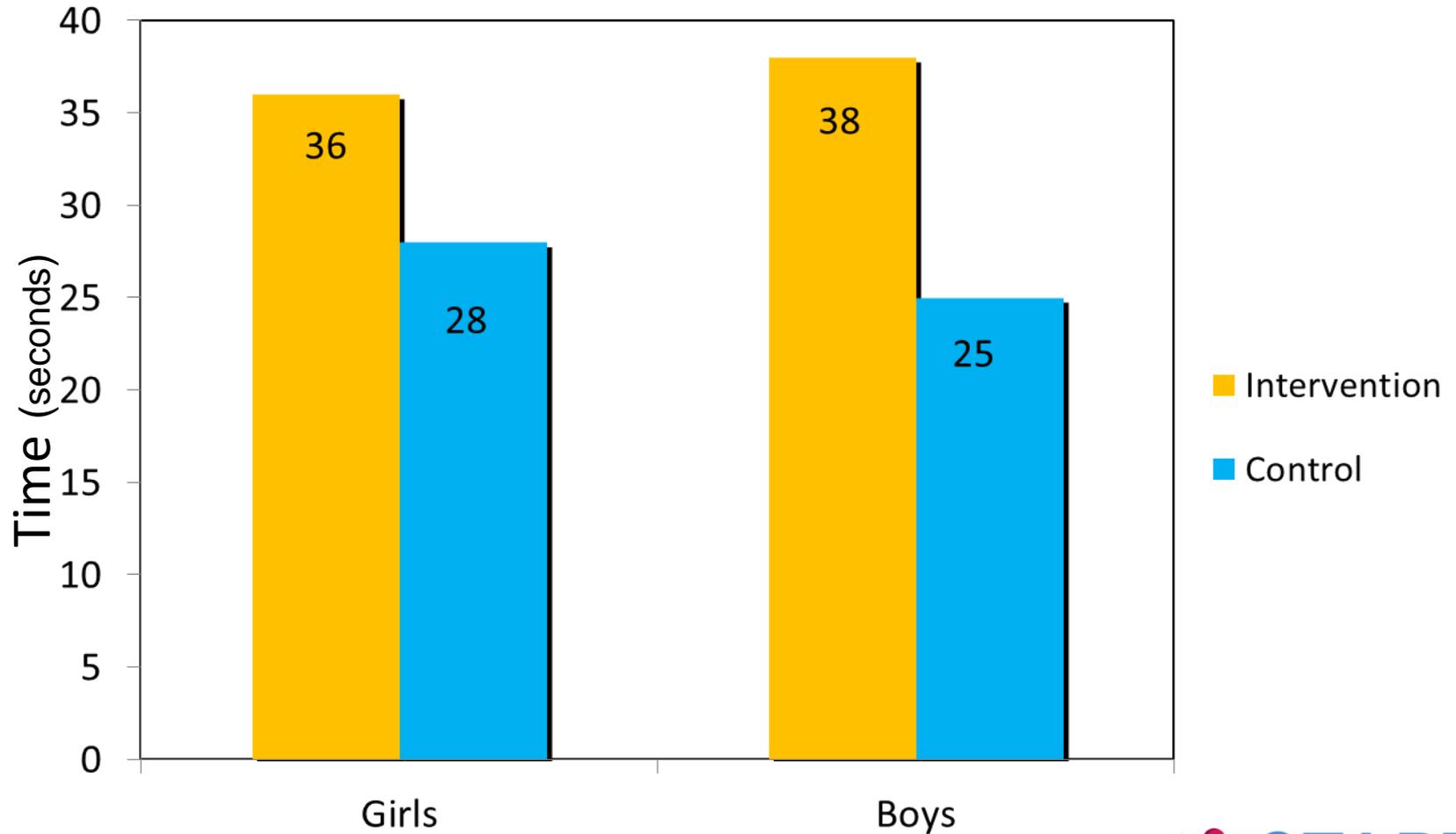
Participant Characteristics		Intervention n (%)	Control n (%)
Gender*	Male	310(48)	348(42)
	Female	339(52)	491(59)
Age in years***	13	92(14)	172(21)
	14	351(54)	480(57)
	15	206(32)	187(22)
Ethnicity	Aboriginal	71(11)	96(11.8%)
	Other	555(89)	717(88)
Family member has had BC*	Yes	153(25)	154(20)
Have tried smoking tobacco	Yes	60(9)	104(12)
Does anyone smoke in your home...?*	Yes	60(9)	107(13)
Past month's exposure to SHS	Every day	20(3)	35(4)
	Almost every day	70(11)	79(10)
	At least once a week	153(24)	236(28)
	At least once in past month	281(44)	347(43)
	Never	110(17)	119(15)
Tobacco identified as a risk factor for BC	Yes	172(27)	208(25)

Exposure to intervention

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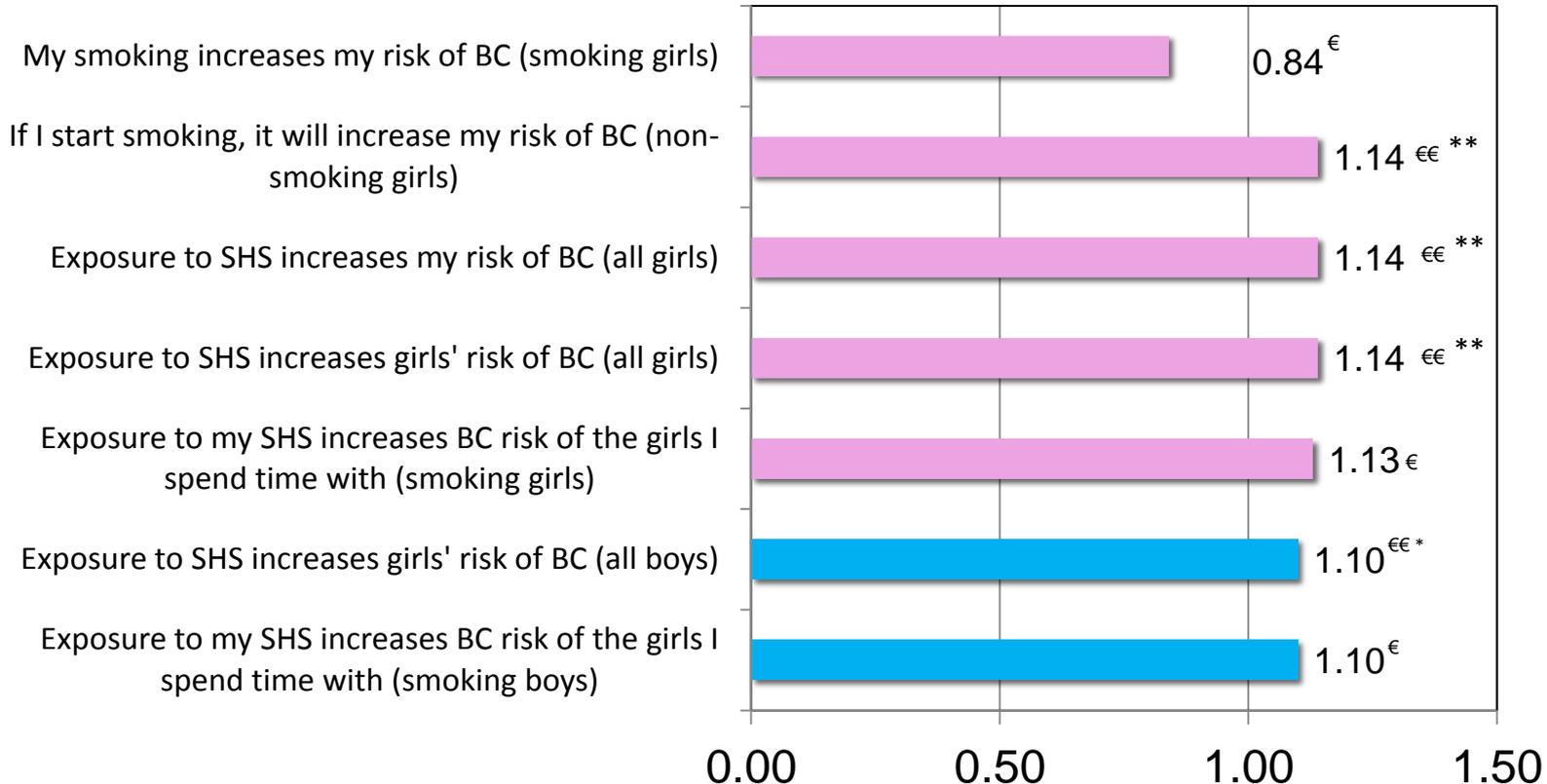


Time spent reading messages



Post-intervention relative risk

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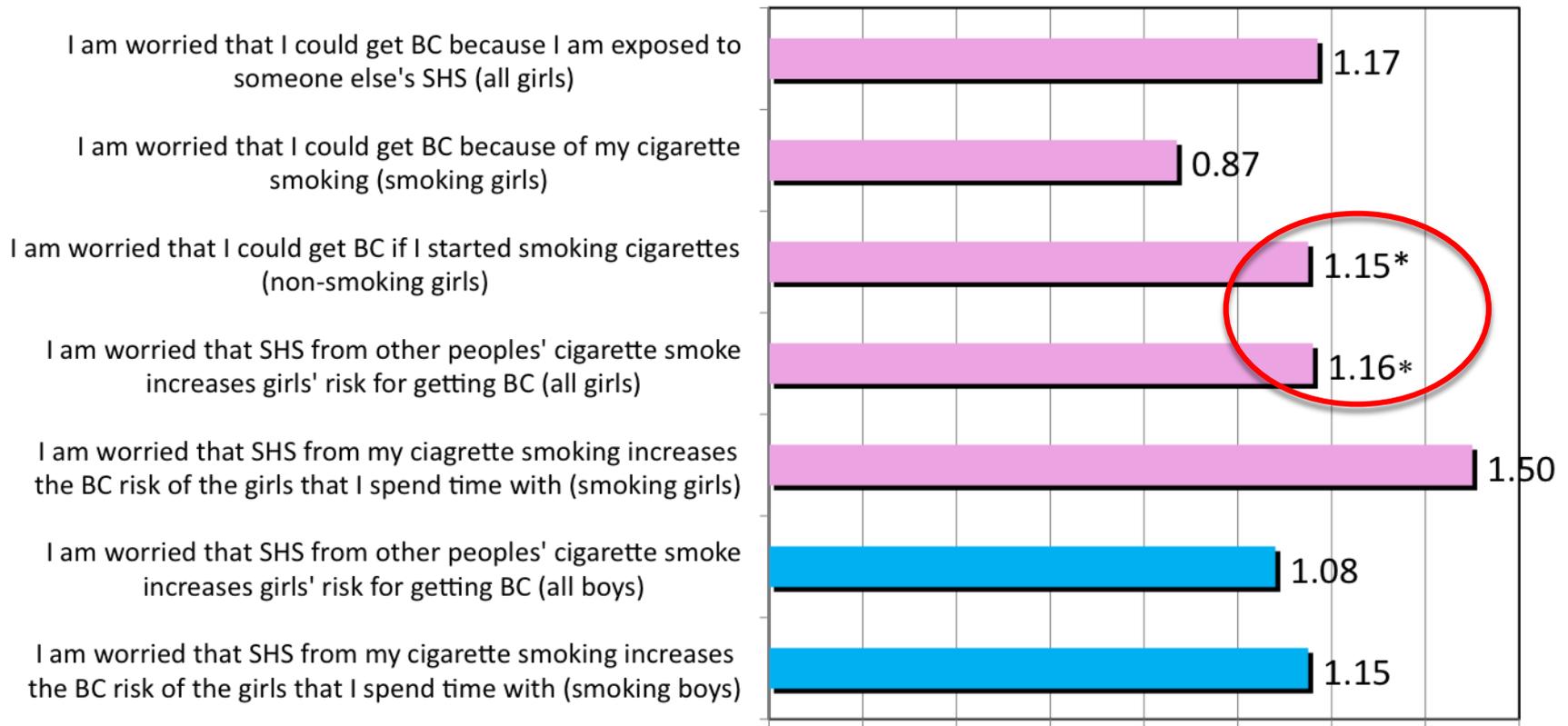
€ Unadjusted RR due to small sample size

€€ Adjusted RR for age, family history of BC, smoking status of family and peers, and having tried cigarettes.

* $p < 0.01$, ** $p < 0.001$

Post-intervention worry

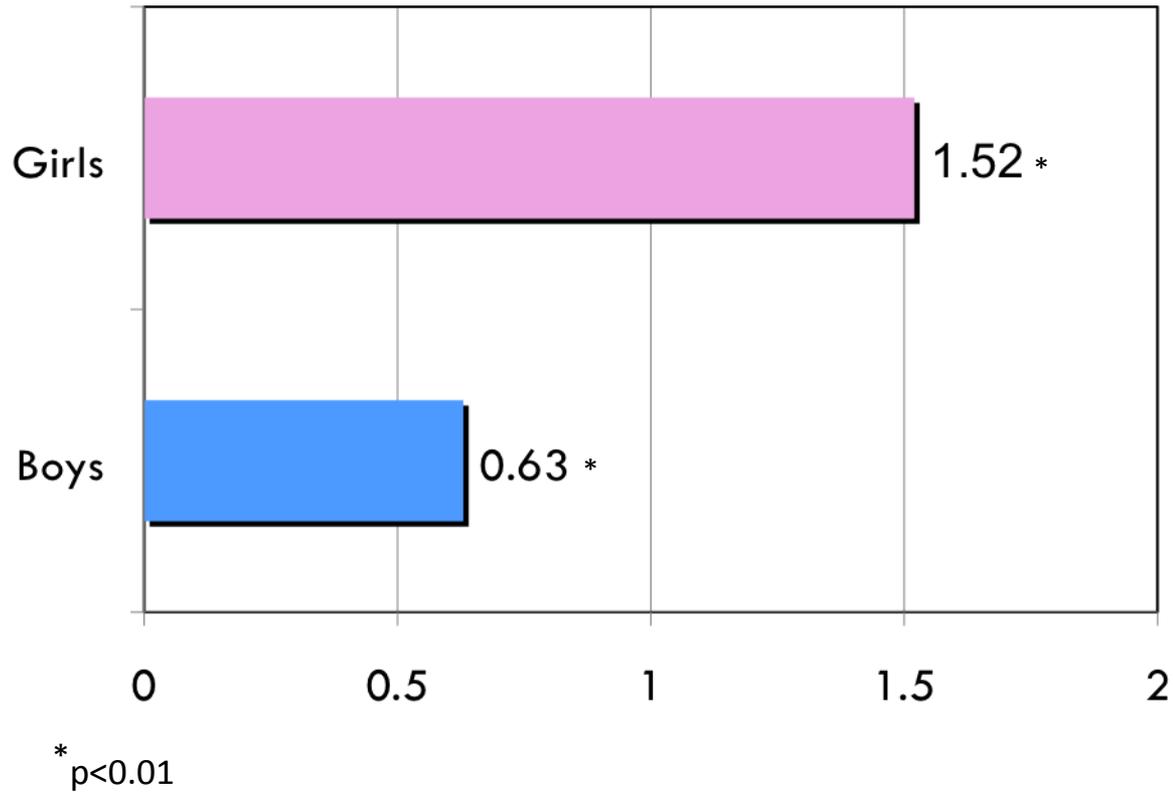
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* $p < 0.01$

0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60

Interest in receiving more information



Making sense of the results...

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- ❑ Positively framed, gender-specific messages appear to increase awareness
- ❑ Girls' response may be related to physical/social changes with transition to womanhood
- ❑ Masculine norms can be repositioned to promote young men's involvement in girls/women's health issues
- ❑ Interactive technologies hold promise for cost-effective, gendered health promotion



Knowledge Translation

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- **Information for girls and boys**
 - ▣ About risk
 - ▣ Strategies to decrease girls' risk



Teaching Kits

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- PowerPoint presentation and lesson plan for teachers

Smoking Affects More Than The Lungs

WHAT YOU

New Research

Young women are at risk of developing breast cancer when:

- They smoke cigarettes
- Are exposed to secondhand smoke

Cigarette Smoke Chemicals

250 harmful chemicals	20 breast cancer causing chemicals	7,000 chemicals	70 cancer causing chemicals
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Secondhand Smoke Exposure

REFLECTION ACTIVITY:

Where are you exposed to secondhand smoke?

START
decreasing breast cancer risk
Supporting Tailored Approaches to Reducing Tobacco

Online resources for girls and boys

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ePostcards

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- Sent by email or through social media websites

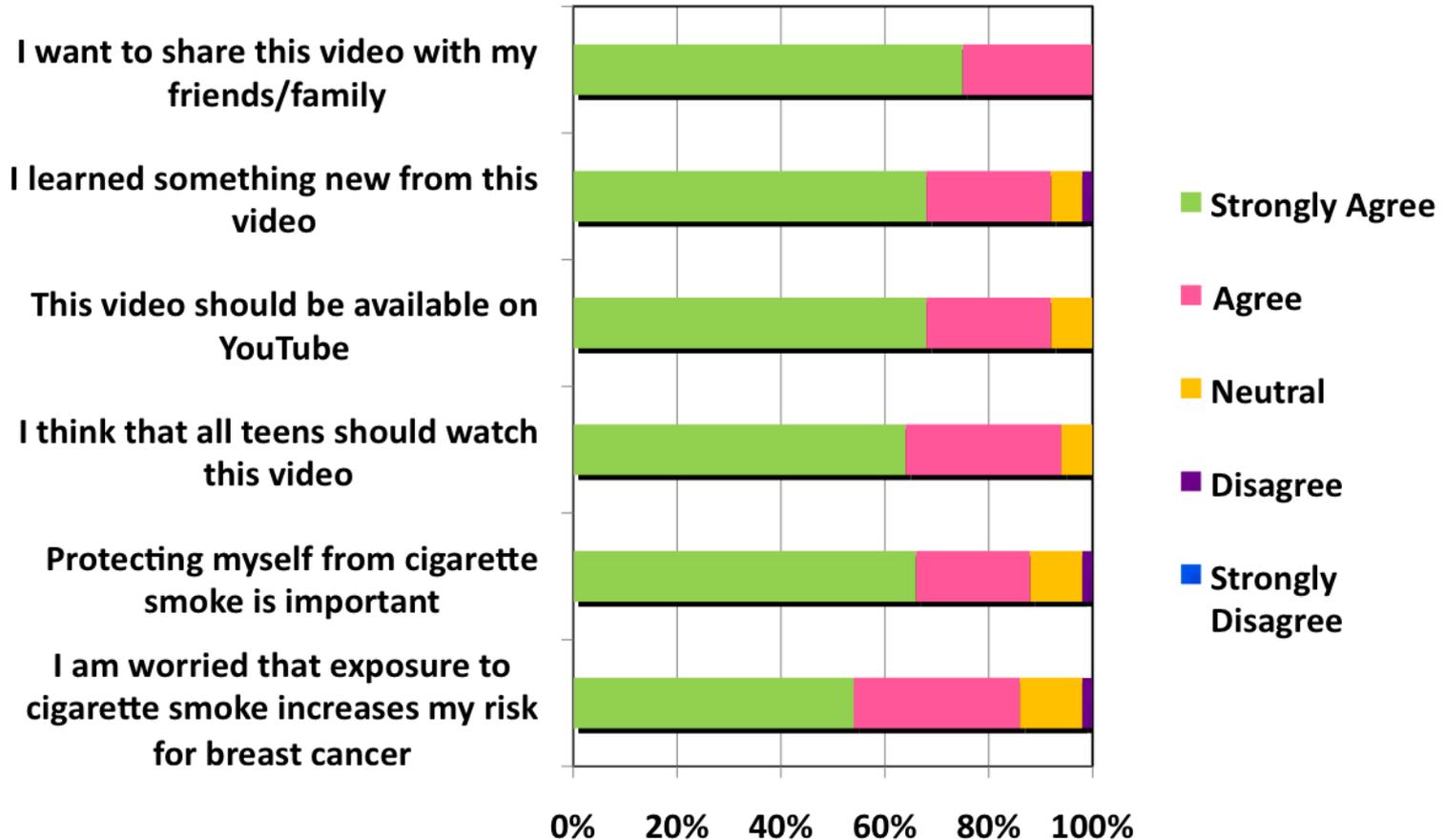


Word Play

Videos

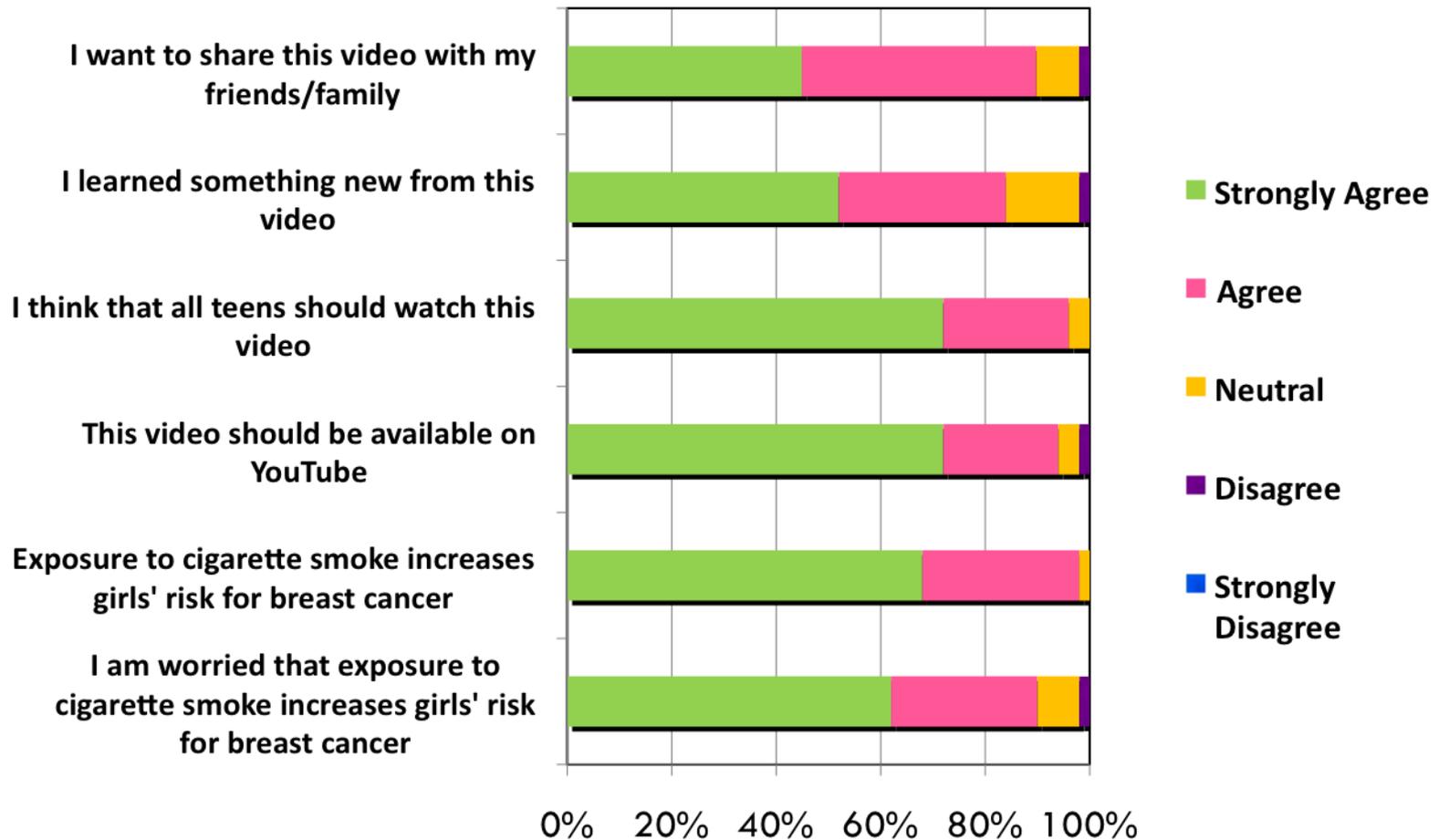
Girls' Feedback

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Boys' Feedback

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- ▣ Interactive online quizzes
- ▣ Infographics
- ▣ You Tube video – the biology behind the risk
- ▣ You Tube video – breast cancer awareness for young women



Opportunities
straight ahead

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Conclusion

Acknowledgements

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- Think Media, Media Button



CIHR IRSC



Questions?

For further information:

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