Change rarely comes without hindrances, especially changes to health behavior. When health communicators design a new health campaign, they must take into account factors such as target audience, research into target audience background, and likely target audience response. Researchers have applied several theories to audience reactions to health campaigns, but this research will focus on three: Social Cognitive Theory, Theory of Reasoned Action, and Extended Parallel Process Model. Through these theories, we will explore how these theoretical frameworks can influence health campaign effectiveness from the target audience of college students through self-efficacy, norms, and threats.

Social Cognitive Theory

Self-efficacy is typically a first choice method for health communicators when designing health campaigns. However, in the case of skin cancer preventative messages, self-efficacy is associated with unhealthy behavior engagement (Noar, Myrick, Zeitany, Kelley, Morales-Pico, & Thomas, 2015). Risky behavior as self-efficacy translates into what health researchers call “temptations” (Noar et al.,2015). Temptations are just as influential as self-efficacy factors, but temptations are influential for negative reasons instead of positive reasons. Outcome expectations were found to be extremely related to temptations to tan (Noar et al., 2015). Outcome expectations are beliefs about the positive and negative consequences associated with the action completed (Noar et al., 2015). Examples of positive outcome expectations for indoor tanning tested in this study include appearance benefits (“It would make me appear more attractive, toned, and healthier.”), mood enhancement (“I’ll feel more relaxed.”), health improvement (“It’s safer than tanning outdoors in the sun.”), convenience (“It’ll give me a nice base tan for my vacation.”), social approval (“It would make me more desirable to people I date.”), and parental approval (“This is something my

parents support.") (Noar et al., 2015). To curb these positive outcome expectation temptations, researchers recommend changing the social stigma of pale skin (thus reducing the perceived appearance benefits), and teaching people to love the skin they have (Noar et al., 2015).

Self-efficacy messages are best used in health campaigns that motivate students to partake in more physical activity (Marmo, 2013). Researchers found that students are most likely to utilize messages of self-efficacy to motivate themselves to engage in more physical activity (Marmo, 2015). The factors within self-efficacy that college students use to motivate themselves are past performance (positive changes made because of physical activity), vicarious learning (seeing others successfully performing physical tasks), verbal persuasion (positive reinforcements), and somatic and emotional states (positive responses such as 'good mood') (Marmo, 2015). Out of all the factors of self-efficacy used among college students, "…messages containing the verbal persuasion component of self-efficacy were the most common" (Marmo, 2015, p. 459). Health communicators should avoid utilizing subjective norms in health campaigns for increasing physical activity among college students, as they do not positively predict intentions as well as self-efficacy does (Wang, 2009).

Finally, exemplars for positive recommended behavior are best suited for messages about weight loss, weight management, and weight satisfaction as compared to messages about skin cancer prevention (Sarge & Knobloch-Westerwick, 2013). Exemplars are positive role models that display healthy behavior. Researchers explain that, "Short-term impacts and impacts two weeks after exposure [to the online messages] reflect the high-efficacy exemplar version increased self-efficacy and satisfaction" (Sarge & Knobloch-Westerwick, 2013, p. 827). Exemplars act as triggers in the brain for positive, healthy behavior, as explained with, "…effective portrayals of a recommended behavior, especially when featuring models or exemplars, have been shown to

increase self-efficacy perceptions among individuals, which suggests these message characteristics are two potential triggers that activate part of the behavior change process" (Sarge & Knobloch-Westerwick, 2013, p. 828). Efficacy was found to have a negative influence when base-rate information was paired with self-efficacy and weight satisfaction. Self-efficacy and weight satisfaction should be instead, always paired with exemplars (Sarge & Knobloch-Westerwick, 2013).

Reflection

Do all of the findings seem to agree or are they contradictory?

Marmo (2015) and Wang (2009) both agree that self-efficacy is a vital indicator of self-motivation for college students to engage in more physical activity. Self-efficacy for motivating college students should be understood as the primary theory utilized in health communicator's health campaigns. Sarge & Knobloch-Westerwick (2013)'s study recommended using exemplars to raise self-efficacy about weight loss, management, and satisfaction. Contradictory to self-efficacy as the best tactic for motivating college students to exercise more is Noar et. al (2015)'s study on skin care prevention messages. Self-efficacy was seen as a negative temptation when a person engaged in risky health behavior, such as positive outcome expectations for tanning.

Where do you see a need for additional research?

The sample size of these studies constricted the results and potentially might have altered the results. For almost all of the studies, a sample was taken from an educated, (mostly) white, young demographic. In order to evaluate Social Cognitive Theory in a broader sense, a wider sample size is needed, with a variety of education levels, socioeconomic statues, and races.

What is the overall conclusion that you can draw from the findings you cite in this section?

The studies mentioned above have reinforced my understanding that the target audience and topic of the health campaign are vital to choosing the best method to increasing engagement and behavior changes. I can conclude that, depending on the positivity or negativity of outcome expectations, self-efficacy can be a force for positive change or negative temptation. Positive reinforcement, as mentioned in Marmo (2015)'s study displays favorable self-efficacy. On the contrary, the positive outcome expectations for Noar et al. (2015)'s study reinforces unhealthy tanning habits, and is related to the opposite of self-efficacy, temptation.

What is missing in terms of research gaps (what has not yet been researched that you would argue should be researched)?

Marmo (2015)'s study describes the factors that influence self-efficacy, such as past performance, vicarious learning, and verbal persuasion. Why is there no research on the social stereotypes that may discourage people from working out? For example, a girl may be leery to lift weights lest she become "manly" looking (although it's very hard to do so without the aid of steroids). Maybe this girl has seen pictures of female body builders, and attached those images to girls who lift weights at the gym. She doesn't want to look like a female body builder, so she avoids lifting weights.

Theory of Reasoned Action

Both Anderson, Noar, & Rogers (2013) and Mabry & Turner (2016)'s studies are combating perceptions, but what is being perceived is very different. In Anderson, Noar, & Rogers (2013)'s study, it was found that a person's *attitude* about oral hygiene-related behavior and *subjective*

norms influence the regularity of dental visits. Positive attitudes and normative influences have the potential of intention to partake in oral hygiene (such as flossing, brushing teeth, and visiting the dentist). These subjective norms are more personally based than the descriptive based norms of Mabry & Turner's (2016)'s study (which are more large-scale socially-based). When health communicators are attempting to positively change health behavior for a target group, it is recommended to normalize the desired behavior. In this case, normalize regular dental checkups and oral hygiene among college students. Mabry & Turner's (2016)'s study found that the level of engagement of men by sexual assault bystander intervention health campaign messages depended on *descriptive norms* of other men. A large factor of measuring the effectiveness of sexual assault intervention health campaigns is examining if men are perceiving other men as stepping in to stop sexual assault, or passively watching (Mabry & Turner, 2016). To combat this, researchers recommended framing the campaign messages in a positive light, fostering a sense of responsibility within the community, and increasing the perceived benefits for men to break the mold of perceived non-interventional behavior (Mabry & Turner, 2016).

Relational closeness matters most when discussing influential, interpersonal health conversations (Wang, 2016). Wang (2016)'s study found that relational closeness will impact the effectiveness of attitude function importance. Attitude functions in the study are defined as utilitarian (i.e. safety) and value expressive (important displayed values). Friends are more likely to intend and ultimately engage in interpersonal communication about texting and driving based on attitude functions (Wang, 2016). High utilitarian and value expressive functions paired with high relational closeness creates a high probability that passengers will intervene when the driver is texting (Wang, 2016). On the contrary, when the passenger's ego defensive function is higher, he or she is less likely to interpersonally communicate about texting and driving (Wang, 2016).

Reflection

Do all of the findings seem to agree or are they contradictory?

Mabry & Turner (2016) and Anderson, Noar, & Rogers (2013) agreed that norms were the largest predictor of social behavior, and deciphering which norm applied to the topic of the campaign and target audience would be the key to changing social behavior for the better. Wang (2016) argued that relational closeness and attitude was the deciding factor is social behavior, because depending on those, the passenger may or may not intervene when the driver is texting.

Where do you see a need for additional research?

Looking at the survey questions for Mabry & Turner (2016), all of their "Predicting Bystander Outcome" questions are positively worded. For example, some of the questions say "It is the right thing to do to tell a guy to ''lay off'' when he is flirting with a girl even after she's expressed that she isn't interested in him" and "It is important for me to stand up to my friends when they make derogatory comments about a woman, even if they say they are just joking (Mabry & Turner, 2016, p. 281). It would be interesting to see if they framed the questions negatively how that would change the results of the survey.

What is the overall conclusion that you can draw from the findings you cite in this section?

Norms play a huge role in changing intentions of health behaviors. Researcher should understand the audience's norms, and whether or not they are more personally-based or social-justice based. For more interpersonal communication, relational closeness affects the attitudes and therefore intentions of the other person involved.

What is missing in terms of research gaps (what has not yet been researched that you would argue should be researched)?

In Wang (2016)'s study, it would be interesting to examine how perceived levels of self-persuasion from previous experience would affect present persuasion of the driver to stop texting. For example, if in the past, a person doesn't feel like her opinions were heeded, that might affect her speaking up, no matter relational closeness. That would tie in with perceived levels of respect in a relationship, which is an additional attitude function that the study could benefit from testing.

Extended Parallel Process Model

In the past, health communicators have struggled with finding the right combination and balance of threat and efficacy. Carcioppolo, Jensen, Wilson, Collins, Carrion, and Linnemeier (2013) conducted a study to find the optimal threat-to-efficacy ratio. Their finding suggest that the most effective HPV vaccination messages have an equal balance of threat to efficacy ratio (1-1) (Carcioppolo et al., 2013). This 1-1 ratio "…causes more fear and risk susceptibility than other message ratios" (Carcioppolo et al., 2013, p. 20).

Fear appeals, graphic images, and personal testimonies are best suited for anti-tobacco messages (Emery, Szczypka, Abril, Kim, Vera, 2014) rather than hand washing messages (Botta, Dunker, Fenson-Hood, Maltarich, McDonald, 2008). In the study, fear-based messages for anti-tobacco messages indicated high perceived threat (Emery et al., 2014). It was found that fear-based appeals for anti-tobacco messages resonated with the target audience and left the greatest impact (Emery et al., 2014). The study viewed Tweets as a response to the *Tips* campaign (an anti-smoking initiative) (Emery et al., 2014).

Finally, appealing to the "gross factor" is the most relevant threat to college students for a hand washing campaign (Botta et al., 2008). "Gross factor" was defined as students' fear of feces and urine lingering on their hands after using the restroom (Botta et al., 2008). In addition, this study

referenced interpersonal communication as an important factor in health campaigns. An integrated combination of interpersonal communication and exposure to messages increases the likelihood of positive behavior change (Botta et al., 2008). I found this statement to support Wang (2016)'s emphasis on solidifying positive health behavior through interpersonal communication. This reinforces the importance of interpersonal communication for health campaigns across the board, no matter the primary theoretical framework.

Reflection

Do all of the findings seem to agree or are they contradictory?

Carcioppolo et al. (2013) recommends an equal balance of threat and efficacy, while Emery et al., (2014) places heavy emphasis on fear appeals. This could be because the HPV study was a preventative measure, encouraging vaccinations, and the anti-tobacco messages in the study were discouraging a behavior.

Where do you see a need for additional research?

Although Twitter is a good choice for examining natural responses to a health campaign outside a laboratory, I found Emery et al., (2014)'s study to be limiting in its very nature. The entire population does not use Twitter. The official *Tips* campaign was said to target people ages 18-54 (Emery et al., 2014). Older Americans are not likely to be on Twitter, so receiving their responses to the messages is difficult.

What is the overall conclusion that you can draw from the findings you cite in this section?

The topic and target audience affects the ratio of threat to efficacy. High threat and fear appeals are tied to anti-smoking messages (Emery et al., 2014). Equal threats and efficacy messages are

tied to preventative measures, like HPV vaccinations (Carcioppolo et al., 2013). Find the threat that is feared the most, and use that fear when designing health campaigns (Botta et al., 2008).

What is missing in terms of research gaps (what has not yet been researched that you would argue should be researched)?

Emery et al., (2014)'s study on Tweets about the *Tips* campaign obviously favored a younger crowd. Twitter was an outlet for the younger end of the targeted audience of 18-54-year-olds to voice their opinions on the campaign. How do the older end of the targeted audience voice their opinions if they do not have social media? Is it possible for older Americans to reach as large an audience if they do not have a Twitter and are not sought out by researchers?

Conclusion

Much research has been done for health campaigns to streamline message effectiveness. Self-efficacy can be a positive force, or a negative factor if perceived positive outcome expectations can be met. For the Theory of Reasoned Action, what is being perceived will alter if campaigns focus more on subjective norms or descriptive norms. Finally, for Extended Parallel Process Model, the ratio of threat to efficacy will depend on whether the action is encouraging positive behavior (such as vaccinations) or discouraging negative behavior (such as smoking). These theoretical frameworks can influence health campaign effectiveness from the target audience of college students through self-efficacy, norms, and threats.

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