

Using Message Tailoring to Promote HPV Vaccination

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HPV Vaccination

- Primary prevention strategy for infections known to cause cervical cancer
- Quadrivalent HPV vaccine
 - Protects against HPVs 16 & 18, 6 & 11
- Bivalent HPV vaccine
 - Protects against HPVs 16 & 18
- FDA Approval
 - HPV4 2006; HPV2 2009

HPV Vaccine Initiation & Completion

- Girls ages 13-17 (NIS-Teen)

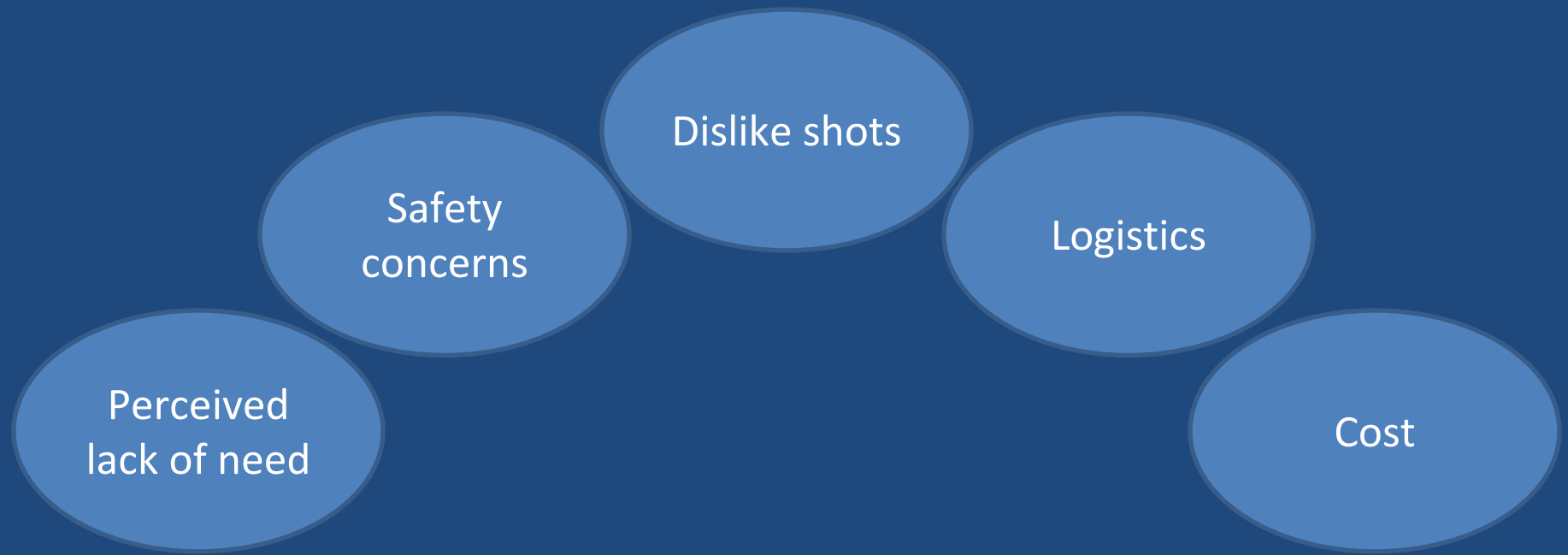
	2007	2008	2009	2010
≥ 1 dose	25%	37%	44%	49%
≥ 3 doses		18%	27%	32%

- Young adult women ages 19-26 (NHIS)

	2007	2008	2009	2010
≥ 1 dose		11%	17%	21%

National Immunization Survey-Teen (2011); National Health Interview Survey (2012)

Perceived Barriers to HPV Vaccination



Gerend, Shepherd, & Shepherd (2011, Advance online publication) *Health Psychology*

Message Tailoring

- Tailored health communications
 - are more likely to be read, remembered, and viewed as personally relevant
 - facilitate message processing and have stronger impact
 - lead to larger changes in theoretical determinants of health behavior and actual behavior

Hawkins et al., 2008; Kreuter et al., 1999, 2003; Noar et al., 2007; Skinner et al., 1999; Strecher, 1999

Pilot Study

- Perceived barriers - strongest determinants of health behavior
- Can tailoring intervention materials to women's perceived barriers increase their interest in HPV vaccination?

Methods

- Recruited participants through Blackboard (web-based course management system)
- Completed online screening survey
 - **Eligibility criteria:** Female; Aged 18-26; Had not received any doses of HPV vaccine; Not pregnant
- ~50% had already been vaccinated
- Data collection: February-March 2011

Participants

- 94 unvaccinated women
- Mean age: 20 years old ($SD = 1.9$)
- 70% White; 20% African American
- Ever had sex: 65%

Procedure

- Completed **pre-intervention survey**
 - Sexual history
 - Perceived barriers to HPV vaccination
 - Intentions to receive HPV vaccine in next year
 - 5-item composite (*1 = unlikely to 7 = very likely*)
- **Randomly assigned** to read a tailored or non-tailored binder about HPV infection and HPV vaccination
- Completed **post-intervention survey**

Check all that apply

- ☐ A. The vaccine **costs** too much
- ☐ B. I don't like getting **shots**
- ☐ C. I'm concerned about whether the vaccine is **safe**
- ☐ D. I'm in a monogamous/committed **relationship**
- ☐ E. Getting vaccinated takes **too much time**
- ☐ F. I'm concerned about possible **side effects** of the vaccine
- ☐ G. There hasn't been enough **research** done on the vaccine
- ☐ H. I'm **not sexually active**
- ☐ I. I **don't know enough** about the HPV vaccine *
- ☐ J. I just **haven't gotten around to** getting the vaccine yet *

* Tailored materials did not address these barriers

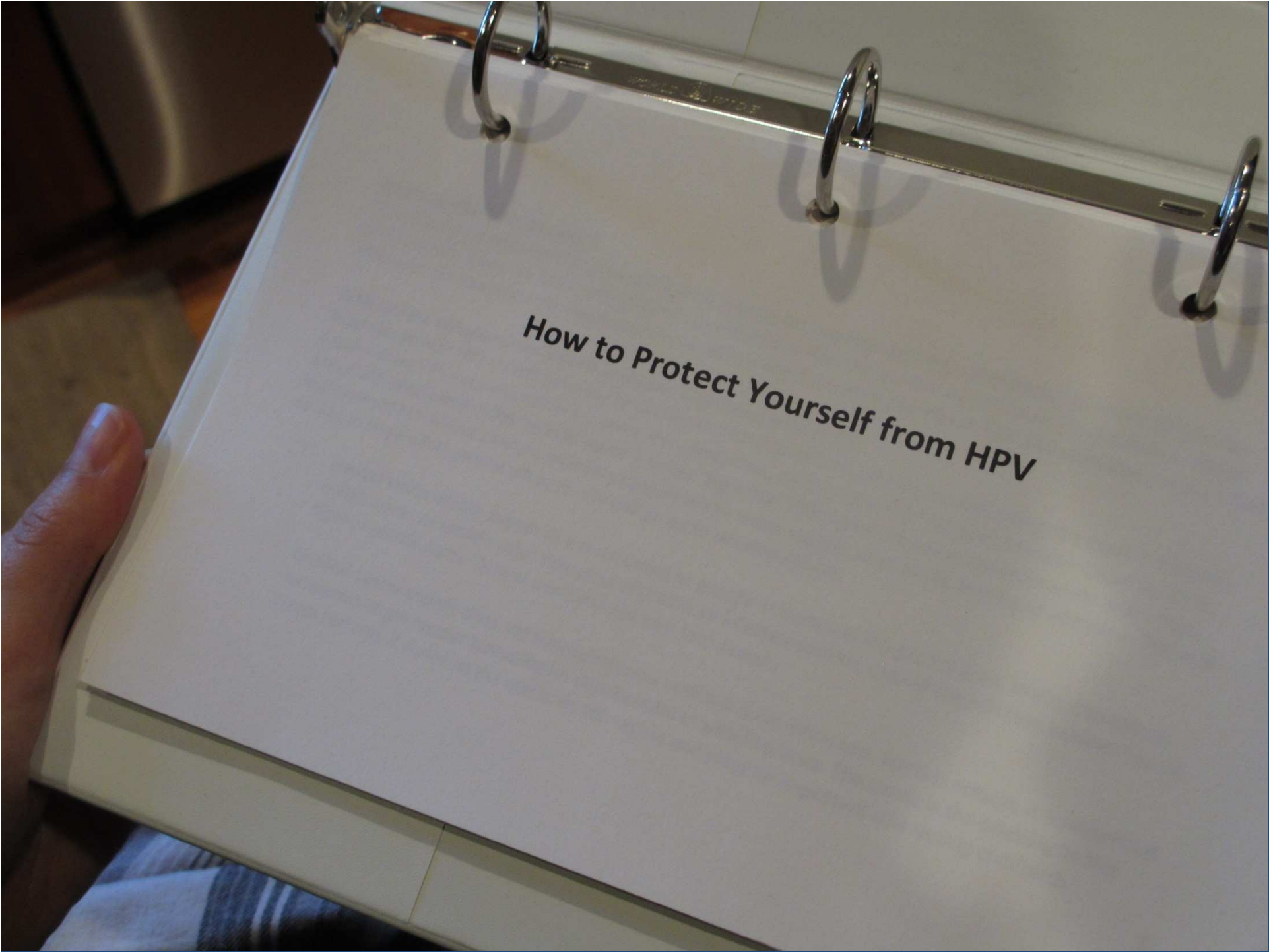
Intervention Materials

- Randomly assigned to review a
 - Non-tailored control binder
 - Basic information about HPV infection & vaccination
 - Personally tailored binder
 - Basic information + information tailored to participants' barriers to HPV vaccination

Check all that apply

- ☐ A. The vaccine **costs** too much
- ☐ B. I don't like getting **shots**
- ☐ C. I'm concerned about whether the vaccine is **safe**
- ☒ D. I'm in a monogamous/committed **relationship**
- ☐ E. Getting vaccinated takes **too much time**
- ☒ F. I'm concerned about possible **side effects** of the vaccine
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A spiral-bound notebook is shown from a top-down perspective. The notebook is open to a blank white page. The title "How to Protect Yourself from HPV" is written in black ink, slanted upwards from left to right. The spiral binding is visible along the top edge of the page. A person's thumb is visible on the left side, holding the notebook. The background is dark and out of focus.

How to Protect Yourself from HPV

What is genital HPV infection?

Genital human papillomavirus (also called HPV) is the most common sexually transmitted infection (STI) in the United States. There are more than 40 HPV types that can infect the genital areas of males and females. These HPV types can also infect the mouth and throat. HPV is not the same as herpes or HIV (the virus that causes AIDS).

What are the symptoms and health problems associated with HPV?

Most people with HPV do not have any symptoms or health problems. In fact, in most cases, the body's immune system clears HPV naturally within 1-2 years. But sometimes, certain "low risk" types of HPV can cause warts in the genital area (often called "genital warts"). Other "high risk" HPV types can cause cervical cancer and other, less common but serious cancers, including cancers of the vulva, vagina, anus, penis, and head and neck. There is no way to know which people who get HPV will go on to develop cancer.

Genital warts usually appear as a small bump or groups of bumps in the genital area. Warts can appear within weeks or months after sexual contact with an infected partner, even if the infected partner has no signs of genital warts. Genital warts will not turn into cancer.

Cervical cancer usually does not have symptoms until it is quite advanced. For this reason, it is important for women to get regular screening for cervical cancer with Pap tests. The cervix is the opening to the uterus (womb). It connects the uterus to the vagina and plays an important role during childbirth.

I'm in a committed relationship. Could I be at risk for HPV?

It is true that being in a faithful, committed relationship with one partner can reduce your risk of HPV. However, if your partner has had previous partners, even just one, you could be at risk for HPV.

HPV usually has no symptoms, so most infected persons do not realize they are infected or that they are passing the virus on to a sex partner. Moreover, a person can have HPV even if years have passed since he or she had sexual contact with an infected person. Unfortunately, you usually cannot tell if a partner who has been sexually active in the past is currently infected with HPV. So it's much better to be safe than sorry.

HPV is transmitted by skin-to-skin contact and thus is very easy to pass on. While condoms can reduce the likelihood that HPV is spread, they cannot guarantee 100% protection, because HPV could be infecting an area of the body not covered by a condom. So even if a person has always used condoms with their previous partner, there is still a chance they have been exposed to HPV.

Because the virus is so common, anyone who engages in sexual activity with another person is at risk for getting HPV infection. Even people with only one lifetime sex partner can get HPV. This is why it is a good idea for everyone to consider HPV vaccination as another important step they can take to protect themselves from HPV.

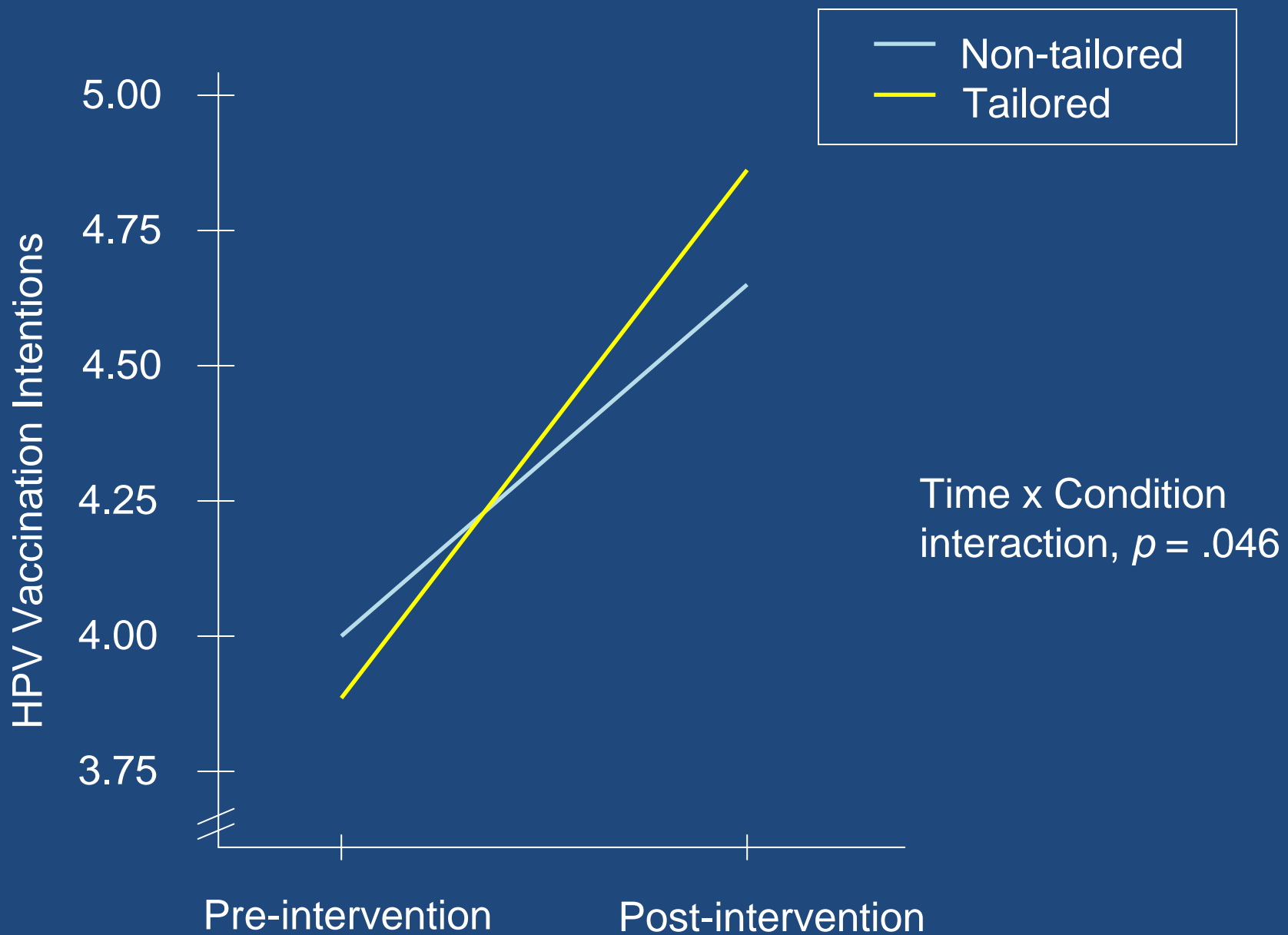
Results

Manipulation Checks

- Tailored = Non-tailored
 - Informative
 - Convincing
 - Important
 - Easy to understand
- Tailored > Non-tailored ($p < .001$)
 - “Personalized for me”

Barriers Endorsement at Baseline

Barrier	Percentage
Side effects	55
Safety	46
Need more info	37
Too new	36
Didn't get around to it	36
Not sexually active	31
Shots	26
In relationship	18
Cost	17
Too much time	5



Conclusions

- Most common barriers to HPV vaccination
 - Safety and side effects concerns
 - Lack of information about HPV vaccines
 - Low perceived relevance (not sexually active)
- Tailoring communications to women's perceived barriers is a potentially promising strategy for promoting HPV vaccination

Acknowledgments

- Collaborators
 - Melissa Shepherd
 - Women's Health Research Team
- Funding
 - National Cancer Institute





Barriers Endorsement at Baseline

Barrier	Non-tailored (n = 49)	Tailored (n = 45)
Cost	18%	16%
Shots	25%	27%
Safety	51%	40%
In relationship	14%	22%
Too much time	4%	7%
Side effects	74%	36%
Too new	43%	29%
Not sexually active	33%	29%
Need more info	35%	40%
Didn't get around to it	29%	44%