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Growing Positive Traffic Safety Culture: Changing Beliefs to Support Safer Behaviors

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www.CHSCulture.org



About the Center for Health and Safety Culture

We are an interdisciplinary center serving communities and organizations through research, training, and guidance to cultivate healthy and safe cultures.



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“If you don’t know where you’re going, any road will take you there.”

Lewis Carroll

“Where are we going...”

- What are the **CONSEQUENCES** associated with traffic safety that we are trying to reduce or eliminate?
- What are the **BEHAVIORS** that lead to these consequences?
- What are the **BELIEFS** that support these behaviors?

Beliefs → Behaviors → Consequences

"It won't happen to me."
"I am an above-average driver."
"I can multi-task."
"I won't get caught."
"My vehicle will protect me."
"It doesn't matter; people do what they want."
"It's up to road users to make safe choices."

Aggressive driving
Speeding
Lack of seat belt use
Impaired driving
Distracted driving
Fatigued driving
Unsafe designs

Fatalities
Serious injuries
Emotional distress/trauma
Healthcare costs
Workplace costs
Mobility costs
Congestion/delays



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Beliefs → Behaviors → Consequences

Main Idea

Focus on **growing beliefs** to
shift behaviors to
change consequences.



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Where do these **beliefs** come from?

Image from Unsplash by Uladzislau Petrushevich

culture

Traffic Safety Culture

The shared beliefs of a group of people, which influence road user behaviors and stakeholder actions that impact traffic safety



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“It is almost unanimously agreed that beliefs deeply affect our actions”¹ (p. 237)



Image from Unsplash by Alex Shuper

Focus on **growing** shared beliefs that influence behaviors that will change consequences

1. Castelfranchi, C., & Paglieri, F. (2007). The role of beliefs in goal dynamics: Prolegomena to a constructive theory of intentions. *Synthese*, 155(2), 237–263. <https://doi.org/10.1007/s11229-006-9156-3>

Strategies to promote belief change and influence positive traffic safety behaviors

How we process information...

- **Fast thinking** – “reactive, automatic, intuitive, heuristic, associative, and preconscious”
- **Slow thinking** – “controlled, reflective, serial, rule-based, and conscious”

Grayot, J. D. (2020). Dual Process Theories in Behavioral Economics and Neuroeconomics: A Critical Review. *Review of Philosophy and Psychology*, 11(1), 105–136. <https://doi.org/10.1007/s13164-019-00446-9>
Kahneman, D. (2011). *Thinking, Fast and Slow* (1st edition). Farrar, Straus and Giroux.

Strategy #1: Support intentional behavior change through strategies that support thoughtful, deliberate thinking.

Ask

How well does the strategy I am implementing foster slow thinking?

We are not thinking machines. We are feeling machines that think.

Antonio Damasio

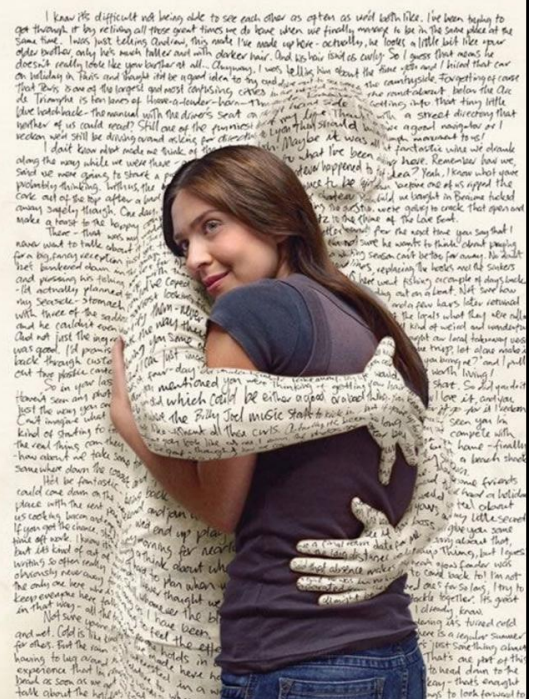


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Positive Emotional Appeals

A print advertisement from M&C Saatchi, Melbourne for Australia Post – reminding people how it feels to receive a letter from a loved one



Negative Emotional Appeals

"Child Soldiers: It's Not Happening Here, But It's Happening Now" Pius Walker, Amnesty International, Switzerland



Fear-based approaches...

Persuasive attempts to strategically invoke fear by emphasizing the potential dangers and harms that could happen, and use that fear as the basis for persuasion.

Shen, L., & Coles, V. B. (2015). Fear and psychological reactance: Between- versus within-individuals perspectives. *Zeitschrift Für Psychologie/Journal of Psychology*, 223(4), 225–235.
<http://dx.doi.org.proxybz.lib.montana.edu/10.1027/2151-2604/a000224>



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Formula for Fear Based Messages

X is something to fear; therefore, Y should be implemented to prevent X.

Distracted driving is dangerous... stop texting and driving!

AKA: Yikes this is bad, but here's what you can do!

Simpson, J. K. (2017). Appeal to fear in health care: Appropriate or inappropriate? *Chiropractic & Manual Therapies*, 25(1), 27. <https://doi.org/10.1186/s12998-017-0157-8>



https://www.youtube.com/watch?v=XGv-aAB_Rmo

Why Fear?

A primary and universal emotion

Grabs attention

Memorable

Assumes that when people are emotionally confronted with the negative effects of their behavior, they will change that behavior.



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Tannenbaum, M. B., Hepler, J., Zimmerman, R. S., Saul, L., Jacobs, S., Wilson, K., & Albarracin, D. (2015). Appealing to fear: A Meta-Analysis of fear appeal effectiveness and theories. *Psychological Bulletin*, 141, 1178–1204.

More effective with...

one-time behaviors versus repeated behaviors

audiences that include more female recipients than male recipients

messages that describe how to avoid the threat

unfamiliar issues versus familiar issues



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Carey, R. N., McDermott, D. T., & Sarma, K. M. (2013). The Impact of Threat Appeals on Fear Arousal and Driver Behavior: A Meta-Analysis of Experimental Research 1990–2011. *PLoS One*, 8(5), e62821. <https://doi-org.proxybz.lib.montana.edu/10.1371/journal.pone.0062821>

The effect of threat appeals on driving outcomes, was **not significant**.

Takeaway: Threat appeals can lead to increased fear arousal, but do not appear to have the desired impact on driving behavior.



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What else works?

Joy, Empathy, Compassion, Hope

Suitable substitutions to fear in the promotion of safer behaviors

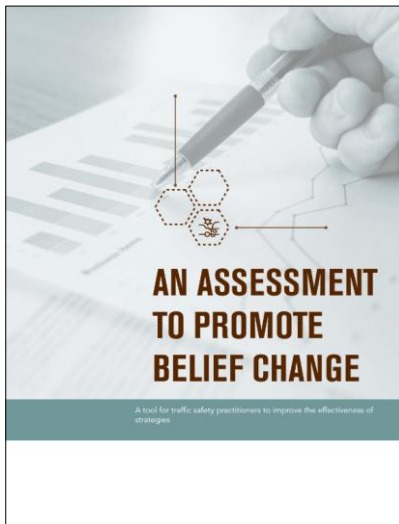
Nabi, R. L., & Myrick, J. G. (2019). Uplifting Fear Appeals: Considering the Role of Hope in Fear-Based Persuasive Messages. *Health Communication*, 34(4), 463–474. <https://doi.org/10.1080/10410236.2017.1422847>

Strategy #2: Elicit positive emotional responses.

Ask

How is emotion used in the strategy?

An Assessment to Promote Belief Change



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An Example:
A Project to Reduce Multiple
Risky Driving Behaviors

There is growing recognition that drivers involved in fatal crashes are often engaged in multiple risky driving behaviors – not wearing a seat belt, speeding, distracted driving, and driving impaired.

FARS. (2020). Fatality Analysis Reporting System (FARS) | NHTSA. <https://www.nhtsa.gov/research-data/fatality-analysis-reporting-system-fars>

Research evidence suggests there are associations between multiple risky driving behaviors.

**Factors
Associated with
Multiple Risky
Driving Behaviors**

- Impulsivity
- Cognitive Factors
- Affective Factors
- Motivational Factors
- Contextual Factors

Li, K., Simons-Morton, B. G., & Hingson, R. (2013). Impaired-driving prevalence among US high school students: Associations with substance use and risky driving behaviors. *American Journal of Public Health, 103*(11), e71-7.

Simons-Morton, B., Li, K., Ehsani, J., & Vaca, F. E. (2016). Covariability in three dimensions of teenage driving risk behavior: Impaired driving, risky and unsafe driving behavior, and secondary task engagement. *Traffic Injury Prevention, 17*(5), 441–446. <https://doi.org/10.1080/15389588.2015.1107183>

Factors	Speeding	Impaired Driving	Seat Belt Use	Distracted Driving	Other
Impulsivity	X	X	X	X	X Aggressive Driving
Sensation Seeking	X	X		X	X Unsafe Passing, Ignorance of Traffic Rules
Risk Perceptions	X	X	X	X	X Tailgating, Driving fast just for the thrill of it
Attitudes & Beliefs	X	X	X	X	
Driving Anger	X				X Rule violations
Aggression	X				X Weaving through traffic, Using Shoulder to Pass, Rule Violations
Big 5	X		X	X	X Aggressive Driving
Reward Sensitivity	X	X			
Tolerance of Deviance	X	X	X		X Aggressive Driving
Demographics	X			X	X Aggressive Driving
Substance Use	X	X			X Aggressive Driving
Psychological Reactance		X	X		

One Recommendation

- **Consider providing primary strategies and secondary strategies that mitigate risk and reduce harm when engaging young adults.** Those engaging in multiple risky driving behaviors may benefit from recommendations and strategies that allow more choices, including harm reduction strategies.

Additional recommendations can be found in the Multiple Risky Driving Behaviors Final Report (DOI: <https://doi.org/10.21949/1529562>)
<https://www.mdt.mt.gov/research/projects/trafficsafety-rrb.aspx>

A Resource to Reduce Multiple Risky Driving Behaviors Among Young Adults

A RESOURCE TO REDUCE MULTIPLE RISKY DRIVING BEHAVIORS AMONG YOUNG ADULTS

There is growing recognition that drivers involved in fatal crashes are often engaged in multiple risky behaviors – driving distracted, not wearing a seat belt, speeding, and driving impaired. This resource is intended to help traffic safety stakeholders engage young adults in growing skills and utilizing practical strategies to reduce engagement in multiple risky driving behaviors.

This resource helps young adults:

- learn to identify and regulate their feelings,
- explore cognitions related to multiple risky driving behaviors (speeding, distracted driving, not wearing a seatbelt, and driving under the influence of substances),
- and learn and use behavioral strategies to increase safe driving behaviors.

Most young adults care about creating positive change for themselves, their community, and their state. One positive change that young adults can make that impacts everyone is to reduce risky driving behaviors. This resource will help them make that positive change.

EXAMPLES OF WAYS TO REACH YOUNG ADULTS TO DISTRIBUTE THIS RESOURCE

- Incorporate into a driving education course.
- Use as educational materials in outreach efforts.
- Distribute to state universities and/or private colleges throughout your state to be shared with students through administrators, wellness offices, and/or professors.
- Partner with local prevention agencies to distribute at events (e.g., health fairs or as part of awareness activities (e.g., Distracted Driving Awareness Month, National Impaired Driving Prevention Month, etc.).
- Partner with workplaces to distribute this resource to employees.
- Consider adding this resource to your website to make it easily accessible.

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Traffic Safety Culture Transportation Pooled Fund

- A national research consortium focused on creating tools to positively promote and change culture since 2015.
- Any organization (governmental, private, academic) can participate.

Learn more and join the Traffic Safety Culture Pooled Fund



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Conclusion

- Improving traffic safety is a complex challenge requiring new ways of thinking and acting.
- Growing traffic safety culture can help us to reach our goals.



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Thank you!

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