Encouraging Prevention and Detection Safety Behaviors: Effects of Goal Framing

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Acknowledgment: *This research was supported by the National Institute for Occupational Safety and Health Pilot Research Project Training Program of the University of Cincinnati Education and Research Center. Grant #T42/OH008432-07*

Costliness of Unsafe Practices

- >4,500 fatal workplace injuries in the U.S. in 2011 (BLS, 2012)
- ~ 3M nonfatal injuries in the private sector, over half requiring days away from work (BLS, 2012)
- Significant costs to organizations
- Possible to increase safety behaviors by impacting safety-related attitudes and beliefs through encouraging messages (Peters, 1991).

Encouraging Messages

- Goal Framing
  - Gain-framed: Benefits of doing the behavior
  - Loss-framed: Negatives of not doing the behavior

- Goal framing effects found in the promotion of health behaviors (Rothman, Bartels, Wlaschin, & Salovey, 2006)

A

Know the Facts About Smoking

Tobacco kills more Americans each year than alcohol, cocaine, crack, heroin, homicide, suicide, car accidents, fire and AIDS combined.

The most common diseases caused by smoking are:

Lung Cancer is caused by the tar in tobacco smoke. A healthy lung is pink. Years of smoking cause your lungs to turn black.

Smoking also increases your chances of developing cancers of the lip, mouth, throat, larynx, bladder, pancreas, stomach, kidney and cervix.

Heart Disease and Stroke are caused by nicotine and carbon monoxide in tobacco smoke.

Emphysema and Chronic Bronchitis can make it very difficult to breathe.

A healthy, pink lung

A black lung after years of smoking

B

Know the Benefits of Quitting Smoking

The number of Americans whose lives would be saved by quitting smoking is greater than the number of lives that would be saved if all deaths from alcohol, crack, heroin, homicide, suicide, car accidents, fire and AIDS combined were prevented.

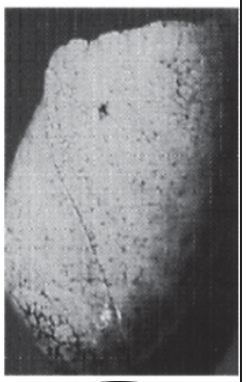
By quitting smoking, you can prevent these common diseases:

Lung Cancer
If you quit smoking, your lungs will be healthier.

Cancers of the Lip, Mouth, Throat, Larynx, Bladder, Pancreas, Stomach, Kidney and Cervix
Quitting smoking decreases your chances of developing these diseases.

Heart Disease and Stroke
Decrease your risk by avoiding nicotine and carbon monoxide in tobacco smoke.

Emphysema and Chronic Bronchitis
You will be able to breathe easier if you quit smoking.



Quit smoking to keep your lungs pink and healthy

Prevention and Detection Behaviors

- Effectiveness of messages depends on type of behavior being encouraged
- Gain-framed messages more effective for encouraging prevention behaviors
  - e.g. sunscreen use
- Loss-framed messages more effective for encouraging detection behaviors
  - e.g. regular medical exams

Theoretical Explanation

- Regulatory focus: People differ in their tendencies to approaching pleasure or avoiding pain (Higgins, 1997)
  - Promotion focus:
    - Approach gains with eagerness, striving for ideals, accomplishment, growth, and achievement
  - Prevention focus
    - Avoid loss with vigilance, fulfilling obligations, duty, and responsibility

Regulatory Focus of Prevention and Detection Behaviors

- Prevention behaviors—Promotion focus
  - Approaching gains of health/ wellbeing
  - Done with eagerness and sense of accomplishment

- Detection behaviors—Prevention focu
  - Avoiding losses associated with health threat worsening
  - Done out of vigilance with feelings of obligation

Regulatory Fit between Message Frame and Regulatory Focus of Behavior

- Promotion focus (approaching **gains)** **“**fits” with **gain**-framed
  - Prevention behaviors considered approaching **gains**
  - So, Prevention behaviors best encouraged with gain-framed messages
- Prevention focus (avoiding **loss)** **“**fits” with **loss**-framed
  - Detection behaviors considered avoiding **loss**
  - So, Detection behaviors best encouraged with loss-framed messages

Purpose of the Current Study

- Extend findings on goal framing effects to occupational safety
- Introduce the distinction between prevention versus detection safety behaviors
- Examine effectiveness of gain-framed versus loss-framed safety promoting messages aimed at prevention and detection behaviors

Hypotheses

1a: Prevention message → prevention behavioral intent, positive attitude, and perceived efficacy

1b: Detection message → detection behavioral intent, positive attitude, and perceived efficacy

2a: Gain-framed messages more effective for prevention behaviors

2b: Loss-framed messages more effective for detection behaviors

Safety Encouraging Messages

- Safety behaviors— Hearing conservation
  - Prevention: hearing protection and installing a noise muffler
  - Detection: noise level reading and hearing screening

- Gain-framed messages: emphasize benefits— protection from hearing loss/ injury, full range of hearing, no pain or ringing in the ear
- Loss-framed: emphasize loss— opposite of gain
- Neutral message: simply states behavior is important

Participants, Procedure, and Design

- Participants
  - 408 retained of 426 from production, construction, or mining/trades, recruited through StudyResponse
  - Mostly male (60%), white (84%), full-time (99.8%) with a mean age of 37 (S.D.=7.2)
- Sent link to online survey
- Read safety promotional messages and vignette
- Complete dependent measures
- Design: 2 (behavior type: prevention vs. detection) X 3 (frame: gain, loss, neutral) between subjects design

Measures

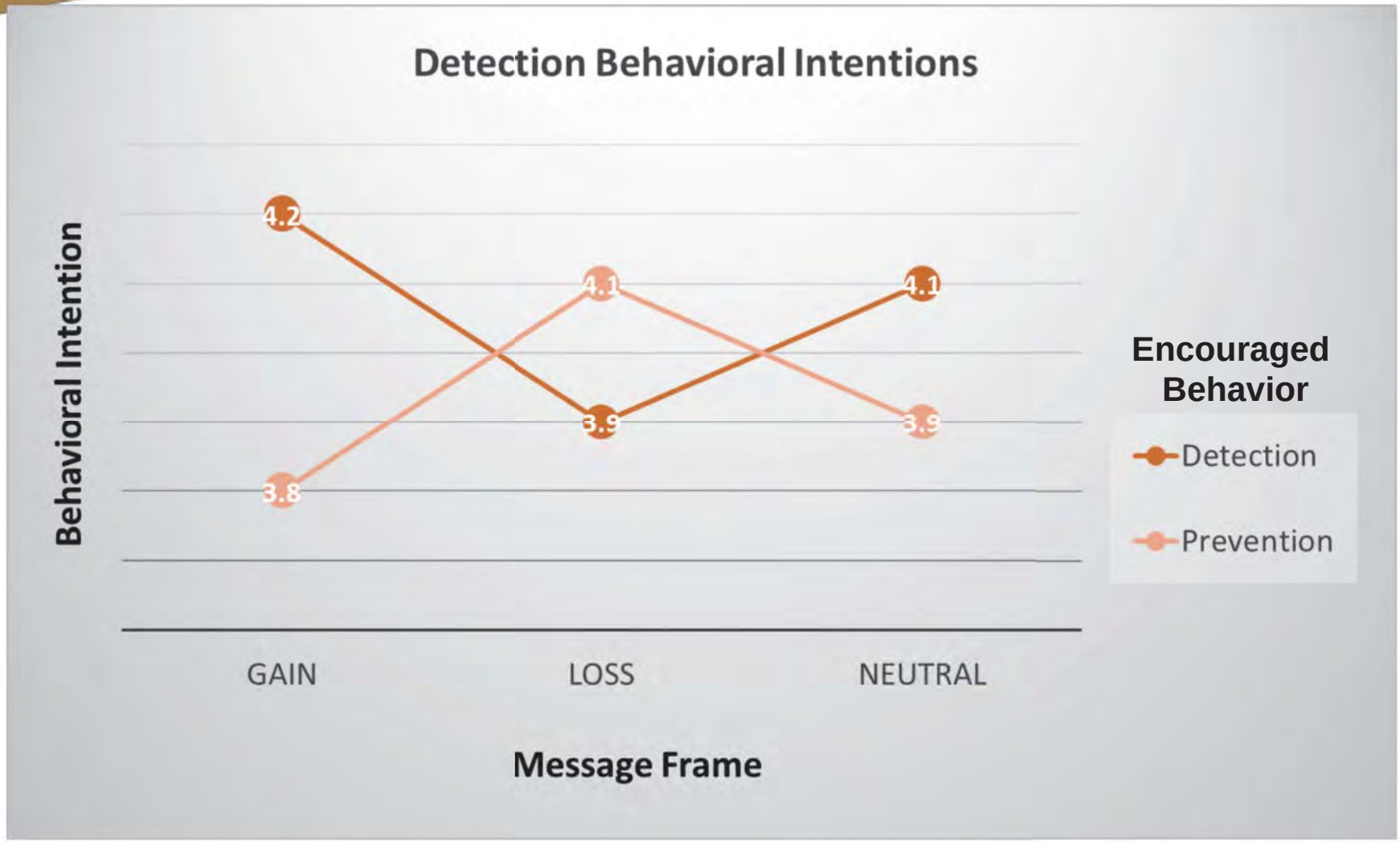
- **Behavioral intent**— Likelihood of engaging in each behavior
- **Attitude toward behavior**—Level of agreement that each behavior is a) good, b) desirable, c) not good (R), d) positive (adapted from Stephenson et al., 2005).
- **Perceived Efficacy of Behavior**— What would happen to your chances of experiencing hearing loss or injury if you did/ did not do (R) each behavior (1= Increase dramatically to 5=Decrease dramatically) (adapted from Detwiler et al., 1999)
- **Controls Variables**
  - Chronic regulatory focus (Cunningham et al., 2005)
  - Perceived difficulty of behavior

Results: Prevention DVs

- Encouraged Behavior Main Effect: N.S.
  - H1a not supported.
- Interaction: N.S.
  - H2a not supported.

Results: Detection DVs

- Encouraged Behavior Main Effect: N.S.
  - H1b not supported.
- Interaction: Significant for composite DV [Wilks' λ =.96, $F(6, 794)= 2.42$, $p=.03$, $\eta^2=.02$]
- Behavioral Intentions [$F(2,399)=5.36$, $p<.01$, partial $\eta^2=.03$]


Detection Behavioral Intentions
Behavioral Intention
4.2
4.1
4.1
3.9
3.8
3.9
GAIN
LOSS
NEUTRAL
Message Frame
Encouraged Behavior
Detection
Prevention

Nature of the Interaction

- Intentions significantly differed by frame when detection behaviors promoted [$F(1, 193)=3.76$, $p<.05$]
- Unexpected direction
  - Gain-framed (Adjusted M=4.16) significantly higher than loss-framed (Adjusted M=3.90) (p<.01)
  - H2b not supported for working sample

Discussion

- Safety promotional messages can influence behavioral intent and attitudes (consistent with Stephenson et al., 2005).

- Gain-framed messages unexpectedly superior at promoting detection behaviors

Possible Explanations

- Manipulation didn't work
  - Too wordy/ complex?
  - Threat not serious/ immediate enough?
  - Didn't out weight safety norms?
- Lack of realism (despite vignette)?
- Safety detection behaviors not conceptually equivalent to health detection behaviors?
- Possibly all safety behaviors are considered to have a promotion focus?

Implications

- Messages can be used to increase actual safety behaviors (Health Belief Model and Theory of Planned Behavior)
- Maybe gain-framed messages are superior in the promotion of safety behaviors, regardless of type of safety behavior

Future Directions

- Stronger manipulation
  - Less complex wording/ use of visuals
  - More sever safety threat
  - Increase source credibility
- Laboratory setting and/or field study
  - Videos
  - Workplace simulations/ organizational setting
- Examine other, unique occupational safety threats
  - Health care workers or first responders

BGSU.

Thank you!

University of Cincinnati
14th Annual
Pilot Research Project Symposium
October 10-11, 2013

Main Menu

Hosted by: The University of Cincinnati Education and Research Center
Supported by: The National Institute for Occupational Safety and Health. (NIOSH) Grant #: T42/OH008432-08

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Produced by Kurt Roberts Department of Environmental Health