

PERSUASION THEORY IN ACTION



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Persuasion Theory in Action (Worthington)

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CHAPTER OVERVIEW

1: Introduction to Persuasion

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1.1: What is Persuasion?

What does persuasion mean to you? Can you think of any times that you have tried to persuade someone to do something? Some examples may include college students trying to persuade their instructors to provide them with an extension on an assignment, to accept an already late project, or to change a poor grade. College students persuade their friends to take specific classes or recommend specific instructors. They may even persuade one another to live in a specific part of town, attend a particular party, or eat at a certain restaurant.

Persuasion is a facet of communication that is seen across many interpersonal and familial relationships. Parents may try to persuade their children to clean up their room, pick a certain major, or abide by a curfew. Romantic partners persuade one another to decorate their home in a particular way, apply to a new job, or move to a new city. Persuasion is also pervasive in professional environments. Potential employees need to persuade future employers of their skills and abilities to secure a job offer. Conversely, employers need to persuade potential employees of the benefits of working at their organization to ensure they accept the job. Many professions, including advertising, sales, and politics are dependent on the ability to leverage persuasion to achieve desired outcomes.

We also need to consider the channels of persuasion that are influencing our choices. The advent of print media (e.g., newspapers, magazines), electronic media (e.g., radio, television, the Internet), and, more recently, social media (e.g., Facebook, Instagram, TikTok) provide additional avenues through which persuasion occurs. These mediated sources of persuasion include specific appeals to buy products or services (e.g., advertising), as well as the more nuanced persuasion to adopt and promote a particular lifestyle, behavior, or popular opinion abounding on different platforms.

This all suggests that persuasion is utilized in almost all areas of our lives. However, most of us have never specifically thought about how much time we spend persuading others and being persuaded ourselves. It is important to realize, however, that this does not mean you are already persuasion experts. You have likely learned quite a bit about what works and what does not by trial and error; however, there is a long, rich history of the academic study of persuasion. Scholars across philosophy, psychology, communication, advertising, political science, health, and others have systematically studied persuasion for centuries. Aristotle, an ancient Greek philosopher who lived nearly 2,400 years ago, wrote extensively about how to persuade others. Around 300 years later, Cicero, a Roman statesman and philosopher, wrote several books on his beliefs about persuasion and rhetoric. Another 100 years after that, Quintilian, a Roman educator and rhetorician, opened a school on rhetoric and oral persuasion. More recently, social scientists have conducted thousands of experiments over decades to study persuasion and have developed rich theories to describe, explain, predict, and control persuasion phenomenon.

This open-educational resource is designed to survey the social-scientific approach to persuasive communication; thus, it will focus on the social science theory, research, and application of persuasion. This study of persuasion naturally begins with a discussion of the social scientific concept of persuasion itself.

Definitions are typically used to clarify a concept. These definitions provide distinctions about what is included in a concept and what is not. Definitions, however, can be troublesome as it is always possible to provide objections to any given definition. Some people may find a specific definition too broad, while others may find that same definition too narrow. This is because there are always gray areas in which the application of the concept is arguable (see O’Keefe, 2016). For example, with any concept, there are some cases that almost everyone agrees are cases of the concept (for example, ketchup is a condiment), and there are some cases that almost everyone agrees are not cases of the concept (for example, a burger bun is not a condiment). There are also some cases that fall into a gray area wherein many people disagree (for example, is hummus a condiment? or is it a dip?).

O’Keefe (2016) argues that, instead of definitions, focusing on the shared features of paradigm cases of a concept can be used to clarify the concept. These paradigm cases are “the sorts of instances that nearly everyone would agree were instances of the concept in question; they are straightforward, uncontroversial examples” (O’Keefe, 2016, p. 2). Identifying the common features of paradigm cases provides the opportunity to understand a concept’s ordinary application without requiring the rigid distinctions required in a definition.

A paradigm case of persuasion would therefore be shared features that are usually involved when we say that someone has persuaded someone else. O’Keefe (2016) provides five common features of paradigm cases of persuasion:

#1: When we say that one person has persuaded someone else, we are usually referring to instances in which there was a successful attempt to influence.

The concept of persuasion inherently includes the notion of success. For example, it does not make sense to say, “I persuaded her, but I failed.” It does make sense to say, “I tried to persuade her, but I failed.” This distinction indicates that simply saying “I persuaded her” implies a successful attempt to influence her.

#2: When we say that one person has persuaded someone else, we are usually referring to instances in which one person intends to persuade the other.

The concept of persuasion inherently includes the notion of intent. For example, if I say “I persuaded Casey to take Intercultural Communication,” you will likely conclude that I intended to procure that outcome. If I instead said “I accidentally persuaded Casey to take Intercultural Communication,” you would likely conclude that I did not intend to do so. The inclusion of the word “accidentally” is necessary to negate intent, which implies that usual use of the term assumes that the persuasion was deliberate.

#3: When we say that one person has persuaded someone else, we are usually referring to cases in which the person being persuaded has some measure of freedom (e.g., free will, free choice, and/or voluntary action).

The concept of persuasion inherently includes the notion of freedom of choice for the person being persuaded. For example, if I steal my roommate’s textbook to study for an exam, one would not say that I “persuaded” my roommate to lend me their textbook. By contrast, asking my roommate to borrow her textbook by convincing her that doing so was necessary for me to pass my exam is ordinarily recognized as an instance of persuasion.

When the person being persuaded has minimal or questionable freedom, it becomes debatable whether it is an instance of persuasion or not. For example, if I told my roommate that if she does not lend me her textbook I would evict her from the apartment and she complies, is this an instance of persuasion? There is no simple answer to this question, but this is an example of a borderline case of persuasion because the person’s freedom is not as obvious as the paradigm case example.

#4: When we say that one person has persuaded someone else, we are usually referring to instances in which the influence was achieved through some mode of communication.

The concept of persuasion inherently includes the notion that communication was used to achieve the outcome. For example, if I pushed my roommate down the stairs to get them to clean up a mess they left in the kitchen, this would not be an instance of persuasion. If I talked to my roommate and convinced them to go downstairs to clean up the mess they left in the kitchen, this would be considered persuasion. These two examples are distinct because the second uses communication, whereas the first does not.

#5: When we say that one person has persuaded someone else, we are usually referring to instances in which the person being persuaded has a change in mental state (that may or may not lead to a change in behavior).

The concept of persuasion inherently includes the notion that the person being persuaded has had a change in mental state. Some paradigm cases may be described only as changes in a mental state. For example, I could say “I persuaded Alex that adding a Communication Minor was helpful for his career goals.” This statement implies a change only in what Alex thinks about adding the minor. Some paradigm cases may be described as behavioral changes, which imply an underlying change in a mental state. For example, I could say “I persuaded Alex to add a Communication Minor.” This statement indicates that Alex changed his behavior, which has an underlying assumption that Alex’s thoughts towards adding the Communication Minor also changed as a precursor to the behavior change. This indicates that even when a persuader’s eventual goal is to influence what someone does, persuasion is usually accomplished by first changing what someone thinks. Persuasion thus ordinarily means that one person has influenced another by influencing their mental state, not directly influencing their behavior.

In persuasion theory and research, the relevant mental state has traditionally been an individual’s attitudes. Even when the ultimate goal is to persuade someone to change their behavior, the presumption is that that goal will be achieved by changing the person’s attitudes. As we will see later on when we examine individual persuasion theories, there are a wide variety of mental state precursors to behavior change beyond just attitudes.

What is Persuasion?

O’Keefe (2016) connects these five paradigm cases of persuasion into something that looks roughly like a definition of persuasion: “a successful intentional effort at influencing another’s mental state through communication in a circumstance in which the [person being persuaded] has some measure of freedom” (p. 4). This definition does not eliminate the gray areas of the concept of persuasion as it leaves open questions around how much success is needed or how intentional the effort needs to be. These shared features of paradigm cases of persuasion can, however, clarify the concept of persuasion and thus center the study of persuasion on instances that meet these criteria.

References

O'Keefe, D. J. (2016). *Persuasion: Theory and Research (Third Edition)*. Thousand Oaks, CA: Sage Publications.

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1.2: Theoretical Frameworks for Persuasion

We use theories to interpret the complex and ambiguous world around us. For example, theories help us understand health and illness, self-control, creativity, religion, spirituality, biology, physics, psychology, sociology, and, yes, persuasion. This chapter distinguishes between three types of commonly used theories: lay theories, folk theories, and scientific theories.

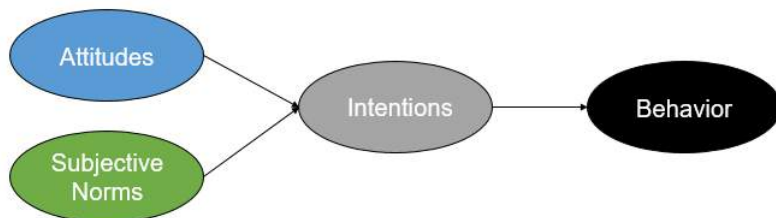
Lay and folk theories are informal, common-sense explanations used to understand various phenomena. Lay theories tend to be individual and idiosyncratic, whereas folk theories are shared by specific subgroups of people. Let's start with an example that illustrates lay theories: Obesity is a prevalent global public health concern. Each of you may have your own lay theory about what causes obesity as well as how to treat obesity. You might believe that obesity is caused by a lack of knowledge, and therefore you might believe it is necessary to educate individuals to treat obesity. Someone else might believe that obesity is caused by a lack of access to healthy foods, and therefore might believe it is necessary to increase access to affordable healthy foods to treat obesity. These are lay theories, as they are based on our individual experiences and beliefs.

Now, let's use the same topic, obesity, to explore example scenarios of folk theories. Some groups of people in the United States may believe that obesity is caused by individuals making poor choices and therefore would be solved by individuals making better choices. Other groups of people in the United States believe that obesity is caused by environmental factors and therefore would be solved by changing the environmental characteristics (e.g., unsafe neighborhoods, lack of access to healthy food) that promote obesity. As these are beliefs held by subgroups of the larger population, they would be considered folk theories.

Conversely, scientific theories are derived and tested from empirical observations. They are used to produce hypotheses, generate discoveries, and offer practical guidance. To continue with the above examples, there are many scientific theories used to understand obesity. For example, the biomedical perspective focuses on the pathophysiology and other biological approaches to the health condition. Examining obesity using this biomedical perspective would include observing the biological underpinnings of the disease (e.g., metabolism, cholesterol levels, thyroid functioning). The biopsychosocial perspective emphasizes the importance of understanding human health and wellness from a more holistic point of view that includes the biological, psychological, and social determinants of health. Examining obesity using this biopsychosocial perspective would include observing various psychological determinants of obesity (e.g., depression, anxiety) and/or social determinants of obesity (e.g., cultural food preferences, access to healthy foods).

Now that we've introduced lay, folk, and scientific theories generally, let's turn to looking specifically at the discipline of persuasion. There are lay, folk, and scientific theories regarding how to best persuade someone to adopt a particular mental state or behavior. For example, you might personally believe that people do not know enough about factors that cause obesity, and, therefore, you may try to provide them with information in order to persuade them to adopt healthy behaviors (a lay theory of persuasion). Many public health organizations (a subgroup of people) hold a similar folk theory and have disseminated public health campaigns designed to increase knowledge about obesity and persuade people to adopt health behaviors (a folk theory of persuasion); however, scholars who study persuasion from a scientific perspective recognize that persuading someone to change their behaviors is not always as simple as these lay and folk theories suggest and instead apply scientific theories to understand persuasion.

A scientific theory used in persuasion can be defined as an abstract system of concepts and their relationships that help us understand a phenomenon. For instance, persuasion researchers have observed that many people know that exercise and healthy foods would prevent and treat obesity, yet they still do not engage in those behaviors. Persuasion researchers therefore use these observations, and others, to create scientific theories about persuasion. For example, the Theory of Reasoned Action (Ajzen & Fishbein, 1980) is shown in the diagram below.



The Theory of Reasoned Action predicts that **behavior** is directly determined by an individual's **intentions** to engage in the behavior. The arrow that goes from intentions to behavior shows this relationship. Intentions, in turn, are directly predicted by (1) an individual's **attitudes** towards the behavior (i.e., the individual's evaluation of the behavior as positive or negative) and (2) **subjective norms** (i.e., an individual's perceptions of whether or not important others think they should engage in the behavior). The arrows that go from attitudes and subjective norms to intentions depict these relationships.

Let's focus on one behavior related to obesity: exercising daily. The Theory of Reasoned Action suggests that an individual's exercising daily (**behavior**) is directly predicted by their intentions to exercise daily (**intentions**). These intentions, in turn, are predicted by the individual's **attitudes** towards exercising daily (e.g., "I think exercising daily is important/important") and **subjective norms** (e.g., "I think my spouse thinks I should exercise daily"). In order to persuade someone to start exercising daily, the Theory of Reasoned Action suggests that you would need to change the individual's attitudes and subjective norms about exercising daily. This change in attitudes and subjective norms is predicted to positively influence intentions to exercise daily, which then positively influence their performance of the behavior itself.

Remember that a scientific theory can be defined as an abstract system of concepts and their relationships that help us understand a phenomenon. The Theory of Reasoned Action includes four concepts (attitudes, subjective norms, intentions, and behavior), as well as the relationships between those concepts (behavior is predicted by intentions, and intentions are predicted by attitudes and subjective norms). The Theory of Reasoned Action is just one example of the many different scientific theories used when studying persuasion. More broadly, a scientific theory should meet five basic characteristics:

#1: Testable: Scientific theories are tested through a series of scientific studies. Sometimes the evidence supports the theory, and sometimes the evidence fails to support the theory. The important thing is that it has to be possible to gather empirical evidence to test the theory's proposed relationships.

#2: Replicable: Scientific studies that examine scientific theories should be able to be copied or reproduced exactly. This means that there must be enough information readily available about the theory so that others can test the theory as well.

#3: Stable: Scientific theories should stand the test of time. In other words, when other people test the theories, they should get the same results. If they do not, the theory may need to be revised based on the newly acquired evidence.

#4: Simple (aka Parsimonious): Scientific theories should be as simple as possible. The principle of parsimony states that a scientific theory should provide the simplest possible explanation for the phenomenon. As we will see later in this book, persuasion researchers noticed that the Theory of Reasoned Action failed to explain several aspects of intentions and behaviors and therefore added additional concepts to the theory, which later became the Theory of Planned Behavior (Ajzen, 1988, 1991). This made the theory less simple, but it is now better able to predict behavior.

#5: Consistent: Scientific theories should agree with other scientific theories, meaning that a principle in one theory should not directly contradict another. When inconsistencies do occur, scientific studies should be used to gather evidence to address and amend the discrepancy.

What is Persuasion Theory?

Using this understanding of scientific theory, we can apply it to persuasion. "Persuasion theory" can be defined as an abstract system of concepts and their relationships that help us understand persuasion. Additionally, considering our previously arrived upon paradigm cases of persuasion in Chapter 1, **persuasion theory is defined as an abstract system of concepts and their relationships that help us understand a successful, intentional effort at influencing another's mental state through communication in a situation in which the person being influenced has some measure of freedom.**

References

Ajzen, I. (1988) *Attitudes, personality and behaviour*. Milton Keynes, UK: Open University Press.

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Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice Hall.

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1.3: Persuasion Research Articles

The study of persuasion requires you to read, understand, interpret, and synthesize persuasion research articles that have been published in academic journals. Without extensive training in research methods and analysis, this can sometimes seem like a daunting task. The goal of this chapter is therefore to provide you with some basic background information on key things to look for when reading a scientific article. Research articles usually include the following components: (1) abstract, (2) introduction, (3) literature review, (4) research methods, (5) results, (6) discussion, (7) conclusion, and (8) references. There are key pieces of information to look for in each section, which are detailed below and summarized in the table at the end of this chapter. This chapter uses this sample research article to provide an example:

Karnowski, V., Leonhard, L., & Kümpel, A. S. (2018). Why users share the news: A theory of reasoned action-based study on the antecedents of news-sharing behavior. Communication Research Reports, 35(2), 91-100.

Abstract

The abstract is the first part of the article you will see and is usually a very short paragraph. The abstract summarizes the topic and purpose of the study, the scientific theory guiding the research, the methods (e.g., participants, research design), the main findings, and the conclusions. The abstract is a great place to start to get a general sense of what the research article is about.

Karnowski et al., 2018 Example: The abstract is a freely accessible portion of the research article and is therefore provided below. You will need to use your university access to read the remainder of the article.

Abstract

Social media have become an integral part of online news use, affecting how individuals find, consume, and share news. By applying the Theory of Reasoned Action (TRA), this study investigates the effects of motives, attitude, and intention on news-sharing behavior among German social media users ($n = 333$). Findings show that news-sharing attitude and subjective norms have a positive effect on news-sharing intention, which in turn has a positive effect on actual news-sharing behavior. Taken together, we see that a new media behavior in the early phases of its societal diffusion—like social media news sharing in Germany in 2015—can mainly be explained by a rational choice logic and is rooted in the motives of socializing and information seeking. This finding thus reflects the double nature of social media as a means for both information retrieval and social grooming.

As you can see, this abstract provides information about the topic of the study (i.e., social media and news consumption). This abstract also clearly states the scientific theory used to guide the research (i.e., the Theory of Reasoned Action). This abstract does indicate that 333 German social media users were included in the study, but it does not include the study design. The abstract provides information about the main findings (i.e., news-sharing attitudes and subjective norms influence intentions, which, in turn, influence behavior). The abstract also includes the authors' conclusions about the use of social media for information retrieval and social grooming.

Introduction & Literature Review

The introduction section includes the main background information on the topic being investigated as well as the main goals for the research study. The literature review section analyzes, synthesizes, and incorporates scholarly research that has previously been done on the topic. The literature review also describes the scientific theory being used to guide the study (also referred to as the theoretical framework), summarizes previous empirical work on the scientific theory, and includes any proposed extensions to the scientific theory that the study examined. This section also includes the research questions and hypotheses, which should stem from the relationships between the concepts articulated in the scientific theory. Sometimes, the introduction and literature review sections are presented together, and other times they are presented as separate sections. They also may or may not be labeled “Introduction” and/or “Literature Review.”

Karnowski et al., 2018 Example: This article does not label its sections “Introduction” or “Literature Review” and instead jumps right into providing the introduction information. The authors introduce the topic of rising social media use and news sharing via social media. The authors clearly state that they are using the Theory of Reasoned Action. They include a summary of the Theory of

Reasoned Action as well as previous relevant research. There are three hypotheses that stem directly from the Theory of Reasoned Action:

H2: Subjective norms will have a positive influence on news-sharing intentions.

H3: News-sharing attitudes will have a positive influence on news-sharing intentions.

H4: News-sharing intentions will have a positive influence on news-sharing behaviors.

The authors also propose some theoretical extensions, which are evident in the remaining hypothesis and research questions.

Research Methods

The research methods section may be called a variety of different things: “Methods,” “Methodology,” or “Materials and Methods” are commonly used. The research methods section contains key information on **the participants** included in the study, **the design** of the study, and **the measures** used to collect the data.

There are several important things to look for with respect to the participants. You should look for the total number of participants, the characteristics of the participants, and the sampling method used to gather the participants. The total number of participants can vary widely, but is almost always provided. The research article should also provide some demographic information about the participants (e.g., gender, age, political affiliation, or any other information relevant to the topic). It is impossible to collect information on every possible demographic, so the researchers decided what information to collect and what information to present in the research article that they believed was relevant (e.g., sometimes political affiliation may be related to the topic, and sometimes it may not).

There are many, many different types of sampling methods, and this chapter only provides a very basic starting point. The type of sampling method determines the generalizability of the results. To simplify, we will focus on two overarching sampling methods: a **convenience sample** and a **simple random sample**. Most persuasion research studies use a convenience sample. With a convenience sample, the researchers gather their participants from a group of people who are easy to contact or reach (e.g., from an undergraduate course, an online posting to a survey link, a clinic closeby). It is important to note that with a convenience sample, the results of the study cannot be generalized to the broader population. For example, a sample of 500 women who live in Alaska who were recruited from an online database is a convenience sample. The results of this study *can only technically be applied to those 500 women included in the research study*. Persuasion researchers often try to generalize the results to other people with the same characteristics (e.g., women in Alaska); however, they absolutely cannot say that their conclusions apply to all people in Alaska, all women in the United States, or any larger population. Even when generalizing the results to other people with the same characteristics, it is important to look at whether the sample represents the population with respect to different racial and cultural groups, sexual orientations, gender identities, and so on.

A random sample is a subset of individuals chosen from a larger set in which all individuals have an equal chance of being selected to be included in the sample. In order to have a simple random sample, the researchers would first need an entire list of everyone in the population they wanted to study. They would then need to randomly select participants from that list, where each person would have the same chance of being selected. For example, if a researcher wanted to study undergraduate students at the University of Alaska Anchorage using a simple random sample, they would first need to create a list of every current undergraduate student. They would then need to randomly select undergraduate students from that list to be part of their sample. A random sample is often very difficult to achieve, as it is difficult (and sometimes impossible) to find a list of all the people in the population of interest. Thus, more often than not, researchers use a convenience sampling method. The results from a study that uses random sampling can, importantly, generalize the results back to the population from which their sample was drawn.

There are also many, many different types of study designs, and, again, this chapter only provides a very basic starting point. The type of study design determines the types of conclusions that can be drawn from the results. To simplify, we will focus on two overarching types of study designs: an **observational design** and an **experimental design**. With an observational design, the researchers measure or survey the participants without trying to affect them. For example, if I hypothesize that exercise *is related to* a healthy weight, an observational study design could ask participants to report how often they exercise and how much they weigh. An observational design can make conclusions about whether or not the variables are *related or correlated* (in this example, whether exercise and weight are related). An observational design *cannot* make conclusions about causality or whether one variable caused another. Some key words that would indicate that a study has an observational design include “cross sectional,” “case-control,” and “cohort.”

With an experimental design, the researchers manipulate one variable of interest (referred to as the independent variable) and see how that affects another variable (referred to as the dependent variable). For example, if I hypothesize that exercise *causes* a healthy weight, an experimental study design could place participants into two different groups: one that engages in an exercise program and one that does not. After affecting the participants' exercise in this way, the researchers could then compare the weight of the participants in the exercise program with the weight of the participants who were not. An experimental design *can* make conclusions about whether or not variation in one variable *causes* a change in another variable.

The final thing to look for in the research methods section is the type of measures the researchers used to measure their variables of interest. Some variables can be measured objectively. For example, objective measures could include someone's weight, the number of hours they exercise per week, and so on. Many variables within persuasion, however, are measured subjectively. In these instances, researchers will ask participants a series of questions designed to understand something not readily observable. For example, subjective measures could include someone's attitude towards a behavior, their subjective norms, and their intentions to perform the behavior. There are many limitations to self-report measures, both objective and subjective, as they rely upon accurate reporting by the participants themselves.

Karnowski et al., 2018 Example: This article has a section labeled "Method" with subsections for the "Design and Sample" and "Measures." The article states that the sample included 333 German social media users and provided information about their age, gender, and education level. The article notes that the participants were recruited from Twitter and Facebook pages of a popular German news outlet. This is a convenience sample, so technically the results apply only to those people who participated in the study; however, it may be possible to generalize the results to other German social media users with similar demographics.

The article notes that the data were collected through a German language online survey. The article does not mention an intervention, nor does it appear as if the researchers attempted to affect the participants' attitudes, subjective norms, or intentions. Therefore, this is an observational design. This means that the authors can make conclusions about correlations, not causations.

The article used subjective measures and asked participants to respond to a series of questions designed to measure their news-sharing attitudes, subjective norms, and intentions. They also used an objective measure and asked participants to report how often they shared the link to a news article on social media in the last week, which was a measure of their actual behavior. Both of these measures are limited as they rely on the participants to self-report.

Results

The results section presents the data analysis techniques and the main findings. You should look specifically to see whether the evidence supported or failed to support the hypotheses and research questions of interest.

Karnowski et al., 2018 Example: The authors note that they used regression analyses to examine H2, H3, and H4. They found support for each of these hypotheses, which in turn finds support for the Theory of Reasoned Action.

Discussion

The discussion section contextualizes the results of the research study within the broader context of the research thus far conducted on the topic and the scientific theory. This will oftentimes include a discussion of the implications of the findings for the scientific theory used, as well as the practical implications of the findings in real-world applications. The discussion section also usually includes a section on the limitations of the research study, as well as directions for future research.

Karnowski et al., 2018 Example: The authors found support for the Theory of Reasoned Action when examining news sharing on social media in a sample of German social media users. The authors further examine the practical implications of their results by discussing potential explanations for their results with respect to news sharing on social media (specifically the dual nature of social media as a means for both information retrieval and social grooming). The authors include a section on the limitations, including their sample and variables they did not measure, including type of news shared and habits/automated behaviors.

Conclusion(s)

The conclusion(s) section will usually contain a brief summary of the main findings and implications of the research study.

Karnowski et al., 2018 Example: The authors conclude that news sharing on social media in Germany in 2015 can be explained using the Theory of Reasoned Action. The authors could be more specific that the results apply specifically to their sample as well.

References

The references section provides and cites all of the sources referenced in the research article. This is a great place to go to find additional reading on the topic and/or scientific theory.

Research Article Section	Questions to Ask
Abstract	<ul style="list-style-type: none"> • What was this research study about?
Introduction	<ul style="list-style-type: none"> • What problem or issue did this research study address? • What was the goal of this research study?
Literature Review	<ul style="list-style-type: none"> • What scientific theory was used? • What were the research questions and hypotheses?
Research Methods	<ul style="list-style-type: none"> • How many participants were included? • What characteristics of the participants were provided? • How was the sample of participants gathered? • How generalizable are the results based on this sample? • What was the design of this research study? • What does this design indicate about the types of conclusions that can be drawn? • What measures were used during the data collection?
Results	<ul style="list-style-type: none"> • What were the main findings? • What did the evidence indicate with respect to each research question and hypothesis? • Did the evidence support or fail to support the scientific theory?
Discussion	<ul style="list-style-type: none"> • What are the implications of the findings for the scientific theory studied? • What are the practical implications of the findings?
Conclusion	<ul style="list-style-type: none"> • What are the main conclusions? • Are the conclusions warranted given the limitations of the study?
References	<ul style="list-style-type: none"> • What citations were used in this research article?

References

Karnowski, V., Leonhard, L., & Kümpel, A. S. (2018). Why users share the news: A theory of reasoned action-based study on the antecedents of news-sharing behavior. *Communication Research Reports*, 35(2), 91-100.

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CHAPTER OVERVIEW

2: Theory of Planned Behavior

[2.1: Theory of Planned Behavior](#)

[2.2: Application of the Theory of Planned Behavior](#)

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2.1: Theory of Planned Behavior

Mary J. Ryan & Amber K. Worthington

Persuaders are oftentimes most interested in persuading others to adopt voluntary actions. An individual's intentions to voluntarily behave in a particular way are most immediately determined by their intentions to do so. For example, getting someone to meditate will, at a bare minimum, require them to intend to meditate. One key issue within persuasion is therefore to determine what influences behavioral intentions. The Theory of Reasoned Action, and its extension the Theory of Planned Behavior, are commonly used theories of persuasion that explain what variables predict behavioral intentions.

The Theory of Reasoned Action (Ajzen & Fishbein, 1980) posits that behavior is directly determined by an individual's behavioral intentions. In other words, as an individual's intentions to perform a behavior increase, they are more likely to actually perform the behavior. Behavioral intentions are oftentimes assessed with a questionnaire. An example is shown here:

I intend to meditate everyday.	
Strongly Disagree	Strongly Agree

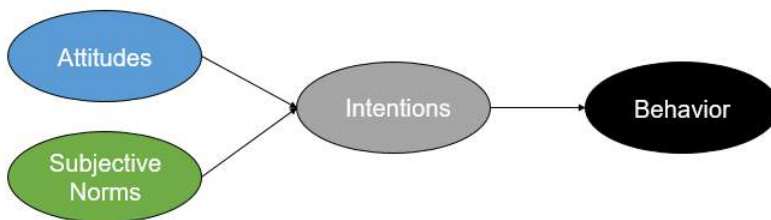
The Theory of Reasoned Action posits that intentions are directly predicted by (1) an individual's attitude towards the behavior and (2) subjective norms. An attitude is defined as an individual's evaluation of a given behavior. Someone might have a positive, negative, or neutral attitude about a given behavior. As an individual's attitude becomes more positive, their intentions to perform a behavior will increase. Attitudes are oftentimes assessed with a questionnaire. An example is shown here:

Meditating everyday is:	
Bad	Good
Harmful	Beneficial
Unimportant	Important

Subjective norms are defined as an individual's beliefs about the importance others place on them performing a given behavior. In other words, it is the degree to which an individual perceives that other people want them to engage in the behavior. As an individual's subjective norms increase, their intentions to perform a behavior will increase. Subjective norms are oftentimes assessed with a questionnaire. An example is shown here:

Most people who are important to me think I should meditate everyday.	
Strongly Disagree	Strongly Agree

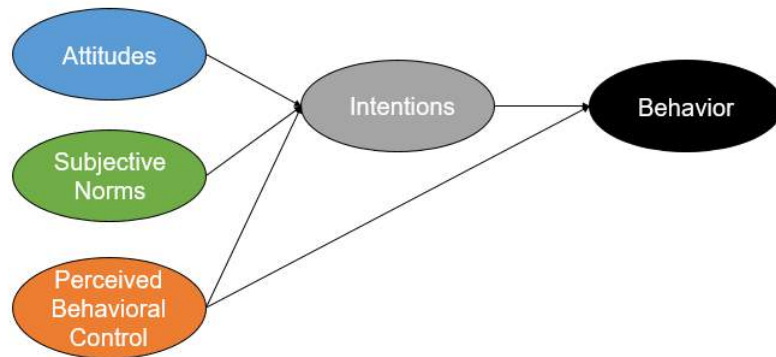
The Theory of Reasoned Action is depicted below:



The Theory of Planned Behavior (Ajzen, 1988, 1991) extends the Theory of Reasoned Action by including perceived behavioral control. The Theory of Planned Behavior posits that a behavior is directly determined by an individual's intentions and perceived behavioral control. Perceived behavioral control, also referred to as self-efficacy, encompasses the extent to which an individual believes they have control over performing that behavior. Intentions, in turn, are directly predicted by (1) an individual's attitude towards the behavior, (2) subjective norms, and (3) perceived behavioral control. Perceived behavioral control is oftentimes assessed with a questionnaire. An example is shown here:

Meditating everyday is easy.	
Strongly Disagree	Strongly Agree

The Theory of Planned Behavior is depicted below:



How are the predictors weighted in the Theory of Planned Behavior?

Attitudes, subjective norms, and perceived behavioral control do not always contribute equally to predicting intentions. Sometimes, an individual's intentions may be determined largely by attitudes, and subjective norms may have little or no influence. Other times, an individual's intentions may be determined largely by subjective norms, and attitudes may have little or no influence. For example, college students' intentions to meditate may largely be driven by their attitudes that meditating everyday is good, beneficial, and important; whether or not other people think they should meditate may not influence their intentions as strongly. The only way to determine the relative importance of (or weighting) of attitudes, subjective norms, and perceived behavioral control on intentions is to measure these variables across a group of study participants and run a statistical analysis.

What influences the relationship between intentions and behavior?

The Theory of Planned Behavior posits that intentions lead to behavior; however, intentions do not always guarantee behavior. For example, someone might intend to meditate everyday but not follow through. There are several factors that influence the strength of the relationship between intentions and behavior.

First, the Theory of Planned Behavior underscores a principle of specificity. This means that in order to best predict behavior, the attitudes, subjective norms, and perceived behavioral control beliefs must relate to specific intentions and a subsequent specific behavior. These frameworks note that any given behavior includes an action, target, context and time period. For example, a goal might be "to meditate for 20 minutes before bed each day in the upcoming month." In this example, "meditating" is the action, "20 minutes" is the target, "before bed each day" is the context, and "in the upcoming month" is the time period. As the specificity of the behavior increases, intentions become a better predictor of behavior.

Additionally, the temporal stability of intentions influences the strength of the relationship between intentions and behavior. If an individual's intentions fluctuate over time (e.g., some days I intend to meditate, and other days I do not), then intentions measured at one particular time might not predict subsequent behavior (e.g., Rhodes & Dickau, 2013). As the stability of an individual's intentions increases over time, intentions become a better predictor of behavior.

What additional predictors have been examined in the Theory of Planned Behavior?

The Theory of Planned Behavior focuses on rational reasoning and excludes the role of emotional and subconscious influences (see, e.g., Sniehotta, Presseau, & Araújo-Soares, 2014). Scholars have argued for the importance of these variables and have therefore suggested that anticipated emotions and past, habitual behaviors should be added to the Theory of Planned Behavior to better predict intentions and subsequent behavior.

People anticipate the emotions they will experience after performing a particular behavior — for example, an individual might anticipate feeling regret, guilt, or pride if they do or do not perform a given behavior. Anticipated emotions can therefore shape and motivate behaviors as people strive to avoid negative feelings and attain positive feelings (Baumeister, Vohs, DeWall, & Zhan 2007; O'Keefe, 2005). Past research has found that anticipated emotions have added to the explanatory power of the Theory of Planned Behavior for predicting, for example, cancer screening (McGilligan, McClenahan, & Adamnson, 2009), vaccination (Gallagher & Povey, 2006), seat belt use (Şimşekoğlu & Lajunen), caregiving behaviors (Tracy & Robins, 2004), bone marrow donation (Lindsey, Yun, & Hill, 2007), and organ donor registration (Wang, 2011).

Specific anticipated emotions that have been studied include anticipated regret, guilt, and pride. For example, one meta-analysis found that anticipated regret added significantly and independently to the prediction of both intentions and prospective behavior over and above Theory of Planned Behavior variables (Sandberg & Conner, 2008). Past research also notes that people will avoid actions that they anticipate will make them feel guilty. Thus anticipated guilt serves as an important predictor of intentions (O’Keefe, 2002). Finally, anticipated pride can impact intentions and behaviors, specifically for behaviors that conform to social standards and prosocial behaviors (Tangney, Stuewig, & Mashek, 2007; Tracey & Robins, 2004).

Past behavior can have a significant influence on future behavior, specifically when the past behavior is habitual or routine (Ouellette & Wood, 1998; Sniehotta, 2014). This habitual behavior is oftentimes automatic instead of fully intentional and thus can influence intentions themselves or directly influence behavior by sidestepping intentions. As the behavior becomes more habitual, the relationship between past behavior and future behavior increases. Past research has found this to be the case for, for example, cancer screening (Norman & Cooper, 2011), riding a bicycle (de Bruijn & Gardner, 2011), eating behaviors (de Bruijn, 2010; de Bruijn, Kroeze, Oenema, & Brug, 2008), exercise (de Bruijn & Rhodes, 2010), and alcohol consumption (Norman & Conner, 2006).

How can the Theory of Planned Behavior be used to create persuasive messages?

The Theory of Planned Behavior specifies that it is possible to change someone’s intentions by influencing one or more of the three determinants of intentions (attitudes, subjective norms, and/or perceived behavioral control).

Attitudes

An individual’s attitude towards a given behavior could be influenced in a number of different ways. The Theory of Planned Behavior specifies the determinants of attitudes, which are useful to identify specific strategies to do so.

The Theory of Planned Behavior posits that an individual’s attitudes towards a given behavior are a joint function of their evaluation of each belief about the behavior and the strength with which each belief is held. The strength of a belief can be assessed with a questionnaire. An example is shown here:

Meditating everyday would reduce my anxiety:	
Unlikely _____ Likely	False _____ True

The evaluation of each belief can be assessed with a questionnaire. An example is shown here:

Reducing my anxiety is:	
Bad _____ Good	Harmful _____ Beneficial

Changing an individual’s attitudes could therefore be achieved by changing the evaluation of an existing salient belief. This might involve increasing the salience of an existing negative belief (e.g., “You probably already know that anxiety can be harmful, but you may not realize just how consequential it really can be”) or decreasing the salience of an existing positive belief (e.g., “Maybe you think your anxiety helps motivate you to complete your work, but there are other ways to accomplish your tasks”).

Changing an individual’s attitudes could also be achieved by changing the strength of an existing salient belief. This might involve increasing the belief strength of an existing positive belief (e.g., “You probably already know that meditation can reduce anxiety, but maybe you don’t realize just how likely it is to decrease”) or decreasing the belief strength of an existing positive belief (e.g., “Anxiety won’t actually motivate you to complete your work”).

Finally, changing an individual’s attitudes could be achieved by adding a new salient belief. This can be accomplished by providing the individual with additional information about the behavior and outcome of interest (e.g., “You might not realize that anxiety can increase your risk of heart disease”).

Subjective Norms

An individual’s subjective norms about a given behavior could be influenced in a number of different ways. The Theory of Planned Behavior specifies the determinants of subjective norms, which are useful to identify specific strategies to do so.

The Theory of Planned Behavior posits that an individual’s subjective norms about a given behavior are a joint function of their evaluation of normative beliefs that they ascribe to important others and their motivation to comply with those others. An

individual's normative beliefs can be assessed with a questionnaire. An example is shown here:

My romantic partner thinks I should meditate everyday.
Strongly Disagree _____ Strongly Agree

The motivation to comply with those important others can be assessed with a questionnaire. An example is shown here:

Generally, how much do you want to do what your romantic partner thinks you should do?
Not at all _____ Very much

Changing an individual's subjective norms could therefore be accomplished by increasing the salience of a particular referent (e.g., "Have you considered whether your girlfriend thinks it is important for you to decrease your anxiety and meditate everyday?"), changing the normative belief associated with a specific reference (e.g., "You're actually wrong – I talked to your girlfriend, and she thinks you should meditate everyday to decrease your anxiety"), or altering the motivation to comply with a current referent (e.g., "You should really consider what she thinks about this").

Perceived Behavioral Control

An individual's perceived behavioral control for a given behavior could be influenced in a number of different ways. The Theory of Planned Behavior specifies the determinants of perceived behavioral control, which are useful to identify specific strategies to do so.

The Theory of Planned Behavior posits that an individual's perceived behavioral control for a given behavior are a joint function of their assessment of the likelihood or frequency that a specific control factor will occur and the potential for the control factor to impede or facilitate the behavior. An individual's assessment of the likelihood or frequency that a given control factor will occur can be assessed with a questionnaire. An example is shown here:

In my daily schedule, I have free time:
Very rarely _____ Very frequently

The potential for the control factor to impede or facilitate the behavior can be assessed with a questionnaire. An example is shown here:

A lack of free time makes it
Very difficult _____ Very easy
to meditate everyday.

Changing an individual's perceived behavioral control can be accomplished in many ways. The persuader could directly remove the obstacle, create the opportunity for successful performance of the given behavior (e.g., "I've done it before, so I can do it again"), provide examples of others who have successfully performed the behavior (e.g., "If they can do it, I can do it"), or provide verbal encouragement (e.g., "You can do it!"; O'Keefe, 2016). Any of these strategies individually, or concurrently, could influence an individual's assessment of the control factor, thus positively influencing their perceived behavioral control.

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2.2: Application of the Theory of Planned Behavior

Mary J. Ryan & Amber K. Worthington

Loneliness is a widespread and significant problem in the United States (Halpert, 2020), particularly for university students (American College Health Association, 2019). Loneliness in university students is associated with lower social adjustment to university life, lower perceptions of social support, and lower feelings of belonging on campus (Hopmeyer, Troop-Gordon, Medovoy, & Fischer, 2017; Sadoughi & Hesampour, 2016). One way to solve this problem is through volunteering, as volunteering increases community connectedness and belonging and decreases loneliness (Bowe et al., 2020).

Hyde and Knowles (2013) used the Theory of Planned Behavior to examine university students' intentions to volunteer. The study included a convenience sample of 235 university students in Australia. The study used an observational design and asked the participants to self-report on the main predictors in the Theory of Planned Behavior (attitudes, subjective norms, and perceived behavioral control), additional predictors (past behavior and moral obligations), and intentions to volunteer. The findings indicated that 67% of the variance in intentions to volunteer were explained by the predictor variables. Attitudes and perceived behavioral control had the strongest influence on intentions. These results are correlational, not causal, due to the observational nature of the study design. The results cannot be generalized due to the convenience sample. The authors did find theoretical support for the Theory of Planned Behavior.

The Theory of Planned Behavior can be applied to design messages to persuade university students to volunteer, specifically at the University of Alaska Anchorage (UAA) chapter of Hope Worldwide. Hope Worldwide is an international, faith-based organization established in 1991. Its mission statement is to “change lives through the compassion and commitment of dedicated staff and volunteers to deliver sustainable, high-impact, community-based services to the poor and needy” (Hope Worldwide, 2020). Hope Worldwide connects university students to volunteering opportunities in Alaska.

A persuasive message to increase UAA students' intentions to volunteer with Hope Worldwide would require designing a message that influences their attitudes, subjective norms, and/or perceived behavioral control. One way to change a university student's attitudes towards volunteering might be to add a new salient belief by providing the individual with additional information about the behavior and outcome of interest (e.g., “You might not realize that volunteering can reduce your feelings of loneliness”). One way to change a university student's subjective norms about volunteering might be to increase the salience of a particular reference, specifically their friends and peers (see Park & Shin, 2017; e.g., “Have you considered whether other students at UAA think it is important for university students to volunteer to better our community?”). One way to change a university student's perceived behavioral control might be to provide verbal encouragement (e.g., “You can do it!”) or remove a perceived barrier (e.g., “Even if you don't have much time to volunteer, any time you can spare is worth it”).

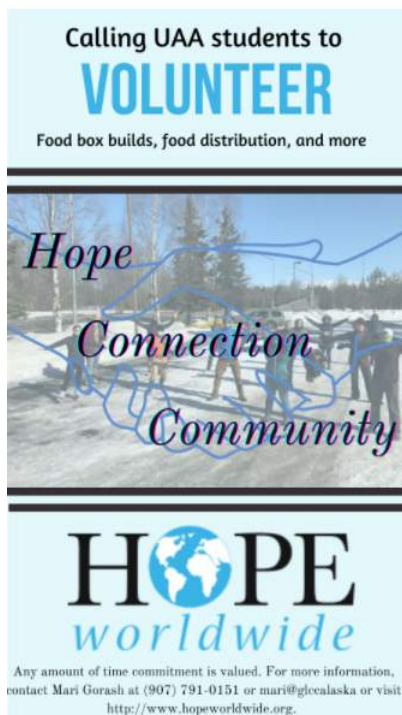
Example by Mary J. Ryan

The poster I created with Canva is designed to address the components of the Theory of Planned Behavior. It would be shared via social media to reach the target audience, UAA students. It could also be printed and distributed on campus.

It affects attitudes with the words “hope,” “connection,” and “community.” These are the benefits of volunteering and add a new salient belief. The hands graphic gives a visual representation of connection and friendship. I also hope that it gives a sense of equality. The helping hand is not reaching down to another, but across. The image beneath shows the group of volunteers that a student would be joining.

Subjective norms are addressed with the invitation “calling UAA students to volunteer.” In other words, Hope Worldwide at UAA, a group of students, wants other UAA students to volunteer. This increases the salience of a particular referent (i.e., other students).

Perceived behavioral control is influenced by giving the viewer an action. They can gain hope, connection, and community by volunteering. They can help people by participating in the food box builds and distribution. The contact information is given as a first step. Mari can then help whoever contacts her by sharing the latest opportunities and discussing how the students can and want to help. The main reservation for volunteering is a lack of time (Hyde & Knowles, 2013). By stating that any amount of time commitment is valued, I increased perceived behavioral control.



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CHAPTER OVERVIEW

3: Technology Acceptance Model

[3.1: Technology Acceptance Model](#)

[3.2: Application of the Technology Acceptance Model](#)

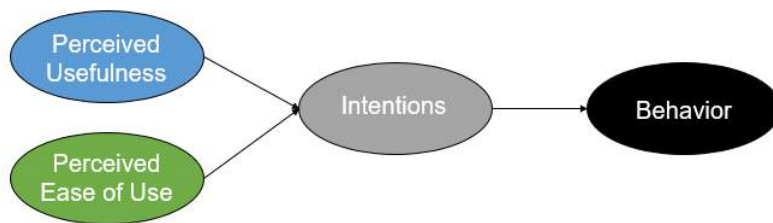
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3.1: Technology Acceptance Model

Georgia L. Burgess & Amber K. Worthington

The Technology Acceptance Model (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989) evolved from the Theories of Reasoned Action and Planned Behavior that were introduced in Chapters 4 and 5. This original inception of the Technology Acceptance Model stated that the goal of this theory was to “provide an explanation of the determinants of computer acceptance that is general, capable of explaining user behavior across a broad range of end-user computing technologies and user populations, while at the same time being both parsimonious and theoretically justified” [Davis et al. 1989, p. 985]. The use of the Technology Acceptance Model has since been expanded to include various other technologies beyond computers, including use of telemedicine services (Kamal, Shafiq, & Kakria, 2020), digital technologies for teachers (Scherer, Siddiq, & Tondeur, 2019), phone apps (Min, So, & Jeong, 2019), and e-learning platforms for students (Sukendro et al., 2020).

The Technology Acceptance Model is depicted below:



The Technology Acceptance Model posits that actual technology use is directly determined by an individual’s intentions to use the technology. As the individual’s intentions to use the technology increase, they are more likely to actually use the technology. Let’s use online therapy as an example. Technology use intentions are oftentimes assessed with a questionnaire. An example is shown here:

I intend to use online therapy.	
Strongly Disagree _____	Strongly Agree _____

The Technology Acceptance Model further predicts that these intentions are directly predicted by (1) an individual’s perceived usefulness of the technology and (2) an individual’s perceived ease of use of the technology. **Perceived usefulness** is defined as the degree to which an individual believes that using a particular technology would be beneficial. As an individual’s perceived usefulness of a given technology increases, their intentions to use the technology also increase. Perceived usefulness is oftentimes assessed with a questionnaire. An example is shown here:

Online therapy is:	
Not Useful _____	Useful _____
Harmful _____	Beneficial _____

Perceived ease of use is defined as the degree to which an individual believes that using a particular technology would be free from effort. As an individual’s perceived ease of use of using a given technology increases, their intentions to use the technology also increase. Perceived ease of use is also commonly assessed with a questionnaire. An example is shown here:

Using online therapy is:	
Difficult _____	Easy _____
Confusing _____	Straightforward _____

How are the predictors weighted in the Technology Acceptance Model?

Perceived usefulness and perceived ease of use do not always contribute equally to predicting intentions. Sometimes, an individual’s intentions may be determined largely by perceived usefulness, and perceived ease of use may have little or no influence. Other times, perceived ease of use may exert more influence. For example, college students’ perceived usefulness to use online therapy may largely be driven by their perceptions that online therapy is useful; whether or not they perceive it is easy to use

may not influence their intentions as strongly. This information is important, because it can help persuaders strategically design messages to motivate people to adopt a particular behavior. The only way to determine the relative importance (or weighting) of perceived usefulness and perceived ease of use on intentions is to measure these variables across a group of study participants and run a statistical analysis.

What influences the relationship between intentions and behavior?

The Technology Acceptance Model predicts that intentions lead to behavior; however, intentions do not always guarantee behavior. For example, someone might intend to use online therapy but not follow through. There are several factors that influence the strength of the relationship between intentions and behavior.

First, the Technology Acceptance Model is derived from the Theory of Reasoned Action (see Chapters 4 and 5), which underscores a principle of specificity. This means that in order to best predict behavior, the perceived usefulness and perceived ease of use must relate to specific intentions and a subsequent specific behavior. These frameworks note that any given behavior includes an action, target, context and time period. For example, a goal might be “to use online therapy for one session per week in the upcoming month.” In this example, “use online therapy” is the action, “one session” is the target, “each week” is the context, and “in the upcoming month” is the time period. As the specificity of the behavior increases, intentions become a better predictor of behavior.

Additionally, the temporal stability of intentions influences the strength of the relationship between intentions and behavior. If an individual’s intentions fluctuate over time (e.g., some days I intend to use online therapy, and other days I do not), then intentions measured at one particular time might not predict subsequent behavior (e.g., Rhodes & Dickau, 2013). As the stability of an individual’s intentions increases over time, intentions become a better predictor of behavior.

What additional predictors have been examined in the Technology Acceptance Model?

In it’s application, The Technology Acceptance Model has seen theoretical expansions to include several other predictor variables in addition to perceived usefulness and ease of use. One of the expansions is the inclusion of perceived risk (Pavlou, 2003). Perceived risk of a technology has been defined as the degree to which an individual believes that using the technology involves exposure to danger (see Schnall, Bakken, Rojas, Travers, & Carballo-Diequez, 2015). In the Technology Acceptance Model, as perceived risk increases, intentions to use the specific technology decreases.

The Technology Acceptance Model has also been expanded to include perceived trust (Pavlou, 2003), and a meta-analysis found that perceived trust does improve the predictive ability of the Technology Acceptance Model (Wu, Zhao, Zhu, Tan, & Zheng, 2011). Perceived trust of a technology has been defined as the degree to which an individual believes that the other party will act responsibly and will not attempt to exploit the user (see Schnall et al., 2015). In the Technology Acceptance Model, as perceived trust increases, intentions to use the specific technology also increase.

Subjective norms have also been added as a predictor of intentions to use a specific technology (Legris, Ingham, & Colletette, 2003), and a meta-analysis found that subjective norms do improve the predictive ability of the Technology Acceptance Model (Schepers & Wetzels, 2007). Subjective norms are defined as the degree to which an individual believes that important others think they ought to perform a behavior. In the Technology Acceptance Model, as subjective norms increase, intentions to use the specific technology also increase.

How can the Technology Acceptance Model be used to create persuasive messages?

The Technology Acceptance Model specifies that it is possible to change someone’s intentions to use a technology by influencing one or more of the predictors of intentions. The Technology Acceptance Model itself does not specify the beliefs that comprise perceived usefulness and ease of use nor does it identify strategies to shift these variables in the desired direction. This chapter therefore incorporates and adapts information from the Theory of Planned Behavior (see Chapters 4 & 5) to provide some useful suggestions.

Perceived Usefulness

As mentioned, perceived usefulness is defined as the degree to which an individual believes that using a particular technology would be beneficial. Perceived usefulness may be a function of an individual’s evaluation of a belief about usefulness and the strength of that belief. For example, the strength of a belief about usefulness could be associated with the following questionnaire:

Using online therapy would reduce my depression.	
False _____ True	
Strongly Disagree _____ Strongly Agree	

The evaluation of each belief about usefulness could be assessed with the following questionnaire:

Reducing my depression is:	
Not useful _____ Useful	
Harmful _____ Beneficial	

Changing an individual's perceived usefulness could therefore be achieved by changing the strength of an existing salient belief. This might involve increasing the salience of an existing positive belief (e.g., "You might think that online therapy would reduce your depression, but you might not realize just how useful it can really be").

Changing an individual's perceived usefulness could also be achieved by changing the evaluation of an existing salient belief. This might involve increasing the salience of an existing positive belief (e.g., "You might think that reducing your depression can be beneficial, but you might not realize just how much of a positive impact it can have").

Perceived Ease of Use

Changing an individual's perceptions that the specific technology is easy to use can be accomplished in many ways. The persuader could directly remove the obstacle, create the opportunity for successful use of the technology (e.g., "I've done it before, so I can do it again"), provide examples of others who have successfully used the technology (e.g., "If it is easy for them, it will be easy for me"), or provide verbal encouragement (e.g., "You can do it!"); O'Keefe, 2016). Any of these strategies individually, or concurrently, positively influence an individual's perceptions that using a particular technology would be easy.

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3.2: Application of the Technology Acceptance Model

Georgia L. Burgess & Amber K. Worthington

An increasing number of people of childbearing age are lesbian, gay, bisexual, transgender, queer, and other (LGBTQ+; Harris Poll, 2017). LGBTQ+ individuals have the same interests as cis heterosexual people in accessing reproductive health services and having children (e.g., Ethics Committee of the American Society of Reproductive Medicine, 2015; Wingo et al., 2018) but have faced persistent issues accessing high quality, affirming reproductive healthcare services (Hayman et al., 2013; Wingo et al., 2018). Therefore, an alternative technology offering outside of the traditional structure and facilities of reproductive healthcare may be essential to individuals and couples with unique conception and family planning needs. Reproductive hormone self-collection tests are a new technology on the consumer market that may be particularly useful for LGBTQ+ individuals and couples (Burke, Beqaj, Douglas, & Luo, 2019; Kyweluk, 2020).

Worthington, Burke, Shirazi, and Leahy (2020) used the Technology Acceptance Model to women's intentions to use reproductive hormone self-collection tests. The study included a convenience sample of 327 women in the United States. The study used an observational design and asked the participants to self-report on the main predictors in the Technology Acceptance Model (perceived usefulness, perceived ease of use), additional predictors (perceived risk, trust, subjective norms, and responsibility), and intentions to use reproductive hormone self-collection tests. The findings indicated that perceived usefulness, perceived ease of use, subjective norms, and responsibility predicted intentions. Responsibility and perceived usefulness had the strongest influence on intentions. These results are correlational, not causal, due to the observational nature of the study design. The results cannot be generalized due to the convenience sample. The authors did find theoretical support for the Technology Acceptance Model and its extensions. Their results also indicate that responsibility may be an additional variable that influences intentions to use a particular technology.

The Technology Acceptance Model can be applied to design messages to persuade LGBTQ+ individuals with ovaries to intend to use reproductive hormone self-collection tests. Modern Fertility is one company that provides these tests with the goal of enabling people with ovaries to be able to take control of their own fertility in the comfort of their homes at an affordable price. Modern Fertility's messaging contains components that could increase an individual's perceived usefulness and ease of use of reproductive hormone self-collection tests, which, according to the Technology Acceptance Model, would increase their intentions. For example, Modern Fertility's messaging places emphasis on the reasons to use such a test, which can increase an individual's perceived usefulness. They also utilize a slogan of "the only comprehensive fertility hormone test you can take in your jammies", which can increase an individual's perceived ease of use.

Example by Georgia L. Burgess

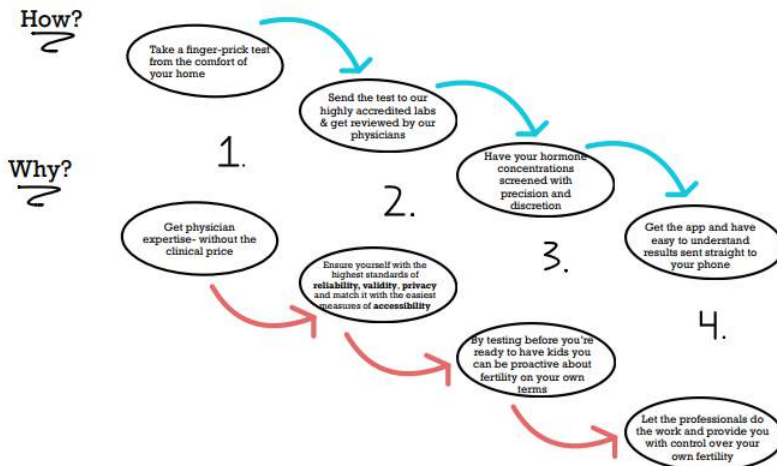
This message is designed using the Technology Acceptance Model and incorporates the original variables in the model, including perceived usefulness and perceived ease of use, as well as variables in the extensions of the model, including perceived risk, trust, and subjective norms. I designed this message in a way that I hope will speak to the target audience of LGBTQ+ individuals most effectively.

By starting the message with "Hey people with Ovaries", I wanted to set the tone with inclusive language to effectively target all people with ovaries, including those who are LGBTQ+.

The subheader "...find out about your fertility status" is the starting point for increasing perceived usefulness of reproductive hormone self-collection tests. The following section of "How?" is written to incorporate some impactful information to establish a strong sense of perceived usefulness and ease of use. The next element, "Why" focuses on reducing potential consequences (perceived risk) and amplifying the benefits of the product (perceived usefulness). Trust is incorporated into the message using words such as reliability, validity, privacy, and accessibility. Together, these message features effectively integrate all of the variables in the Technology Acceptance Model in a nuanced way that makes the message receptive and relevant without overloading an individual with too much information.

Hey people with Ovaries!

Learn about your fertility hormones and find out your fertility status!



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CHAPTER OVERVIEW

4: Transtheoretical Model

[4.1: Transtheoretical Model](#)

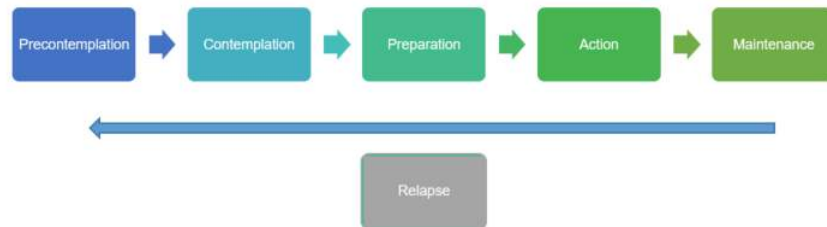
[4.2: Application of the Transtheoretical Model](#)

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4.1: Transtheoretical Model

Kagen S. Silver & Amber K. Worthington

The goal of persuasion is to change behavior. We all know that changing behavior is hard. For example, how many of us have set New Year's resolutions and broken those same resolutions three weeks later? The Transtheoretical Model (Prochaska & DiClemente, 1983; Prochaska, Redding, & Evers, 2002) is a stage model of behavior change that posits that behavior change involves moving through a sequence of distinct stages. The Transtheoretical Model creates a comprehensive concept of change that can be applied to various behaviors, environments, and individuals. The Transtheoretical Model sees the behavior change process occurring through five distinct stages: Precontemplation, Contemplation, Preparation, Action, and Maintenance with the possibility for relapse, as depicted below. Together, the Transtheoretical Model refers to these stages as the Stages of Change.



The Stages of Change

The Transtheoretical Model claims that, when making behavioral changes, individuals pass through each stage at a varying pace subject to the behavior being changed, the environment, and the individual themselves. No stage is subject to any particular timeline; stages can last from as little as one hour to as long as a lifetime. Despite being displayed as a linear model, behavioral change is often nonlinear; progression and regression are common in stages of change. People may move forward, backward, and slide back and forth between stages in a complex and dynamic way. People do not, however, skip any stages; thus people move through this general sequence when changing behavior.

Precontemplation

Those in the precontemplation stage do not intend to conduct any action in the immediate future. Being unaware of one's behaviors is a consequence of being in the precontemplation stage. While in this stage, individuals will defend their behavior and may become defensive when faced by efforts to pressure them to change. For example, someone who smokes in this stage is not even considering or thinking about quitting smoking.

Contemplation

In the contemplation stage, individuals are aware of their behavior's personal consequences and are thinking about possibly changing in the future. In this stage, individuals are more open to new information and are aware of the pros of changing but are still more aware of the negative aspects of change. Individuals can spend a day, a week, or years in the contemplation stage balancing the pros and cons of changing their behavior, and this ambivalence can be identified as behavioral procrastination. Those in this stage may make statements such as "I know I have a problem" or "I should probably do [insert behavior]." For example, someone who smokes in contemplation is thinking about quitting and weighing the pros and cons of doing so.

Preparation

In the preparation stage, individuals have committed to change. They will easily be able to acknowledge their problematic behavior and are committed to changing it. In this stage, the individual is aware that the positive aspects of change outweigh the negative and are actively looking for information to help them. In this stage, insufficient planning can result in greater challenges in the future, which may lead to relapse. For example, someone who smokes in the preparation stage plans to quit and is actively taking steps to do so (e.g., buying nicotine alternatives).

Action

During the action stage, individuals are actively involved in changing their behavior. They are open to receiving assistance from others. People in this stage are teeming with confidence as they believe they have the personal willpower to take on the process of change. Short term positive reinforcements of change are often established to keep individuals motivated to change. Individuals

continue to plan to overcome potential challenges on the journey to behavioral change. For example, in the action stage, someone who used to smoke has now quit smoking.

Relapse

Relapse occurs when an individual returns to the problematic behavior such as beginning to smoke or drink again. Relapse is not a stage, but can occur at any stage during the process. Those trying to change highly addictive behaviors such as drinking, smoking, and drug use are at higher risk of relapsing. Relapse can be avoided with proper support networks and plans to prevent relapse.

Maintenance

The maintenance stage is determined by total abstinence from the changed behavior and the ability to avoid any temptations to return to the previous behavior. In this stage, individuals can remind themselves of the progress they have made, which helps reinforce the changes in behavior. Thoughts of returning to the previous behavior may arise, but the individual is able to resist temptations to do so due to proper planning and positive changes. For example, in this stage, someone who used to smoke has not only quit smoking, but is easily able to maintain that status.

How do people progress through the stages of change?

The Transtheoretical Model proposes that people progress through these stages of change using processes of change. Prochaska, Redding, and Evers (2002) provide several examples, which are depicted in the table below. The Transtheoretical Model states that different processes of change are relevant and effective during different stages of change; however, criticism of the Transtheoretical Model has noted that it is not clear which processes of change apply to which stage of change (see O’Keefe, 2016).

Process of Change	
Self-reevaluation	This involves an individual reconsidering their self-image (e.g., the self-image as a smoker vs. the self-image as a role model).
Environmental reevaluation	This involves an individual’s consideration of the impact of their behavior on others (e.g., when a smoker considers the impact of secondhand smoke on others’ health).
Counterconditioning	This occurs when an individual substitutes a healthier behavior for the problem behavior (e.g., using a nicotine patch instead of smoking a cigarette).
Consciousness raising	This involves an individual’s increased awareness of the causes, effects, and solutions for the problem behavior (e.g., understanding the social situations that lead them to smoke a cigarette).
Self-liberation	This occurs when an individual commits to change through their own willpower (e.g., the commitment to stop smoking, no matter the urges to do so).
Helping relationships	This involves support from an individual’s network of family, friends, colleagues, and so on (e.g., social support to do another behavior instead of smoking a cigarette).
Contingency management	This occurs when an individual creates or becomes aware of consequences of a problem behavior (e.g., implementing a monetary “fine” to pay to a family member if they smoke a cigarette).
Stimulus control	This occurs when an individual removes cues that trigger the problem behavior and/or adds cues to trigger the new, healthier behavior (e.g., removing any cigarette cartons from the home).
Social liberation	This occurs when there are external policies that limit the ability to enact the problem behavior (e.g., policies that make it illegal to smoke in a restaurant).

How can the Transtheoretical Model be used to create persuasive messages?

The Transtheoretical Model indicates that people at different stages of change will be motivated by different message content. For example, a smoker in precontemplation likely needs different information to move to contemplation than a smoker in action needs to move to maintenance. It is therefore important to determine how to develop persuasive messages and interventions that are matched to an individual’s stage of change. O’Keefe (2016) notes that decisional balance and self-efficacy are important to create stage-matched persuasive messages.

Decisional Balance

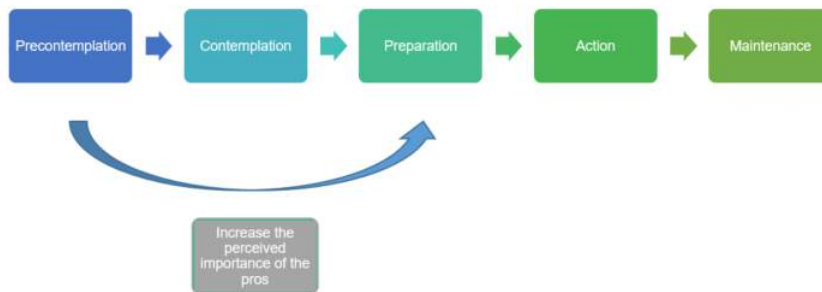
Decisional balance is an individual’s belief that they have the ability to perform a new behavior that will or has substituted a problem behavior. As people progress through the stages of change, the pros of behavior change will outweigh the cons. This decisional balance can be assessed with a questionnaire where a participant is asked to rate the importance of various pros and cons on their behavior change. An example is shown here, where the first item assesses a pro and the second item assesses a con:

Saving money by not buying cigarettes is:	
Not important	_____ Extremely important

Smoking with my friends at a party is:	
Not important	_____ Extremely important

The importance of these pros and cons do vary depending on an individual’s stage of change. Di Noia and Prochaska (2010) state: “The balance between the pros and cons varies across stages. Because individuals in precontemplation are not intending to take action to change a behavior, the cons outweigh the pros in this stage. [The importance of the] pros increase and [the importance of the] cons decrease from earlier to later stages. In action and maintenance stages, the pros outweigh the cons. A crossover between the pros and cons occurs between precontemplation and action stages” (p. 619). Note that the research on decisional balance has examined the changes in *perceived importance* of various pros and cons across the stages of change, not the *number of* perceived pros or cons (O’Keefe, 2016).

Decisional balance therefore may have an important role in designing persuasive messages using the Transtheoretical Model. For example, an effective message to move individuals from precontemplation to contemplation to action could attempt to increase the perceived importance of the pros of changing the problem behavior (see Prochaska et al., 2002). O’Keefe (2016), however, notes that the fact that decisional balance is related to various stages of change does not necessarily mean that decisional balance was the cause of movement from one stage to the next. Thus, other strategies should also be considered when designing a persuasive message.



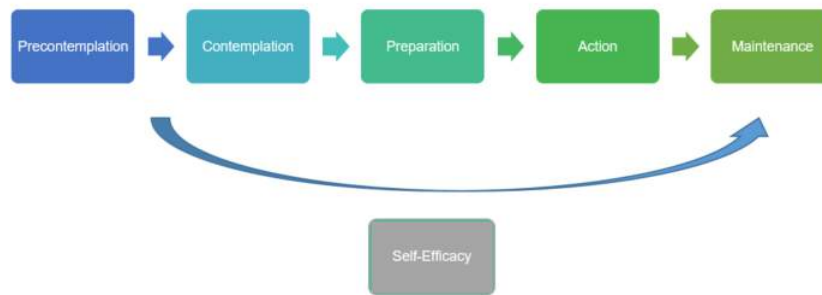
Self-Efficacy

Self-efficacy is an individual’s belief that they have the ability to perform and maintain a new behavior that will or has substituted a problem behavior. Self-efficacy can be assessed with a questionnaire where a participant is asked to rate how easy they believe adopting the new behavior would be. An example is shown here.

Quitting smoking is easy.	
Strongly Disagree	_____ Strongly Agree

The Transtheoretical Model indicates that messages designed to increase self-efficacy are not effective at earlier stages (e.g., precontemplation), because people have not yet decided to change their behavior. As O’Keefe (2016) notes: “...until people have become convinced of the desirability of an action, there is little reason to worry about whether they think they can perform the behavior” (p. 137). Some studies have found support for this idea. For example, Prentice-Dunn, McMath, and Cramer (2009) found that self-efficacy information about the ease of using sunscreen did not move people from precontemplation to contemplation but did move people from contemplation to preparation. Other studies, however, have found that self-efficacy information is effective at all stages. For example, Schwarzer, Cao, and Lippke (2010) found that self-efficacy information about how to exercise was

effective at moving people along the stages, even at the early stages. Self-efficacy information may therefore have an important role in designing persuasive messages using the Transtheoretical Model, potentially at all stages.



Criticism of the Transtheoretical Model

It is important to note that there are several important criticisms to consider when planning to use the Transtheoretical Model. First, some have raised concerns about the description and procedures for assessing various stages of the Transtheoretical Model (see O’Keefe, 2016). Typically, an individual’s stage has been assessed using answers to a series of yes-no questions about current behavior, thoughts about change, intentions to change, and so on. Some of the resulting stage classifications can seem artificial or vary from study to study. Second, there is a general lack of empirical work testing the idea that a persuasive message is most effective when targeted at individuals in a particular stage, and more research is needed in this area. Finally, some have argued that the Transtheoretical Model’s stages may not constitute mutually exclusive categories (see O’Keefe, 2016), and people’s intentions and behaviors may be better suited for an approach that sees these transitions along a continuum.

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4.2: Application of the Transtheoretical Model

Kagen S. Silver & Amber K. Worthington

Discrimination in the healthcare system can occur in multiple ways, including discrimination related to gender, sexual and gender minorities, and race/ethnicity (e.g., Ayhan et al., 2020; Fazeli Dehkordy, Hall, Dalton, & Carlos, 2016; MacIntosh, Desai, Lewis, Jones, & Nunez-Smith, 2013). Discriminative behaviors can include stigma, denial or refusal of healthcare, and verbal or physical abuse (e.g., Ayhan et al., 2020), which negatively impacts individual and population health.

One way to solve this problem is for individuals to find and use patient advocates in healthcare settings. A patient advocate looks out for the best interest of the patient. Insurance companies may sometimes provide advocates, and there are also non-profit organizations that specifically help communities that are more likely to be impacted by discrimination find patient advocates.

The Transtheoretical Model can be used to understand an individual's readiness to find and use a patient advocate. A patient in the precontemplation stage may not recognize the problems of discrimination in healthcare and does not intend to use a patient advocate in the immediate future. In the contemplation stage, the patient is aware that not using a patient advocate may exacerbate discrimination in healthcare settings, and they are thinking about possibly using a patient advocate in the future. In the preparation stage, the patient has committed to using a patient advocate and is actively trying to find a patient advocate. A patient in the action stage is actively involved in changing the behavior and is using a patient advocate in healthcare settings. A patient in the maintenance stage always uses a patient advocate in healthcare settings.

According to the Transtheoretical Model, a persuasive message should be matched to the patient's current stage of change. To move a patient from the early stages of precontemplation, contemplation, and preparation to the later stages of action and maintenance, the message should help the individual recognize the occurrence of discrimination and to perceive the importance of the benefits of patient advocates (i.e., increase the pros of changing the behavior in decisional balance). The persuasive message should also contain substantial information that will increase the patient's self-efficacy to find and use a patient advocate, including specific phone numbers or organizations that the patient can call for more information.

Example by Kagen S. Silver

I created a message using the Transtheoretical Model that would be effective for patients in the precontemplation and contemplation stages of finding and using a patient advocate.

The goal of the opening lines for those in precontemplation is to gain their attention. Those in contemplation know that discrimination exists, and this opening line therefore functions as a reminder to increase the salience of the issue. The message also connects what the reader is seeing in the world to the doctor's office, a place supposedly free of discrimination because it is a house of health and wellness.

The goal of the next lines ("Patient advocates can speak up for you in healthcare settings to reduce the chances that you will experience discrimination. The benefits of using a patient advocate make it worth it.") is to increase the patient's perceptions that the pros of finding and using a patient advocate outweigh the cons.

The following line ("If you or someone you know may face discrimination in healthcare settings, share these resources today") ties in the idea that the patient can help themselves and others by sharing this information. This line may also create a norm that this information should be shared and will be accepted by others.

The last lines in the message are designed to increase the patient's self-efficacy. Stating the consultation is free makes the resource accessible to all, and adding that patient advocates are covered by most insurance makes the reader see that help is attainable and may not require additional money. Providing a specific number and website would also increase a patient's self-efficacy to find a patient advocate.

Millions of Americans face discrimination every day. Going to the doctor is no different. Patient advocates can speak up for you in healthcare settings to reduce the chances that you will experience discrimination. The benefits of using a patient advocate make it worth it.

If you or someone you know may face discrimination in healthcare settings, share these resources today. Consultations are free, and most insurance plans cover patient advocates. Please call us toll-free at (123) 456-7890 or visit our website.

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CHAPTER OVERVIEW

5: Emotional Appeals

5.1: Fear Appeals- The Extended Parallel Process Model

5.2: Applications of the Extended Parallel Process Model

5.3: Hope Appeals- Persuasive Hope Theory

5.4: Applications of Persuasive Hope Theory

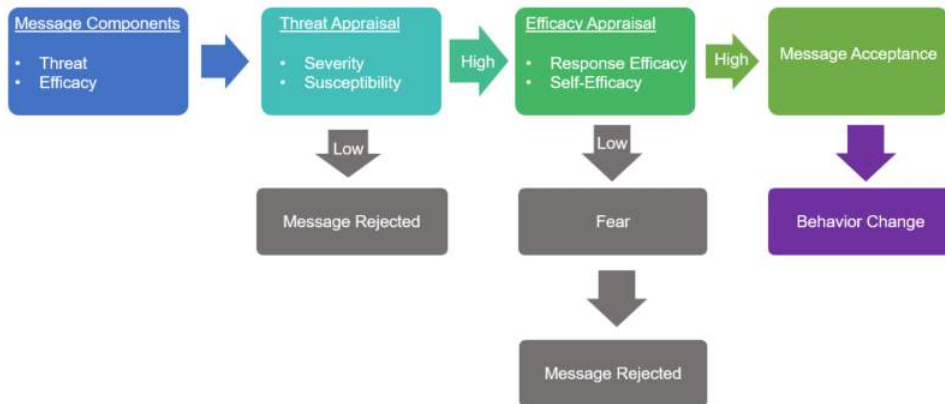
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5.1: Fear Appeals- The Extended Parallel Process Model

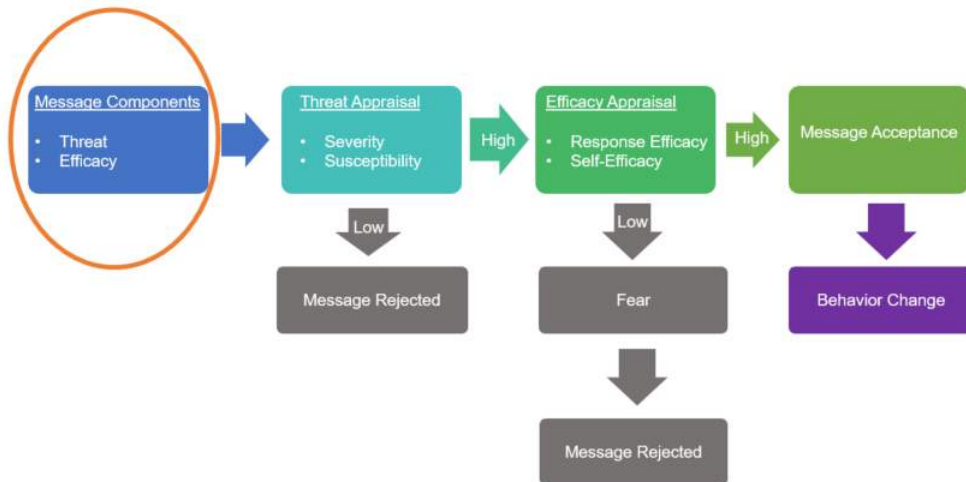
How many times have you come across a message that tries to scare people into doing something? For example, messages may attempt to use fear to persuade people to stop smoking, refrain from drinking alcohol and driving, wear a helmet, and so on.

Importantly, messages that use fear are not always effective, and communication theories can be used to help explain when these fear appeals likely will or will not work. This chapter reviews fear appeals and explains how to create effective fear appeal messages.

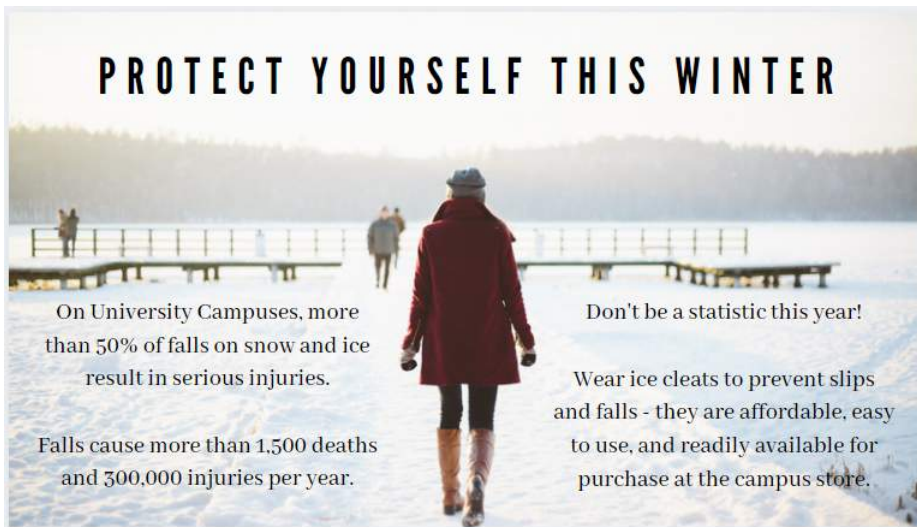
A fear appeal is a message strategy that attempts to persuade people to adopt a specific action by arousing fear. Fear appeals have a long history, including Levanthal's (1970, 1971) parallel process model and Roger's (1975, 1983) protection motivation theory. This chapter focuses on the most frequently used fear appeal theory today, which is Witte's (1992) Extended Parallel Process Model. The Extended Parallel Process Model describes when a message with fear will be effective and when it will not. The image below depicts the Extended Parallel Process Model:



The Extended Parallel Process Model begins with a fear appeal message, which includes message content related to a specific threat and the efficacy of a specific recommended behavior to resolve that threat. This part of the model is highlighted in the figure below:



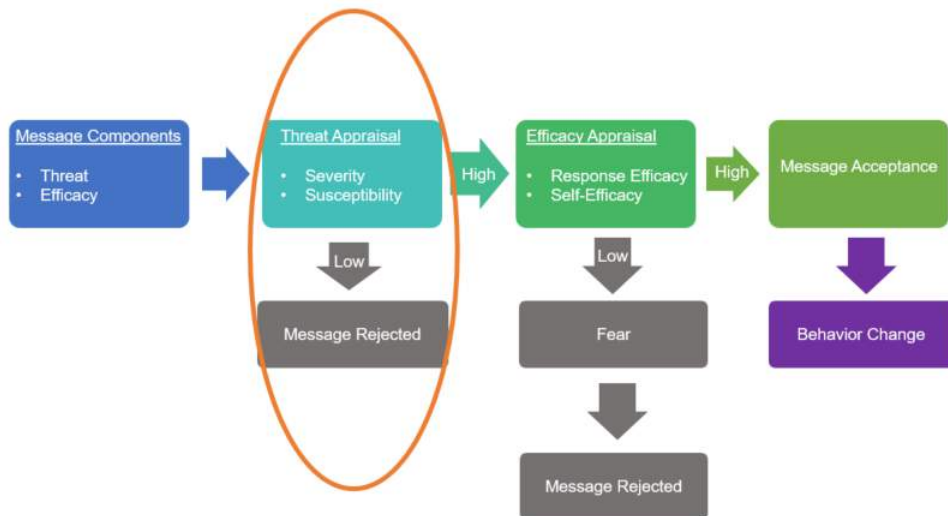
For example, a threat might be icy sidewalks on a university campus, and a specific recommended behavior to resolve that threat might be to wear ice cleats. Here is an example message:



According to the Extended Parallel Process Model, the first thing someone does when reading the message is to appraise the threat. This includes assessing whether they perceive that the threat is severe, which refers to their perception of the magnitude of the threat (i.e., **perceived severity**), and whether they perceive that they are susceptible to the threat, which refers to their perception of the likelihood that the threat will impact them (i.e., **perceived susceptibility**).

In the above example, this would be whether or not someone reading the message perceives that falls on snow and ice are severe (e.g., “Falls cause more than 1,500 deaths and 300,000 injuries per year”) and whether or not they perceive that they are susceptible to falling on snow and ice (e.g., “On University Campuses”). For example, a student in Florida might perceive that falling on snow and ice is severe, but they might not believe they are susceptible to falling on snow and ice on their Florida campus. A student in Alaska, on the other hand, might perceive that falling on snow and ice is severe and that they are susceptible to it on their Alaska campus.

If someone perceives the threat as low (i.e., if the person does not believe the threat is severe and/or does not believe they are susceptible to the threat) then they will reject the message. This part of the model is highlighted in the figure below:

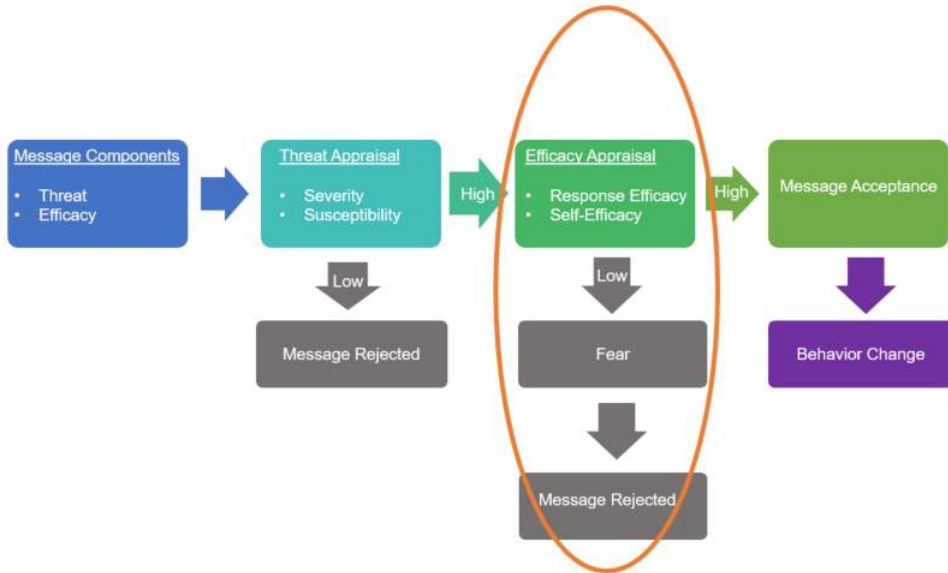


If someone perceives the threat as high (i.e., if the person believes the threat is severe and that they are susceptible to it) then they will keep reading the message. The next thing they will do is appraise the efficacy. This includes assessing whether they believe that the recommended behavior will prevent or reduce the threat, which is referred to as **response efficacy**, and whether they believe they are capable of doing the recommended behavior, which is referred to as **self-efficacy**.

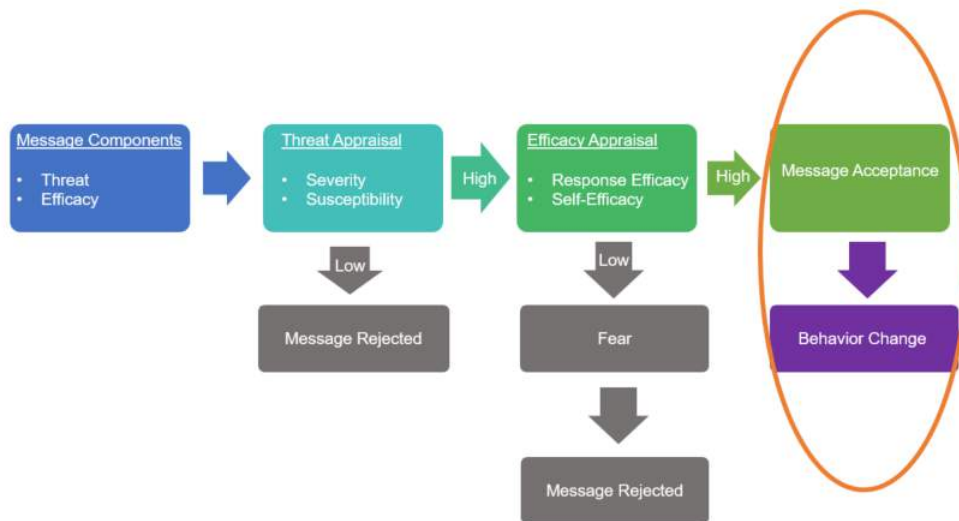
In the above example, this would be whether or not someone reading the message perceives that the recommended behavior to wear ice cleats would prevent a fall on ice (i.e., response efficacy) and whether they believe they are capable of affording, using,

and finding ice cleats (i.e., self-efficacy). For example, someone might believe that ice cleats would work to prevent falls (i.e., high response efficacy) but might also think they would not be able to afford them (i.e., low self-efficacy). Someone else might think that ice cleats would work to prevent falls (i.e., high response efficacy) and might also think they could afford to purchase them (i.e., high self-efficacy).

If someone perceives the efficacy as low (i.e., if the person does not believe that the recommended behavior would prevent the threat and/or does not believe they are capable of enacting the recommended behavior) then they will reject the message. This part of the model is highlighted in the figure below:



If someone perceives the efficacy as high (i.e., they have both high response efficacy and self-efficacy), they will accept the message. According to the Extended Parallel Process Model, someone who accepts the message is then likely to change their behavior accordingly. This part of the model is highlighted in the figure below:



What influences the relationship between message acceptance and behavior change?

The Extended Parallel Process Model states that message acceptance leads to behavior change; however, similar to the Theory of Planned Behavior (Chapters 4 & 5) and the Technology Acceptance Model (Chapters 6 & 7), message acceptance does not always guarantee behavior change. For example, someone might accept the message and intend to buy and use ice cleats but not follow through. There are several factors that influence the strength of the relationship between message acceptance and behavior change.

First, in order to best predict behavior change, the message acceptance beliefs must relate to specific intentions and a subsequent specific behavior. Any given behavior can include an action, target, context and time period. For example, a goal might be “to use ice cleats every time when walking outside during winter.” In this example, “using ice cleats” is the action, “every time” is the target, “when walking outside” is the context, and “during winter” is the time period. As the specificity of the behavior increases, message acceptance becomes a better predictor of behavior change.

Additionally, the temporal stability of message acceptance influences the strength of the relationship between message acceptance and behavior. If an individual’s message acceptance fluctuates over time (e.g., some days I perceive the threat of falling to be high and other days I do not), then message acceptance measured at one particular time might not predict subsequent behavior change (e.g., Rhodes & Dickau, 2013). As the stability of an individual’s message acceptance increases over time, message acceptance becomes a better predictor of behavior.

When is it appropriate to use fear in persuasive messages?

Fear can be an effective persuasive tool when following the Extended Parallel Process Model. Very importantly, however, there are certain conditions where fear may be appropriate and other conditions where fear may be inappropriate or even unethical. Indeed, Peters, Ruiter, and Kok (2013) note that high feelings of threat when coupled with low efficacy can cause people to engage in health-defeating behaviors. Thus, using fear only works when the population has a high baseline efficacy or when the message also includes powerful information to enhance efficacy (Peters et al., 2013). Together, this suggests that fear is only appropriate when the message recipients have high response and self-efficacy regarding the recommended behavior or when it is possible to strongly increase their response and self-efficacy with the message. When efficacy is low, other persuasive tools should be used (e.g., see Chapters 12 & 13 on Hope Appeals).

How can the Extended Parallel Process Model be used to create persuasive messages?

The Extended Parallel Process Model specifies that it is possible to change someone’s behavior by influencing their perceived threat (i.e., perceived severity and perceived susceptibility) and perceived efficacy (i.e., response efficacy and self-efficacy).

Perceived Severity

The Extended Parallel Process Models notes that vivid language can be used to increase perceptions that a specific health threat is severe. Vivid language and descriptions to increase perceptions of severity include specific references to the severity of the threat (e.g., the magnitude of harm) and the terrible consequences of a health threat (Witte & Allen, 2000). Witte (1992) also stated gruesome symptom descriptions are a form of vivid language. Examples ranged from neutral language (“the patient complained of fatigue and a rash”) to moderately vivid language (“the patient complained of fatigue and lumps on the neck”) to extremely vivid language (“the patient complained of fatigue and bleeding, oozing sores all over his body”; Witte, 1994, p. 120).

Perceived Susceptibility

The Extended Parallel Process Models states that personalistic language or imagery can be used to increase perceptions that someone is susceptible to a specific health threat. Personalistic language and descriptions can include references to the target population’s susceptibility to the specific health threat (e.g., their likelihood of experiencing the negative consequences of the threat; Witte & Allen, 2000). Personalistic language could also emphasize the similarities between people impacted by the health threat and the target audience (e.g., “You face a 40% chance of facing these consequences”; see Witte & Allen, 2000).

Response Efficacy

There are some message strategies that could be used to increase a message reader’s perceived response efficacy. For example, the message could provide examples of when the recommended behavior has previously effectively prevented the threat (e.g., “This has worked in the past!”) or explicitly state ways that the recommended behavior will prevent the threat.

Self-Efficacy

Various message strategies could be used to increase a message reader’s perceived self-efficacy. For example, the message could provide examples of others who have successfully performed the behavior (e.g., “If they can do it, I can do it”), provide verbal encouragement (e.g., “You can do it!”; O’Keefe, 2016), or explicitly state that the recommended behavior is affordable, easy to implement, and so on. Any of these strategies individually, or concurrently, could influence a person’s perceptions of self-efficacy.

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5.2: Applications of the Extended Parallel Process Model

Alejandra Salazar, Auston L. Vreeland, Amber K. Worthington, & Parker Yeates*

*Authors names are listed in alphabetical order; all authors contributed equally to this chapter

Fear appeals, specifically the Extended Parallel Process Model (Witte, 1992), are explained in detail in Chapter 10. Of note, the Extended Parallel Process Model is only appropriate to use when the target audience has a high perception of efficacy already or when it is possible to increase efficacy with message content.

The Extended Parallel Process Model can be used to design messages to try to persuade college students to drink adequate amounts of water, take a vitamin D supplement, and wear reflective clothing. Examples on these topics are provided below by Alejandra Salazar, Auston L. Vreeland, and Parker Yeates, respectively. The authors felt that their intended audience (college students) would have preexisting high efficacy to engage in the recommended behaviors in these examples, thus making fear an appropriate persuasive tool. Message content related to response and self-efficacy are of course included to reinforce high perceptions of efficacy.

Example by Alejandra Salazar



Water Changes Everything

Nearly **75%** of Americans are chronically dehydrated. This can lead to **headaches, dry lips & skin, nausea, fatigue, and feeling dizzy, irritable or tired.**

Staying hydrated can be challenging to manage for college students who deal with busy schedules. However, drinking at least **11 cups of water a day can keep dehydration away.**

Invest in a water bottle from your local supermarket. Refill at water fountains conveniently located in every campus building.

Keep track of your daily water intake by downloading a free app to receive alerts and reminders to stay on top of your hydration game!

- Hydro Coach
- WaterMinder
- Aqualert

<https://www.cdc.gov/nutrition/dietary-statistics/pla-in-water-the-healthier-choice.html>
<https://www.ncbi.nlm.nih.gov/books/NBK55935/>
<https://medlineplus.gov/dehydration.html>

The Extended Parallel Process Model can be used to persuade college students to drink adequate amounts of water. A persuasive fear appeal message would need to influence students' perceptions of threat and efficacy.

Perceptions of threat include perceived severity and perceived susceptibility. The example message above states that “75% of Americans are chronically dehydrated” and that dehydration can lead to “dry lips & skin, nausea, fatigue, and feeling dizzy, irritable, or tired.” This message content specifically references the magnitude of harm and negative consequences of the health threat, which can increase perceived severity.

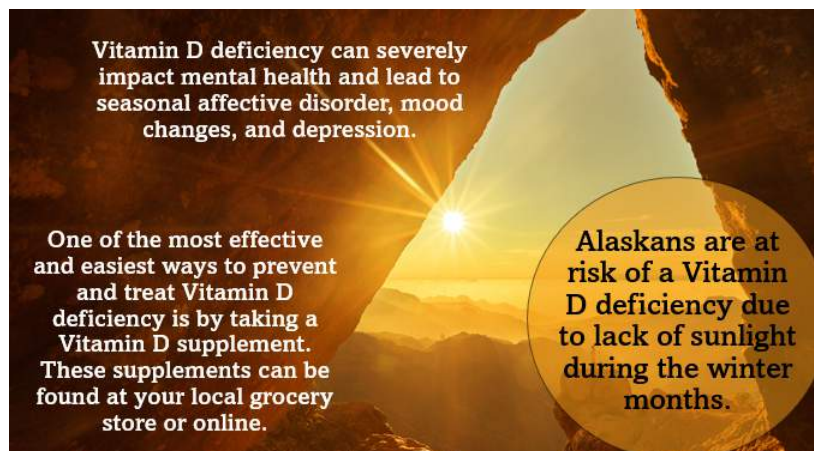
The example message also specifically references that dehydration impacts “Americans” and, in particular, “college students who deal with busy schedules.” This message content specifically references the likelihood that college students in the United States of America could experience the negative consequences of the health threat, which can increase perceived susceptibility.

Perceptions of efficacy include response efficacy and self-efficacy. The example message above states that “drinking at least 11 cups of water a day can keep dehydration away.” This explicitly states that the recommended behavior, drinking water, will prevent the health threat, which can increase perceived response efficacy.

The example message above also provides strategies to make enacting the recommended behavior, drinking 11 cups of water, easier. This includes the suggestion to buy a reusable water bottle, to refill the water bottle at convenient locations across campus,

and to keep track of water consumption using a free app. All of this information can help increase the college students' beliefs that drinking water would be easy to implement, thus potentially increasing perceived self-efficacy.

Example by Auston L. Vreeland



The Extended Parallel Process Model can be used to persuade college students in Alaska to take a Vitamin D supplement. A persuasive fear appeal message would need to influence students' perceptions of threat and efficacy.

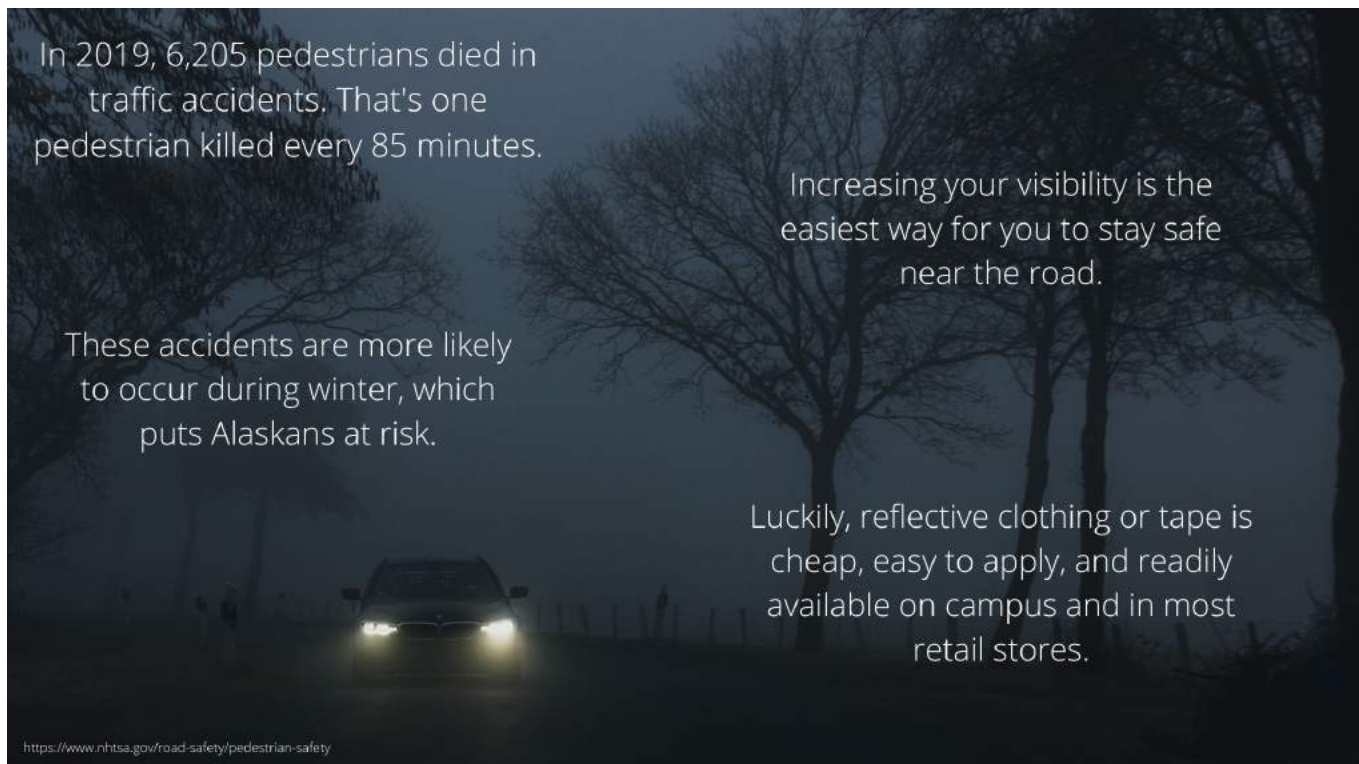
Perceptions of threat include perceived severity and perceived susceptibility. The example message above states that "Vitamin D deficiency can severely impact mental health and lead to seasonal affective disorder, mood changes, and depression." This message content specifically references the magnitude of harm and negative consequences of the health threat, which can increase perceived severity.

The example message also specifically states that "Alaskans are at risk of a Vitamin D deficiency due to lack of sunlight during the winter months." This message content specifically references the likelihood that college students in Alaska could experience the negative consequences of the health threat, which can increase perceived susceptibility.

Perceptions of efficacy include response efficacy and self-efficacy. The example message above states that "One of the most effective and easiest ways to prevent and treat Vitamin D deficiency is by taking a Vitamin D supplement." This explicitly states that the recommended behavior, taking a Vitamin D supplement, will prevent the health threat, which can increase perceived response efficacy.

The example message above also states that "These supplements can be found at your local grocery store or online." This can help increase the Alaskan students' beliefs that taking a Vitamin D supplement would be easy to implement, thus potentially increasing perceived self-efficacy.

Example by Parker Yeates



The Extended Parallel Process Model can be used to persuade college students to wear reflective clothing when it is dark outside. A persuasive fear appeal message would need to influence students' perceptions of threat and efficacy.

Perceptions of threat include perceived severity and perceived susceptibility. The example message above states that "In 2019, 6,205 pedestrians died in traffic accidents. That's one pedestrian killed every 85 minutes." This message content specifically references the magnitude of harm and negative consequences of the health threat, which can increase perceived severity.

The example message also specifically notes that "These accidents are more likely to occur during winter, which puts Alaskans at risk." This message content specifically references the likelihood that those in Alaska could experience the negative consequences of the health threat, which can increase perceived susceptibility.

Perceptions of efficacy include response efficacy and self-efficacy. The example message above states that "Increasing your visibility is the easiest way for you to stay safe near the road." This explicitly states that the recommended behavior, increasing your visibility, will prevent the health threat, which can increase perceived response efficacy.

The example message above also notes that "reflective clothing or tape is cheap, easy to apply, and readily available on campus and in most retail stores." This information can help increase the Alaskan students' beliefs that increasing their visibility by applying reflective tape or purchasing reflective clothing would be easy to implement, thus potentially increasing perceived self-efficacy.

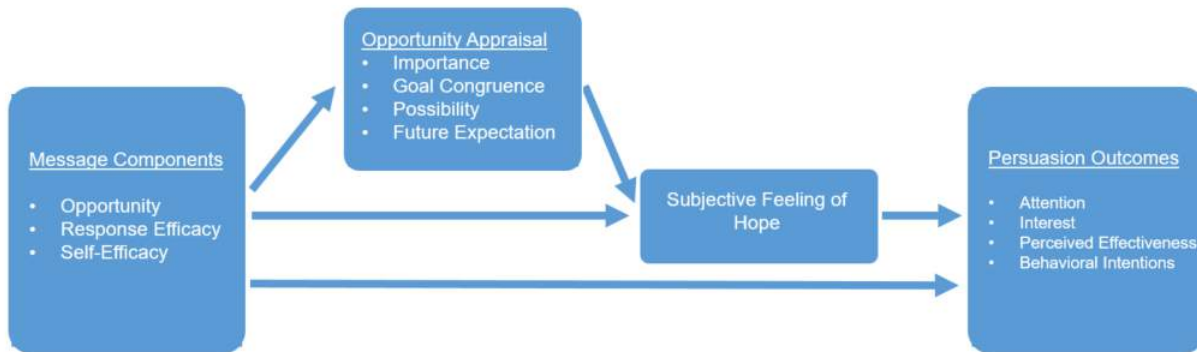
This page titled [5.2: Applications of the Extended Parallel Process Model](#) is shared under a [CC BY-NC 4.0](#) license and was authored, remixed, and/or curated by [Amber K. Worthington](#) via [source content](#) that was edited to the style and standards of the LibreTexts platform; a detailed edit history is available upon request.

5.3: Hope Appeals- Persuasive Hope Theory

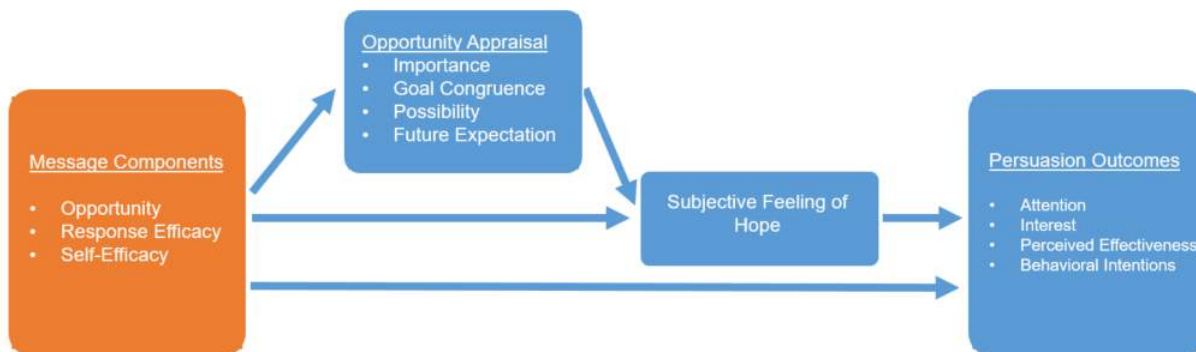
Acknowledgements: The examples used in this chapter were provided by Jordan Q. Ahgeak. The examples were adapted for use in this chapter by the author.

Hope has the potential to persuade people to adopt various behaviors. Indeed, hope is a discrete, future-oriented emotion that can motivate people's behavior by focusing their thoughts on opportunities to achieve future rewards (Chadwick, 2015).

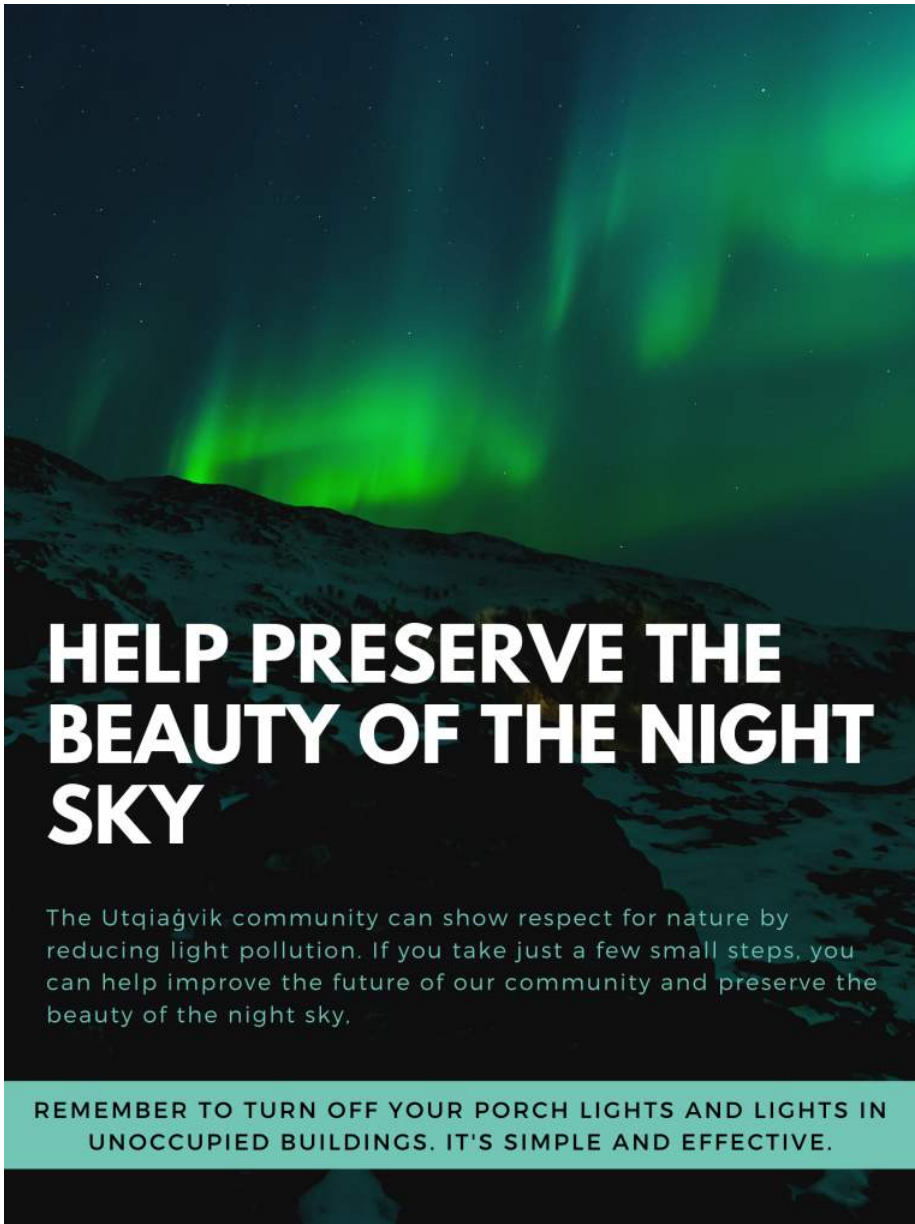
A hope appeal is a message strategy that attempts to persuade people to adopt a specific action by arousing hope. Hope appeals are a relatively recent addition to the study of persuasion (see Chadwick, 2010), and this chapter focuses on Persuasive Hope Theory (Chadwick, 2015). Persuasive Hope Theory defines hope and describes the message features needed for an effective hope appeal. The image below depicts Persuasive Hope Theory:



Persuasive Hope Theory begins with a hope appeal message, which includes message content related to a specific opportunity and the efficacy of a specific recommended behavior to achieve a desired outcome. This part of the theory is highlighted in the figure below:



For example, Jordan Q. Ahgeak (see Acknowledgements) noted that one opportunity in Alaska might be to reduce light pollution in Utqiagvik (also known as Barrow), and a specific recommended behavior to achieve that outcome might be to lessen the amount of insignificant artificial lighting (for example, turning off porch lights and turning off lights of unoccupied buildings/offices). Here is an example message:



HELP PRESERVE THE BEAUTY OF THE NIGHT SKY

The Utqiagvik community can show respect for nature by reducing light pollution. If you take just a few small steps, you can help improve the future of our community and preserve the beauty of the night sky.

REMEMBER TO TURN OFF YOUR PORCH LIGHTS AND LIGHTS IN UNOCCUPIED BUILDINGS. IT'S SIMPLE AND EFFECTIVE.

According to Persuasive Hope Theory, the first thing someone does when reading the message is to appraise the opportunity. This includes assessing the opportunity using perceptions of importance, goal congruence, possibility, and future expectation. In the above example, this would be whether or not someone reading the message perceives that reducing light pollution in Utqiagvik is important, congruent with their goals, possible, and would lead to a better future.

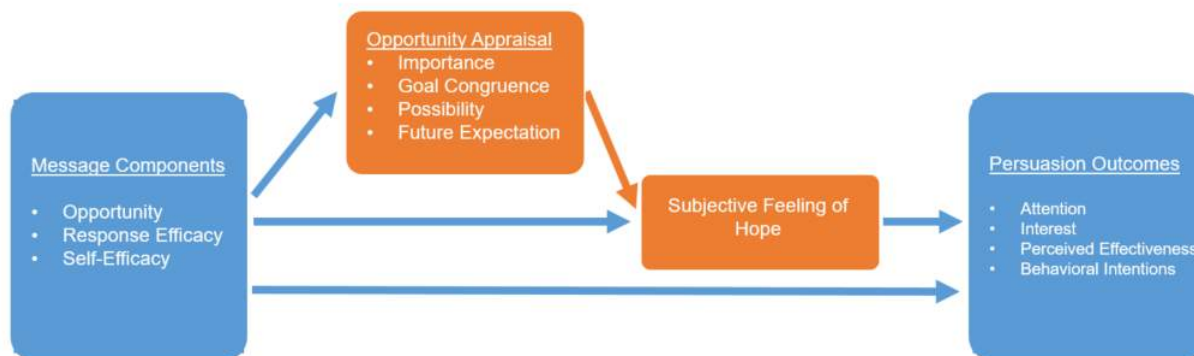
Perceived importance includes an assessment of whether the future outcome is personally relevant. **Perceived goal congruence** refers to whether the future outcome is consistent with and favorable to their personal goals or motives. **Perceived possibility** includes an assessment of the likelihood of the future outcome, and **perceived future expectation** refers to whether the outcome would lead to a better future.

The message component designed to lead to appraisals of **importance** and **goal congruence** connects reducing light pollution to preserving “the beauty of the night sky” and showing “respect for nature.” This was done because Jordan Ahgeak noted that her Utqiagvik community follows a traditional set of twelve values: Avoidance of Conflict, Compassion, Cooperation, Family and Kinship, Humility, Humor, Hunting Traditions, Knowledge of our Language, Love and Respect for our Elders and One Another, Respect for Nature, Sharing, and Spirituality. The community members have learned, taught, and incorporated these values throughout their lives and subsistence living, thus underscoring the personal relevance and importance of respecting nature for a

message recipient from Utqiagvik. The **possibility** and **future expectation** message components indicate that it is likely that the message recipient can help improve the situation, which would make the future better.

When reading this message, someone in the contiguous United States (or Lower 48) might believe that preserving the beauty of the night sky in Utqiagvik is possible, but they might not believe that this outcome is personally important to them, is congruent with their goals, or that it would lead to a better future. A community member in Utqiagvik, on the other hand, might perceive that preserving the beauty of the night sky is important, congruent with their personal goals, possible, and would lead to a better future.

If someone perceives the opportunity as low (i.e., if the person does not believe the opportunity is important, goal congruent, possible, and/or would lead to a better future) then they will not feel hope. If someone perceives the opportunity as high (i.e., if the person does believe the opportunity is important, goal congruent, possible, and would lead to a better future) then they will feel hope. This part of the theory is highlighted in the figure below:

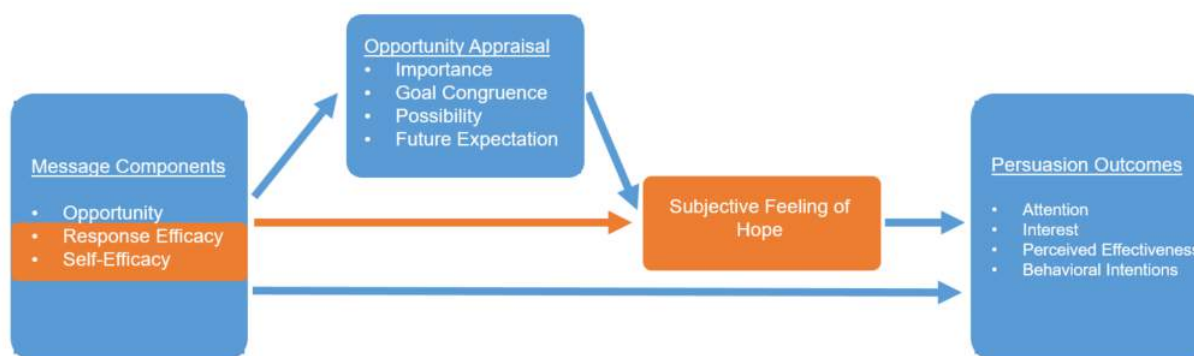


The next thing someone will do when reading the message is appraise the efficacy. This includes assessing whether they believe that the recommended behavior will help them achieve the desired outcome, which is referred to as **response efficacy**, and whether they believe they are capable of doing the recommended behavior, which is referred to as **self-efficacy**.

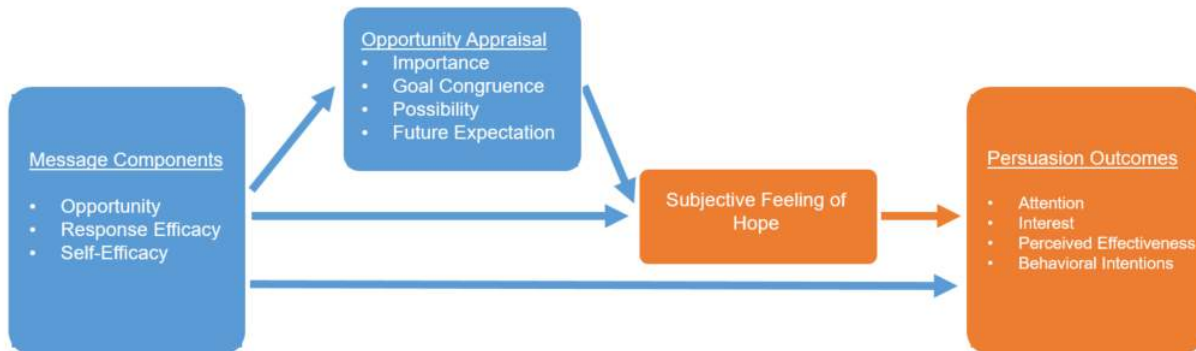
In the above example, this would be whether or not someone reading the message perceives that the recommended behavior to “turn off porch lights and lights in unoccupied buildings” would help reduce light pollution (i.e., response efficacy) and whether they believe they are capable of turning off those lights (i.e., self-efficacy).

For example, someone might believe that turning off porch lights would not help reduce light pollution (i.e., low response efficacy) even if they think they could turn off their porch lights (i.e., high self-efficacy). Someone else might think that turning off their porch lights would help reduce light pollution (i.e., high response efficacy) and might also think they are capable of doing that (i.e., high self-efficacy).

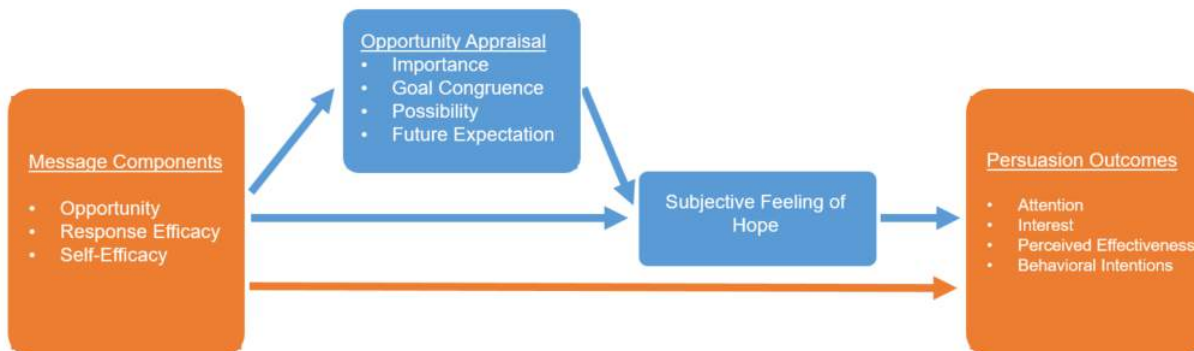
If someone perceives the efficacy as low (i.e., low response efficacy and/or low self-efficacy) then they will not feel hope. If someone perceives the efficacy as high (i.e., high response efficacy and high self-efficacy), then they will feel hope. This part of the theory is highlighted in the figure below:



Persuasive Hope Theory states that this subjective feeling of hope can lead to several different persuasion outcomes, including attention, interest, perceived effectiveness, and behavioral intentions. Indeed, Chadwick (2015) notes that the focused, eager feeling of hope should increase general attention to the message, general interest in the topic, perceptions that the message is effective, and intentions to engage in the recommended behavior. Additional research is needed to refine this part of the theory, but some previous research and empirical work support this. This part of the theory is highlighted in the figure below:



Persuasive Hope Theory also notes that the message components themselves can lead directly to the above mentioned persuasion outcomes. This means that when a message specifically states that the future outcome is important, congruent with goals, possible, and would lead to a better future, this can lead directly to an increase in general attention to the message, general interest in the topic, perceptions that the message is effective, and intentions to engage in the recommended behavior. This part of the theory is highlighted in the figure below:



This is a relatively new theory in persuasion, and therefore additional research is needed to establish all of these theoretical claims.

What influences the relationship between attention, interest, perceived effectiveness, behavioral intentions, and behavior change?

Persuasive Hope Theory states that a hope message can lead to increased attention, interest, perceived effectiveness, and behavioral intentions. However, in persuasion, we are also interested in changing behaviors themselves.

Similar to the Theory of Planned Behavior (Chapters 4 & 5) and the Technology Acceptance Model (Chapters 6 & 7), the persuasion outcomes in Persuasive Hope Theory do not always guarantee behavior change. For example, someone might pay attention to the message, think it is interesting, and intend to turn their porch lights off but not follow through. There are several factors that influence the strength of the relationship between attention, interest, perceived effectiveness, behavioral intentions, and behavior change.

First, in order to best predict behavior change, the beliefs must relate to specific intentions and a subsequent specific behavior. Any given behavior can include an action, target, context and time period. For example, a goal might be “turning off porch lights every night when I’m back home during winter.” In this example, “turning off porch lights” is the action, “every night” is the target, “when I’m back home” is the context, and “during winter” is the time period. As the specificity of the behavior increases, the persuasion outcomes in Persuasive Hope Theory become a better predictor of behavior change.

Additionally, the temporal stability of attention, interest, perceived effectiveness, and behavioral intentions influences the strength of the relationship between these persuasion outcomes and behavior. If an individual's feeling of hope and therefore, for example, interest fluctuates over time (e.g., some days I perceive a high opportunity to reduce light pollution and other days I do not), then persuasion outcomes measured at one particular time might not predict subsequent behavior change (e.g., Rhodes & Dickau, 2013). As the stability of an individual's persuasion outcomes increases over time, message acceptance becomes a better predictor of behavior.

How can Persuasive Hope Theory be used to create persuasive messages?

Persuasive Hope Theory specifies that it is possible to change someone's behavior by influencing their perceived opportunity (i.e., perceived importance, goal congruence, possibility, and future expectation) and perceived efficacy (i.e., response efficacy and self-efficacy).

Importance

Chadwick (2010) notes several message strategies that could be used to increase a message reader's perceived importance. For example, the message can use the second person (e.g., "you") and focus specifically on how the recommended behavior would affect the reader. For example, a message on climate change manipulated to have high importance could include: "The climate affects your well-being in many ways. Protecting the climate is VERY important for your well-being" (see Chadwick, 2010).

Goal Congruence

There are also message strategies that could be used to increase a message reader's perceived goal congruence (Chadwick, 2010). For example, the message can again use the second person (e.g., "you") and focus specifically on how the opportunity impacts the reader's goals (which may require some background research). Chadwick (2010) found that saving money is an important goal for undergraduate students, and therefore used this background research to construct an example message on climate change that was manipulated to have high goal congruence: "Protecting the climate saves you a lot of money. You can make simple changes to protect the climate. You can use less energy, use less hot water, and make less trash. These changes are free or cheap. These small changes will directly save you at least \$500 per year. Protecting the climate saves you In four years at Penn State, you will save \$2000! That is a lot of money."

Possibility

A message reader's perceptions of possibility could be created by several message strategies. Chadwick (2010) notes that a message should use the second person (e.g., "we") and should state that it is possible for the message reader to help create a better future. Modifiers like "very" can also be used. Here is an example message on climate change that was manipulated to have high possibility: "It is very likely that we can make the climate better. All over the world, people like you are taking action. They are using less energy, using less hot water, and making less trash. Billions of people are taking action to protect the climate. You can join the effort and make it even more likely that we will make the climate better" (Chadwick, 2010).

Future Expectation

Chadwick (2010) also discusses several ways to increase a message reader's perceptions of future expectation. Again, the second person (e.g., "you") should be used, and the message should explicitly say how much better the future will be. Additional modifiers like "many" and "much" can be added for emphasis. Here is an example message related to climate change that has high future expectation: "Protecting the climate will make the future much better. Protecting our climate will bring a wonderful future. Our air will be much cleaner. Our weather will be much less extreme. Our summers will be beautiful and mild. We will experience many fewer diseases and will live much longer. Growing food will be easier and more productive. Protecting the climate will have By helping protect the climate, you can help create a wonderful future" (Chadwick, 2010)

Response Efficacy

There are some message strategies that could be used to increase a message reader's perceived response efficacy. For example, the message could provide examples of when the recommended behavior has previously effectively achieved the desired future outcome (e.g., "This has worked in the past!") or explicitly state ways that the recommended behavior will lead to the desired future outcome.

Self-Efficacy

Various message strategies could be used to increase a message reader's perceived self-efficacy. For example, the message could provide examples of others who have successfully performed the behavior (e.g., "If they can do it, I can do it"), provide verbal

encouragement (e.g., “You can do it!”; O’Keefe, 2016), or explicitly state that the recommended behavior is affordable, easy to implement, and so on. Any of these strategies individually, or concurrently, could influence a person’s perceptions of self-efficacy.

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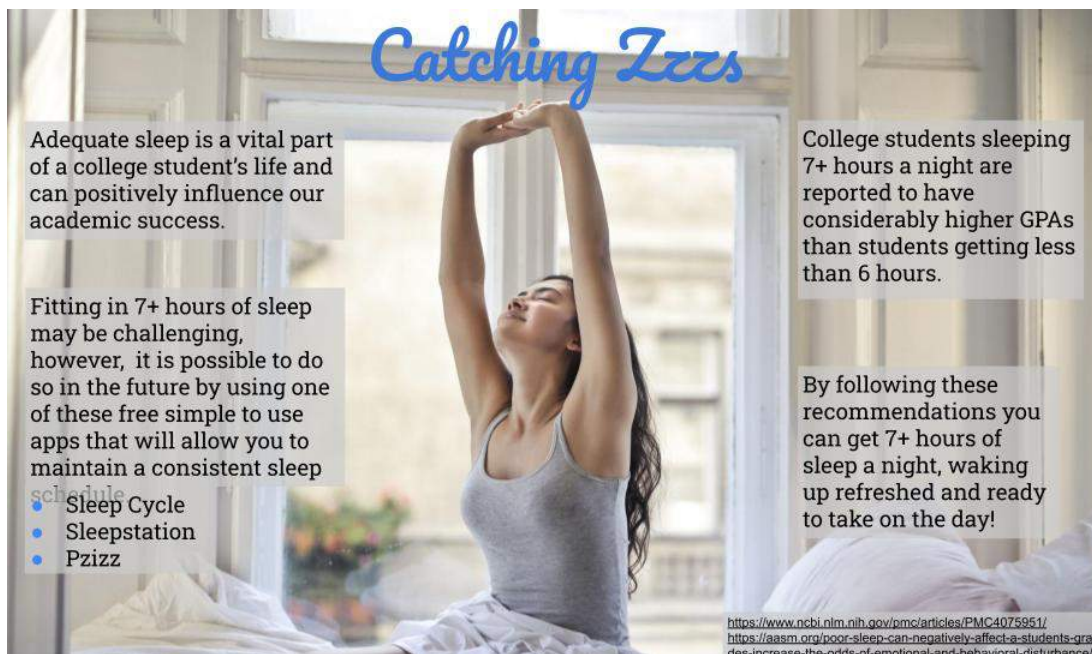
5.4: Applications of Persuasive Hope Theory

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*Authors names are listed in alphabetical order; all authors contributed equally to this chapter

Hope appeals, specifically Persuasive Hope Theory (Chadwick, 2015), are explained in detail in Chapter 12. Persuasive Hope Theory can be used to design messages to try to persuade college students to get adequate sleep, reduce food insecurity by accessing a university's food bank, and recycle. Examples on these topics are provided below by Alejandra Salazar, Parker Yeates, and Auston L. Vreeland, respectively.

Example by Alejandra Salazar



Catching Zzzs

Adequate sleep is a vital part of a college student's life and can positively influence our academic success.

College students sleeping 7+ hours a night are reported to have considerably higher GPAs than students getting less than 6 hours.

Fitting in 7+ hours of sleep may be challenging, however, it is possible to do so in the future by using one of these free simple to use apps that will allow you to maintain a consistent sleep schedule.

- Sleep Cycle
- Sleepstation
- Pzizz

By following these recommendations you can get 7+ hours of sleep a night, waking up refreshed and ready to take on the day!

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4075951/>
<https://aasm.org/poor-sleep-can-negatively-affect-a-students-grades-increase-the-odds-of-emotional-and-behavioral-disturbance/>

Persuasive Hope Theory can be used to persuade college students to sleep adequate amounts in order to promote academic success. A persuasive hope appeal message would need to influence students' perceptions of opportunity and efficacy.

Perceptions of opportunity include perceived importance, goal congruence, possibility, and future expectation. The example message above states that adequate sleep is a vital part of a college student's life and can positively influence academic success. This message content focuses on how the opportunity to achieve academic success through adequate sleep would affect college students, which can increase perceived importance.

The example message also focuses on how the opportunity impact's a college student reader's goals. College students all share a similar goal, which is to achieve academic success. The message above states that "college students sleeping 7+ hours a night are reported to have considerably higher GPAs...". This message content can therefore increase perceived goal congruence.


Perceived possibility message content includes information that states that it is possible for the message reader to achieve the desired future outcome. The message above notes that sleeping 7+ hours may be difficult to manage; however, the message also states that it is something that can be accomplished and "...it is possible to do so in the future by..." This message content can increase perceived possibility.

The example message above also contains content designed to increase perceived future expectation. The message should say explicitly that the future will be better, which is included in the statement: "By following these recommendations you can get 7+ hours of sleep a night, waking up refreshed and ready to take on the day!".

Perceptions of efficacy include response efficacy and self-efficacy. The example message above states that "college students sleeping 7+ hours a night are reported to have higher GPAs than students getting less than 6 hours." This explicitly states that the recommended behavior, getting adequate sleep, will help achieve the desired future outcome of academic success, which can increase perceived response efficacy.

The example message above also provides strategies to make enacting the recommended behavior, adequate sleep, easier. This includes the suggestion to use one of the free, simple to use apps listed on the message to maintain a consistent sleep schedule. All of this information can help increase the college students' beliefs that getting adequate sleep would be easy to implement, thus potentially increasing perceived self-efficacy.

Example by Parker Yeates



Having a consistent source of food is essential for a college student to achieve their academic goals.

It is possible to reduce food insecurity by taking advantage of your college's food pantry.

The over 200 food pantries run by colleges have helped feed thousands of students.

They are available at no additional cost to students and are completely anonymous, so check with your campus now!

https://studentsagainsthunger.org/wp-content/uploads/2017/10/NSCAHH_Food_Pantry_Toolkit.pdf

Persuasive Hope Theory can be used to persuade college students to utilize the university's food bank in order to reduce food insecurity. A persuasive hope appeal message would need to influence students' perceptions of opportunity and efficacy.

Perceptions of opportunity include perceived importance, goal congruence, possibility, and future expectation. The example message above states that having a consistent food source is essential for college students. This message content focuses on how the opportunity to reduce food insecurity would affect college students, which can increase perceived importance.

The example message also focuses on how the opportunity impact's a college student reader's goals. College students all share a similar goal, which is to achieve academic success. The message above states that a consistent food source is needed for college students to achieve their academic goals. This message content can therefore increase perceived goal congruence.

Perceived possibility message content includes information that states that it is possible for the message reader to achieve the desired future outcome. The message above notes that "it is possible to reduce food insecurity." This message content can increase perceived possibility.

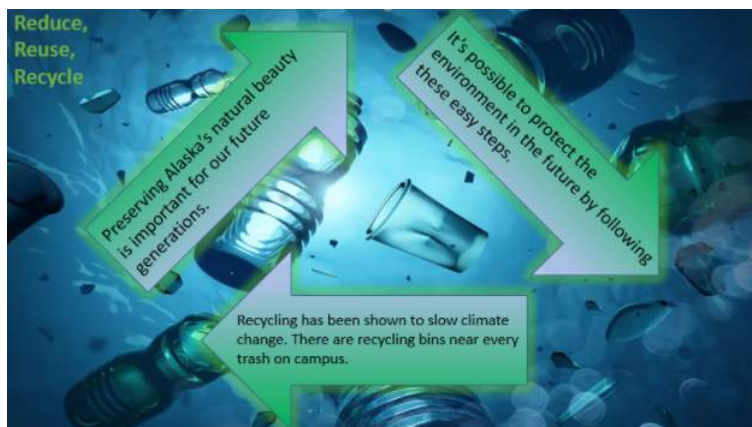
The example message above also contains content designed to increase perceived future expectation. The message should say explicitly that the future will be better. The above examples does not explicitly say that the future will be better, but does imply that the future would be better if the reader took advantage of the opportunities presented by their college's food pantry.

Perceptions of efficacy include response efficacy and self-efficacy. The example message above states that "the over 200 food pantries run by colleges have helped feed thousands of students." This explicitly states that the recommended behavior, using a college food pantry when facing food insecurity, will help achieve the desired future outcome of adequately fed college students, which can increase perceived response efficacy.

The example message above also provides strategies to make enacting the recommended behavior, using a college food pantry, easier. This includes the statement that the food pantries "are available at no additional cost to students and are completely

anonymous”. All of this information can help increase the college students’ beliefs that using the food pantry when facing food insecurity would be easy to implement, thus potentially increasing perceived self-efficacy.

Example by Auston L. Vreeland



Persuasive Hope Theory can be used to persuade college students in Alaska to recycle in order to help preserve Alaska’s natural beauty. A persuasive hope appeal message would need to influence students’ perceptions of opportunity and efficacy.

Perceptions of opportunity include perceived importance, goal congruence, possibility, and future expectation. The example message above states that preserving Alaska’s natural beauty is important for future generations. This message content focuses on how the opportunity to preserve Alaska’s natural beauty would affect college students in Alaska and those in future generations, which can increase perceived importance.

The example message also focuses on how the opportunity impact’s a college student reader’s goals. College students in Alaska share a similar goal, which is to preserve Alaska’s natural beauty. The message above states that recycling is needed for college students to achieve this goal. This message content can therefore increase perceived goal congruence.

Perceived possibility message content includes information that states that it is possible for the message reader to achieve the desired future outcome. The message above notes that “it is possible to protect the environment in the future by...” This message content can increase perceived possibility.

The example message above also contains content designed to increase perceived future expectation. The message should say explicitly that the future will be better. The below examples does not explicitly say that the future will be better, but does imply that the future of a beautiful Alaska is possible if the reader follows the recycling recommendations.

Perceptions of efficacy include response efficacy and self-efficacy. The example message above states that “recycling has been shown to slow climate change.” This explicitly states that the recommended behavior, recycling, will help achieve the desired future outcome, which can increase perceived response efficacy.

The example message above also provides strategies to make enacting the recommended behavior, recycling, easier. This includes the statement that “there are recycling bins near every trash can on campus”. This information can help increase the college students’ beliefs that recycling would be easy to implement, thus potentially increasing perceived self-efficacy.

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Dynamic Index

`template('DynamicIndex');`

Glossary

Example and Directions

Word (s)	The definition is case sensitive	(Optional) Image to display	(Optional) Caption for image	(Optional) External link	(Optional) Source for definition
Word (s)	The definition is case sensitive	(Optional) Image to display	(Optional) Caption for image	(Optional) External link	(Optional) Source for definition

pages					
Word (s)	Definition	Image	Caption	Link	Source
(Eg. "Genetic, Hereditary, DNA...")	(Eg. "Relating to genes or heredity")		The infamous double helix	https://bio.libretexts.org/	CC-BY-SA; Delmar Larson

Glossary Entries

Word (s)	Definition	Image	Caption	Link	Source

Word (s)	Definition	Image	Caption	Link	Source
Sample Word 1	Sample Definition 1				

Code for Glossarizer

```
template('DynamicGlossary/Activate');
```

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