#### **Supplemental Materials for**

"Crafting normative messages to promote childhood vaccine advocacy" By Hurlstone et al. (2018)

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# **Intervention Components By Condition**

## No Norm / No Message

The following information is provided directly from the Centers for Disease Protection (CDC) website. Please read it carefully, as you will be asked questions about it later.

#### What are measles, mumps, and rubella?

Measles, mumps and rubella are all highly contagious viral illnesses.

**Measles** causes rash, cough, runny nose, eye irritation, and fever. Complications can include ear infection, pneumonia, seizures (jerking or staring), brain damage, and death.

**Mumps** causes fever, headache, and swollen glands. Complications can include deafness, meningitis (infection of the brain and spinal cord covering), painful swelling of the testicles or ovaries, and, rarely, death.

**Rubella (German measles)** causes rash, mild fever, and arthritis (mostly in women). If a woman gets rubella while she is pregnant, she could have a miscarriage or her baby could be born with serious birth defects.

#### About the MMR vaccine

Age of vaccination

- 12 to 15 months first dose of MMR vaccine.
- 4 to 6 years second dose of MMR vaccine.<sup>1</sup>

#### How effective is the vaccine?

The MMR vaccine is an effective measure in preventing disease transmission. After two doses of the MMR vaccine,

- 97% of recipients will be protected against measles and rubella,
- 88% of recipients will be protected against mumps.<sup>2</sup>

Rates of *measles, mumps and rubella* have declined in the United States due to the introduction of the MMR vaccine.<sup>1</sup>

Cost

Health insurance covers the cost of the MMR vaccine for most children.

Otherwise, the Vaccine for Children (VFC) program<sup>3</sup> provides the MMR vaccine for free to eligible children (although there may be an administrative fee of up to \$15).

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#### Vaccination protects the community

- Sick and contagious person comes in contact with others
  Vaccinated individuals prevent virus spreading further.
  Nonimmune individuals protected by vaccinated individuals.
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#### What are other parents doing?

92 out of 100 American parents immunise their children with the MMR vaccine.<sup>4</sup>

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# Questionnaires

## **Perceived Descriptive Norm**

Please estimate how many U.S. parents (out of 100) you think vaccinate their children with the measles, mumps and rubella (MMR) vaccine.

## **Pre-Vaccination Attitude**

Using a scale ranging *strongly disagree* (1) to *strongly agree* (7), please indicate how much you agree or disagree with the following statements.

- 1. Getting vaccines is a good way to protect my child(ren) from disease.
- 2. Generally I do what my doctor recommends about vaccines for my children.
- 3. I am concerned about serious adverse effects of vaccines. \*
- 4. New vaccines are recommended only if they are as safe as older vaccines.
- 5. Parents should have the right to refuse vaccines that are required for school for any reason. \*
- 6. My children do not need vaccines for diseases that are not common anymore. \*
- 7. Pharmaceutical companies conceal information about the safety of vaccines. \*
- 8. Nowadays children receive too many vaccines. \*

*Note:* Negatively keyed statements denoted by \* were reverse coded so that larger premanipulation attitude scores reflected greater pro-vaccination attitudes.

# **Moral Conviction**

Using a scale ranging *not at all* (0) to *very much* (10), To what extent are your general attitudes toward vaccination a reflection of your **core moral beliefs and convictions?** 

## Post-Manipulation Attitude (Vaccine Confidence Scale; Rossen, Hurlstone, Dunlop, & Lawrence, 2018)

Using a scale ranging *strongly disagree* (1) to *strongly agree* (7), please indicate how much you agree or disagree with the following statements.

- 1. Vaccines have not been adequately tested for safety. \*
- 2. People should be able to decide whether or not to vaccinate their children. \*
- 3. Vaccines overwhelm a child's undeveloped immune system. \*
- 4. Getting vaccinated helps protect those who are unable to be vaccinated against disease.
- 5. Vaccines can cause or worsen allergies. \*
- 6. Improved living standards, not vaccination, have reduced infectious diseases. \*
- 7. It is important that people are able to make their own decisions about vaccination. \*
- 8. Pharmaceutical companies purposefully conceal information about the safety of vaccines. \*
- 9. Infectious diseases are virtually eliminated so vaccination is not needed. \*
- 10. It should be compulsory for all children to be vaccinated.

- 11. Vaccines cause the diseases they are supposed to prevent. \*
- 12. The government conceals information about the safety of vaccines. \*
- 13. Homeopathic medicines are an effective alternative to conventional vaccines. \*
- 14. Vaccines introduce unnatural toxins into the body. \*
- 15. The more people who get vaccinated the greater the protection against disease.
- 16. Building immunity by naturally fighting off a disease is better protection than getting a vaccine. \*
- 17. It is okay for people to be exempt from vaccination for moral or personal reasons. \*
- 18. Pharmaceutical companies create ineffective vaccines in order to make high profit. \*
- 19. Vaccinations do nothing to protect people who are not vaccinated. \*
- 20. Infants immune systems are not developed enough to cope with vaccinations. \*
- 21. Infants are too young to be vaccinated. \*
- 22. Doctors should not recommend vaccination to all parents with healthy children. \*

*Note:* Negatively keyed statements denoted by \* were reverse coded so that larger postmanipulation attitude scores reflected greater pro-vaccination attitudes.

## **Behavioural Intention**

Using a scale ranging from *not at all likely* (0) to *extremely likely* (10), please indicate the likelihood that you would vaccinate a future child with at least one dose of the MMR vaccine.

# Figures

Marginal Means-Normative Message



#### Figure S1.

Post-manipulation attitude (A) and behavioural intention (B) as a function of normative message condition. Error bars represent 95% confidence intervals.