Health Communication, Perceived Racism, and Colorectal Cancer Screening Disparities

How Can Team Science Help?

Todd Lucas, Ph.D.

C.S. Mott Endowed Professor - Division of Public Health
Associate Professor – Department of Epidemiology and Biostatistics
College of Human Medicine
Michigan State University

3 Goals Today…

1. Initial research on message-framing and culturally-targeted messaging.

2. Current research on health communication and at-home colorectal cancer screening.

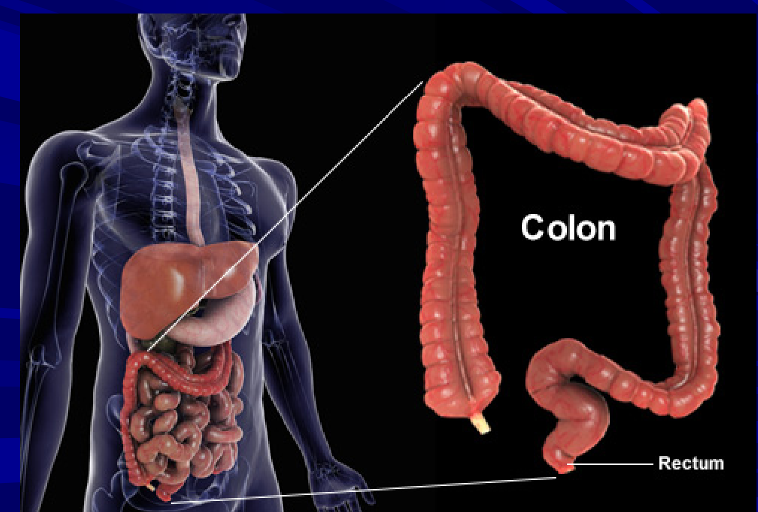
3. Team science and future directions.

Colorectal Cancer

- The third most common cancer in the United States, and the second leading cause of cancer mortality.

- In 2018, about 135,000 new cases and about 50,000 deaths from CRC. In Michigan, over 4600 new cases and about 1700 deaths from CRC.

- CRC Risk factors:
  - Age
  - Familial/Genetic Risk
  - Lifestyle Factors



Colorectal Cancer Screening: Things to Know

- It saves lives!
  1. Mortality 50 percent lower than 30 years ago.
  2. Over 90 percent survival when detected early.

- Multiple options and tradeoffs.
  1. Colonoscopy every 10 years.
  2. Sigmoidoscopy every 5 years.
  3. *Annual stool-based testing.

- It can still be improved!
  1. Almost 60 percent of mortality could be prevented through better/earlier screening.
  2. Disparities are improving, but they still persist.

Colorectal Cancer Screening: Things to Know

- Disparities in Colorectal Cancer stem from screening.

  1. Incidence 12 percent higher in African Americans
  2. Mortality 30-50 percent higher in African Americans.
  3. Discernable differences in screening rates between White and African Americans.

- An important domain for health communication research!!!!

  1. Education: CRC Risks Prevention and Screening.
  2. Motivation/Persuasion.
  3. Implementation and Maintenance.

Motivating Colorectal Cancer Screening

Message-Framing:

Gain-Frame: Emphasize potential benefits of action.
Loss-Frame: Emphasize potential consequences of inaction.

Rooted in Prospect Theory (Kahneman & Tversky, 1979):

Subjective rather than objective nature of risk perception.

Adapted to health behavior (Rothman and Solovey, 1997):

Prevention Behaviors: Psychologically “Safe” (gain-frame)
Detection Behaviors: Psychologically “Risky” (loss-frame)

Cultural Differences in Message Framing

Does loss framed messaging work with racial/ethnic minorities?

- Some evidence suggests yes (Schneider, 2001).
- Other evidence suggests no, especially for African Americans (Lauver & Rubin, 1990; Banks et al., 1995).

Our questions….

Could loss-framing a message backfire?
What if loss-framing is culturally-targeted?

Initial Study

Participants:

132 African-Americans and 50 White-Americans

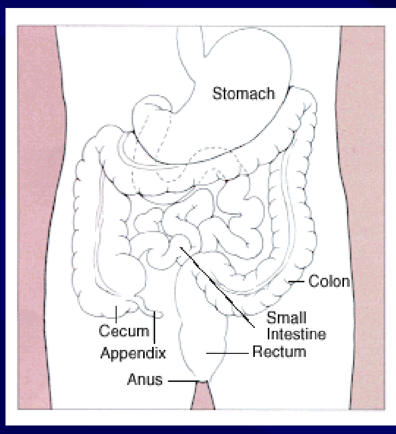
- 49 or older and non-compliant with recommended CRC screening

Design:

2 x 2 x 2 experimental design…

1. Ethnicity (White vs. African-American)
2. Message Frame (Gain vs. Loss)
3. Personal Prevention (Culturally Targeted vs. Not)

White Participants	African American
Gain-Frame	Gain-Frame
Loss-Frame	Loss-Frame
	Culturally-Targeted Gain-Frame
	Culturally-Targeted Loss-Frame



Initial Study

Procedure:

Online CRC module conducted in four parts:

1. Consent and demographic/individual difference measures.
2. Brief CRC education and screening tutorial.
3. Experimental message manipulation.
4. Outcome assessments.

Method

Gain-Framed Message	Loss-Framed Message	Culturally-Targeted Personal Prevention Message
Timeliness Can Be Beneficial!	**Delay Can Be Costly!**	**We are especially interested in your views of colorectal cancer screening as an African-American.**
Colorectal screening effectively promotes a life free from cancer. By participating in recommended screenings you could remain free from cancer and easily add years to your life. Being screened also may make you feel relaxed and safe about gaining a future that is free of colorectal cancer.	Colorectal screening effectively reduces loss of life from cancer. By not participating in recommended screenings, you could neglect a treatable cancer, and needlessly lose years off your life. Not being screened also may make you feel anxious and unsafe about losing a future free from colorectal cancer.	Research has shown that colorectal cancer rates in the United States are highest among African-Americans. Some believe this difference is largely due to controllable factors such as personal lifestyle and behavior decisions. Of note, some research suggests that African-Americans do not take responsibility for obtaining colorectal screenings as soon or as often as members of other ethnic groups. Thus, colorectal cancer could be reduced if more African-Americans took control.
"I have read that obtaining a colorectal cancer screening could mean that I will add years to my life. I understand that the next pages will assess my feelings about colorectal cancer screening."	"I have read that not obtaining a colorectal cancer screening could mean that I will lose years off my life. I understand that the next pages will assess my feelings about colorectal cancer screening."	"I have read that obtaining a colorectal cancer screening could mean that I will lose years off/add years to my life. I have also read that colorectal cancer may be affected by personal responsibility, and that the next pages will assess my feelings about colorectal cancer screening as an African-American."

Outcome Measures

1. **Receptivity to CRC Screening**

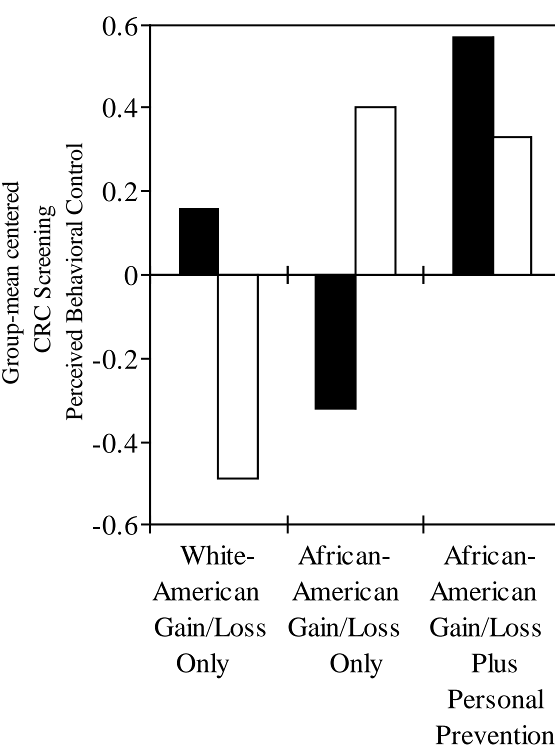
   -Theory of Planned Behavior (Fishbein & Ajzen, 2010)

   1. Attitudes
   2. Normative Beliefs
   3. Perceived Behavioral Control
   4. Intention to Obtain CRC Screening

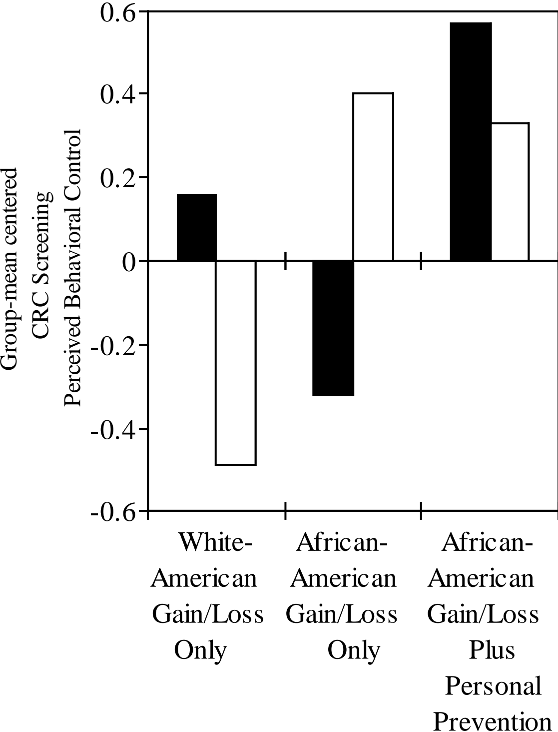
2. **Perceived Racism (Harrell, 1997)**

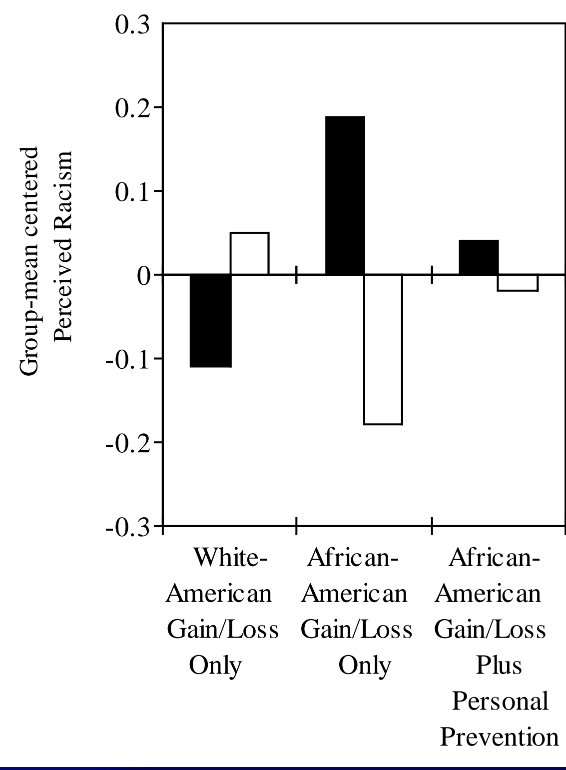
   - Hypothesized Mediator
   - Assessed as a state activation

Results

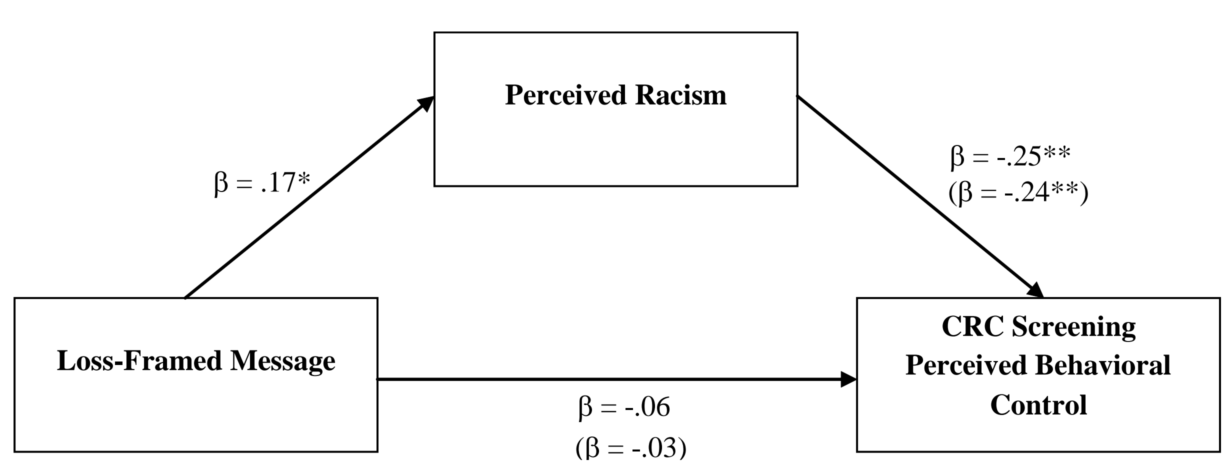


Results





Results



Summary

- A profound cultural difference in message-framing effects.

- Perceived racism as a psychological mechanism.

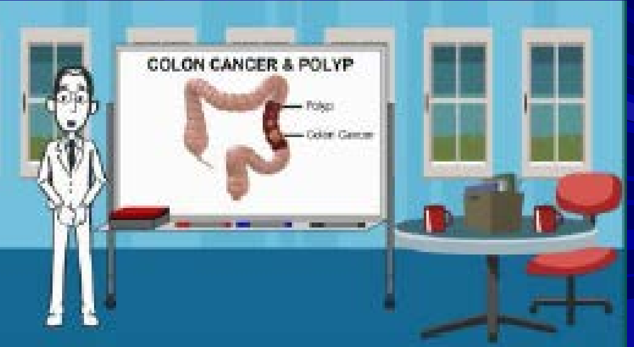
- Pair loss-framing with culturally-targeted messages to “correct for” cultural differences.

Current Research

1. Replicate initial findings.

2. Extend to include CRC screening behavior.

3. Evaluate maintenance of at-home screening in a subsequent year.



Currently 6 active Cancer Action Councils (CACs):

Voices of Detroit Initiative (VODI)	Conner Creek (Detroit)
Karmanos Cancer Institute	Detroit
Western Wayne	Inkster
ACCESS-Arab American	Dearborn
LGBT Detroit-Sexual & Gender Minorities	Detroit
Cancer, Communities, & Technology	Detroit

SPeeding Research-tested INTerventions (SPRINT)

- Expedite the transfer of an intervention into practice.

- Two key elements:

  1. Treat intervention like a commercial product.

  2. “Get out of the building” interviews with community, stakeholders, and customers.

What We Did…

	Interview Count			
TOTAL	**50**	**22**	**1**	**27**
Patient	8	6	0	2
Decision-maker/Payer	23	11	1	11
Expert/Influencer	19	5	0	14

Lessons Learned

1. Conversion IS a very real problem, but not for everyone.

   - Screening rates ranged from 17% - 80% over interviews we conducted.
   - Good Converters: VA Healthcare system, Affluent medical practices.
   - Bad Converters: Federally Qualified Health Centers (FQHCs).

2. Conversion improves with multiple “touch points.”

   - Importance of building trust and maintaining relationships.
   - Patient navigation and community partnership.

Where Can Team Science Fit?

1. Interventions that move beyond motivation to implementation.
2. Partnerships with community that facilitate identification of screening need, and also strategies for creating "touch points."
3. Addressing the ever-evolving recommendations and options for completing colorectal cancer screening.

Collaborators

Name	Affiliation
James Blessman	Wayne State University
Lenwood Hayman Jr.	University of Michigan, Flint
Julie Novak	Wayne State University
Kanzoni Asabigi	Detroit Department of Health and Wellness Promotion
Louis Penner	Karmanos Cancer Institute
Hayley Thompson	Karmanos Cancer Institute
Mark Manning	Karmanos Cancer Institute
Philip Lupo	Wayne State University, Trail Media Productions
Voncile Brown-Miller	Karmanos Cancer Institute
Mercedes Hendrickson	Wayne State University
Rhonda Dailey	Wayne State University

This research was supported by Award Number R01CA175088-01 from the National Cancer Institute, and also a Research Stimulation Award from the Wayne State University Office of the Vice President for Research.

tlucastod@msu.edu