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Applying The Causal Network Model to Advance Care Planning Messages

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APPLYING THE CAUSAL NETWORK MODEL TO ADVANCE CARE PLANNING MESSAGES

DISSERTATION

A dissertation submitted in partial fulfillment of the
requirements for the degree of Doctor of Philosophy in the
College of Communication and Information
at the University of Kentucky

By
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2022

ABSTRACT OF DISSERTATION

APPLYING THE CAUSAL NETWORK MODEL TO ADVANCE CARE PLANNING MESSAGES

The process of advance care planning often involves conversations that focus on worst case scenarios and discussions of end-of-life, which makes the topic a daunting one. Most of these conversations occur with older adults or individuals who are seriously ill. However, advance care planning is of importance to those who are healthy, young adults as well. Narrative messages could help simplify the process of approaching such conversations and provide tools for conducting them in a more effective manner.

The proposed study makes use of the causal network model, a model that proposes that the location of information within narratives impacts information perception, to create advance care planning narratives for young adults. More specifically, the study examines how narrative causality can be used to inform the creation of effective narrative persuasive messages. Three hundred and six participants were randomly assigned to one of three conditions with information placed in different locations. Participants could either be assigned to the causal condition with informational statements placed in causal locations, the noncausal condition with informational statements placed in noncausal locations, or in the control condition which did not contain any informational statements. Participants were then asked to respond to a survey asking questions about transportation, identification, recall, perceived truthfulness, perceived importance, processing fluency, attitude, behavioral intent, and behavior.

Results showed no significant differences among conditions for any of the variables except for recall. Participants in the causal and noncausal conditions recalled information more than participants in the control condition; a predicted difference in recall between the causal and noncausal conditions, however, was not found. Despite finding no differences between causal and noncausal conditions, valuable implications are provided regarding theoretical implications of the causal network model, and practical implications are provided for the field of message design.

KEYWORDS: Advance Care Planning, Narrative Persuasion, Causal Location

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APPLYING THE CAUSAL NETWORK MODEL TO ADVANCE CARE PLANNING MESSAGES

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DEDICATION

This dissertation is dedicated to Millie Emerson (Mimmy). My grandmother loved hard and taught me to reach for the stars. This dissertation serves as my personal handful of constellations. “I’ll love you forever. I’ll like you for always.”

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CHAPTER 1. INTRODUCTION

1.1 Rationale

Advance care planning allows individuals to exercise control over the healthcare they receive even if they become incapacitated (Mack et al., 2012). The process of advance care planning often involves conversations that focus on worst case scenarios and discussions of end-of-life, which makes the topic a daunting one. Most of these conversations occur with older adults or individuals who are seriously ill. However, advance care planning is important not only to older adults and those who are sick but also to those who are healthy, young adults. Although young adults tend to think they will life forever, or at least to a ripe old age, they are still susceptible to life threatening diseases, and they also may be victims of life-threatening accidents. Advance care planning allows young adults to plan for the unexpected. Making advance care decisions allows individuals to make their preferred methods of treatment known, ensures that their autonomy is maintained, and minimizes the decision-making burden experienced by the family in the event that the individuals are incapacitated (Smith, 2017; Tripken et al., 2018). This planning should involve conversations with family members to ensure that they are aware of a person's directives and are able to carry them out. Many people may be hesitant to broach these conversations, however, because they do not know how or where to begin.

Research on persuasive narratives offers one approach to the study and practice of advance care planning conversations due to a narrative's ability to allow readers to view themselves in the narrative and apply the principles illustrated by the narrative to real life situations (Dahlstrom et al., 2017). In short, narrative messages could help simplify the

process of approaching such conversations and offer models for conducting them in a more effective manner. The majority of narrative persuasion research focuses on the comparison of health messages that present information in a narrative format to messages that present information as statistics (Dahlstrom et al., 2017; Hamby et al., 2016; Hinyard & Kreuter, 2007; Kim et al., 2012; Kopfman et al., 1998; Moyer-Gusé, 2008). There is also research that shifts the focus away from the comparison toward understanding how narrative persuasion works. The research in this subset tends to concentrate on either identification or transportation as mediators of persuasive outcomes (Ching et al., 2013; De Graaf et al., 2012; Green & Brock, 2000; Green & Clark, 2013; West & Hollis, 2012).

Both categories of narrative persuasion research are valuable. However, there is a gap in the literature regarding our current understanding of how to design effective persuasive narratives. Specifically, in the communication discipline, little attention has been paid to the structure of narratives. As a result, although there are many common approaches regarding *what* makes a good narrative, there is a lack of understanding when it comes to *how* to structure narrative information in a way that best presents a persuasive argument. The causal network model has the potential to offer guidance regarding this structure of information and provides the opportunity to better understand narrative persuasion overall.

The causal network model posits that the location of information placed within narratives can significantly impact recall and perceived truthfulness (Dahlstrom, 2010). Indeed, current empirical research has highlighted the use of the causal network model and causality as a tool for influencing these important outcome variables (Dahlstrom, 2015). However, no research exists to determine how such locations, known as causal

locations, impact the *persuasiveness* of messages. Filling the gap in this research is important for determining the relevance of causal networking in health behavior change narratives and provides the opportunity to further develop the understanding of causal locations and the role they can serve in narrative health messages.

This dissertation aims to provide a comprehensive understanding of the current research surrounding narrative persuasion and the causal network model to demonstrate the aforementioned gap in the field's knowledge regarding the role of causality and information location in determining the effectiveness of persuasive narratives. This goal of this study is to begin the process of addressing said gap by analyzing the impact of causally placed information on cognitive processing variables and persuasive outcome variables within the context of advance care planning narratives.

The next chapter provides an overview of current research regarding narrative persuasion and the causal network model, as well as an overview of the advance care planning process and the importance of advance care planning among young adults, and it presents the study's research questions and hypotheses. The following three chapters cover formative research and message design, experimental design and methods, and results. The final chapter presents a discussion of the results, including theoretical and practical implications, and discusses study limitations and directions for future research.

CHAPTER 2. LITERATURE REVIEW

2.1 Narrative Persuasion

When it comes to the term "narrative," the field of communication lacks a universal definition. However, Hinyard and Kreuter (2007) offer a definition that combines common themes regarding the use of narratives in message design research. They define a narrative as, "...any cohesive and coherent story with an identifiable beginning, middle, and end that provides information about scene, characters, and conflict; raises unanswered questions or unresolved conflict; and provides resolution" (p. 778). Current research highlights the human tendency to tell stories; when humans share information with one another, they frequently do so in a narrative fashion (Fisher, 1987; Hinyard & Kreuter, 2007; Kim et al., 2012). Narrative persuasion involves the use of these narratives to influence information processing and, in turn, to effect attitude, behavioral intention, and behavior change in response to messages (Kim et al., 2012; Lee et al., 2015). However, research suggests that, for narratives to be most persuasive, readers must not be aware of the intent to persuade (Moyer Gusé & Nabi, 2010; Slater & Rouner, 2002). Therefore, it is important that narratives are created in such a way that the reader is unaware that there is underlying persuasive intent. The theory of transportation posits that, for narrative persuasion to be successful, persons reading the narrative must be able to immerse or transport themselves into the story and identify with characters in the narrative. Such transportation can aid in minimizing an individual's perception of persuasive intent (Green & Clark, 2013; Hoeken & Fikkers, 2014).

2.1.1 Transportation and Identification in Narratives

When creating a narrative, writers must recognize that transportation is a crucial component. As previously mentioned, transportation occurs when an individual is able to lose themselves within the world of the narrative (Green & Clark, 2013). When that happens, individuals display lower levels of counterarguing and higher levels of information acceptance (Green & Brock, 2000). This is complemented by the tendency of individuals to suspend disbelief when interacting with a narrative (Gilbert, 1991). Because of this reduction of counterarguing, increase in information acceptance, and a suspension of disbelief, audiences who experience high levels of transportation are more likely to experience a change in attitude or behavior (Green & Clark, 2013).

For an individual to experience a high level of transportation, they need to feel a connection to the characters within the narrative (Ching et al., 2013; De Graaf et al., 2012; West & Hollis, 2012). This feeling of connection is known as identification. Once this connection has been made, individuals are able to take the perspective of the character and, consequently, feel concern for the character (Cohen, 2001; Hoeken & Sinkeldam, 2014). To increase the likelihood of character identification, research suggests making the character similar to the target audience (Moyer-Guisé, 2008). However, it is not always necessary for narrative characters to resemble the reader for the reader to experience identification. For example, some research suggests that the inclusion of characters that resemble role models can also result in high levels of identification (Bandura, 2001).

Basically, to identify with narrative characters, audiences must be able to empathize with what the character is feeling in terms of emotions, be able to take the character's point of view, and realize the character's driving goal. When identification is

successful, audience members are more likely to experience a change in attitude, which, in turn, increases the effectiveness of the message. Essentially, by rooting for the narrative character, the individual is able to fully immerse themselves in the narrative which, in turn, allows for higher levels of persuasion (Green, 2006; Green & Brock, 2000). This highlights the importance of both transportation and identification as narrative components. However, transportation and identification are not the only aspects of a narrative that impact message effectiveness. Research regarding narrative causality has highlighted the use of causality to increase the impact of persuasive messages.

2.2 Narrative Causality

Narrative causality occurs when information is placed in a location that directly impacts other events within the narrative (Dahlstrom, 2010; Trabasso & Sperry, 1985). Similar to the way narrative persuasion presents information in a familiar way, narrative causality plays on a story's inherent cause-and-effect structure (Dahlstrom, 2010). This cause-and-effect structure relies on the concept of necessity. If, in order for event B to occur, event A must occur, then event A is causally connected to event B (Dahlstrom, 2012; Trabasso & Sperry, 1985). Therefore, information that can be removed from a story without upsetting any plotlines would be categorized as non-causal information, whereas information whose removal would disrupt the story's plot would be classified as causal (Dahlstrom, 2010). As previously mentioned, this causality increases the level of recall and perceived truthfulness of statements that are placed in causal locations. Narrative causality contributes to the theoretical framework that provides a more comprehensive understanding of how narratives can best function as persuasive messages (Dahlstrom, 2012, 2015).

A large part of how narrative causality functions is focused on how individuals comprehend text and visualize the content present in the narrative (Bower & Morrow, 1990). Interacting with a narrative consists of a specific process by which the individual interprets and makes sense of the message. The process that occurs can be broken down into three categories: surface code, text base, and situation model (Graesser et al., 2002).

The surface code refers to discerning strings of letters as words within the message. As the words are being understood, the individual pulls from existing observations to assign meaning to the words they have now comprehended. The text base provides context for the words that have been comprehended. When making sense of a message, an individual combines words into sentences. These sentences can be conceptualized as propositions. When reading a narrative, audiences are presented with a set of propositions that, in turn, create a story (Graesser et al., 2002).

The formation of the situation model occurs when the individual develops an elaborate "microworld" in which the narrative takes place (Graesser et al., 2002, p. 234). This world, created by the reader, ideally provides a map of reference to which the reader can refer when engaging with the narrative message and, as a result, comprehend the narrative as a whole. Considering the relationship between the situation model and narrative comprehension, the construction of a situation model is crucial to eliciting a reaction to such messages (Bower & Morrow, 1990; Dahlstrom, 2012). Essentially, when presented with a narrative, an individual first recognizes letters as words (surface code), those words are then combined into sentences (text base), and those sentences interact with the plot and sequence of the narrative (situation model) to create the story.

Narrative components providing a cause-and-effect relationship are more likely to result in the creation of a situation model (Dahlstrom, 2010; Robertson & Rossiter, 1974). Therefore, creating a narrative with causal information highlights the information's importance and increases the likelihood of eliciting a reaction from the narrative's audience (Bower & Marrow, 1990; Graesser et al., 2002).

2.2.1 Causal Network Model

Developed by Trabasso and Sperry (1985), the causal network model posits that certain components of the narrative are more impactful than others. The original model was created to determine how different locations within narratives impact the reader's level of recall. The causal network model has traditionally been used to analyze the sensemaking process associated with narratives (Bower & Morrow, 1990; Dahlstrom, 2012). The model has most frequently been used in the field of psychology, but it has more recently been introduced to the field of message design as a component to narrative persuasion (Dahlstrom, 2015). The model posits that information placed in causal locations will have higher levels of perceived importance than information placed in noncausal locations and, as a result, have higher levels of recall. (Gomulicki, 1956).

This concept of "importance" can be understood as how many connections an occurrence holds to other events in the narrative. In order to be deemed important, a statement must have some connection to other existing statements within the narrative (Trabasso & Sperry, 1985). Causality helps to make these connections and, therefore, must be present for information to be deemed important.

Causality can be conceptualized as the role one narrative component plays in producing other narrative components (Trabasso & Sperry, 1985). Readers engage in

logical inference that, in turn, provides context for how the world in which the narrative exists functions. This context creates what Trabasso and Sperry (1985) call "circumstances" (p. 597). According to these authors, circumstances create the environment of the narrative and provide the assumptions under which the reader will operate.

This concept of circumstances is made up of multiple constructs that interact with one another. The first of these constructs is *patients*[1]. Patients can be conceptualized as either a person or an object within a story that undergoes a change. These changes come about through certain actions or processes. The second construct is known as *agents*. An agent is the means by which the patient is changed. Agents that take the form of a person are typically motivated to act on some agenda or goal. Physical mechanisms usually spur processes that enact change on a person or object within the narrative (Trabasso & Sperry, 1985). For example, if an individual (patient) is hurt due to a fall, then the fall, which is a physical mechanism, is classified as the agent. The process of the fall is what caused the patient to be injured. The injury experienced by the individual would be considered an *event.* This is the final construct that makes up the concept of circumstances. Events serve to provide continuity within the sentences of the narrative to illustrate a causal event (Lakoff & Johnson, 2008; Trabasso & Sperry, 1985).

People who are interacting with narratives make inferences regarding the circumstances in which the narrative is occurring. Such inferences are derived from logical understandings of the world, which is why temporal and spatial proximity between agent and patient is of such high importance. Causality relies heavily on the

[1] Despite the health-specific term, "patient" is not used in a health context in this instance. Instead, the term references the focus of a story.

logic of the reader to make inferences regarding whether or not a causal relationship even exists. Therefore, message designers must create clear links between relationships to help ensure readers recognize that, in order for one event to happen, a previous event had to have also occurred (Trabasso & Sperry, 1985).

Warren et al. (1979) lay out six different types of inferred relationships. The first type of inferred relationship is a *motivated* relationship. When a motivated relationship occurs, it highlights the interaction between a goal and an action to achieve that desired goal (Trabasso & Sperry, 1985). For example, an individual who has the goal to make advance directives would engage in the action of having a conversation regarding their advance directives with a loved one. *Psychological* causation occurs due to a person's being dissatisfied with the situation in which they currently find themselves and experiencing an involuntary reaction to change that state. An example of this type of causation would be an individual who is being pushed to engage in advance care planning and, because the pressure makes them uncomfortable, they unintentionally lash out at their conversational partner. *Physical* causation is associated with the reader's understanding of the inner workings of the world. An example would be an individual suffering a serious injury and ending up in the hospital.

Enablement occurs when different aspects of narrative are related, but not directly. Instead, the two aspects must be present but do not cause specific happenings within the narrative (Trabasso & Sperry, 1985). For example, a character texts a friend they are on their way home. The character is later involved in a car accident. Sending the text does not cause the car accident itself, but it does provide the reader with the circumstances that made the car accident possible. *Temporal succession* takes place

simply when one event happens after another, but the two are not causally related. A character (1) calling an ambulance and (2) hanging up the phone is a simple example of this relationship. Finally, *temporal coexistence* consists of two events happening simultaneously but not being causally related. A character walking into their home and finding their partner researching advance care planning on the computer is an example of this relationship. Each of these inferred relationships is reliant on the perceptions of the reader and the microworld created in the reader's mind through the reading of the narrative message.

Current research on narrative causality focuses on causal and noncausal locations and their impact on narrative information processing. Research has also highlighted the use of these narrative locations for persuasive purposes and suggests that the use of causal attribution can help to improve the persuasiveness of messages (Niederdeppe et al., 2011). However, although the concept of narrative persuasion has been extensively analyzed within the field of health message design, little research has been done determining how causal and noncausal locations function within health messages (Dahlstrom et al., 2017; Niederdeppe et al., 2014). Filling this current research gap provides the opportunity for expansion of the field's understanding regarding narrative persuasion and allows for potential theoretical expansion of the causal network model.

2.2.2 Exemplar Research in Narrative and Causal Location

To better understand the purpose of this study, it is important to gain a foundational understanding of existing research regarding the role of causality within narratives. These studies provide a foundation for the current study and illustrate how this study will contribute to current knowledge of persuasive narratives.

In his research, Dahlstrom (2010, 2015) highlights the aforementioned lack of understanding regarding the role of causality within narratives. In an attempt to provide some insight regarding this relationship, Dahlstrom conducted studies to investigate the impact of causal locations on perceived truthfulness and levels of recall. He hypothesized that when a statement is placed within a narrative at a causal location, it is more likely to be perceived as the truth. He also predicted that level of recall would be higher for information placed in causal locations.

To begin to test these assumptions, Dahlstrom (2010) constructed a narrative that told the story of a group of pirates who were trying to find a buried treasure and encountered a number of obstacles along the way. He developed 18 statements that he could insert in either causal or noncausal locations that he identified within the story. The causal locations were locations that had an immediate impact on the characters and/or the plot of the story. Noncausal locations were locations that did not have an effect on characters or story plot. There were six causal locations and six noncausal locations identified. Three versions of the narrative were created that manipulated placement of the 18 statements by placing them in the six causal or six noncausal locations or leaving them out as control statements. For example, one of the statements reads, “Wild pansies rotate throughout the day to constantly face the sun” (Dahlstrom, 2010, p. 871). In version 1 of the narrative, this statement was placed into a causal location; in version 2, it was placed into a noncausal location; and in version 3, it was left out. When the statement was in a causal location, it informed characters within the narrative which direction to walk. When in the noncausal location, the statement was listed among other facts and served no purpose.

In Dahlstrom's studies, participants were presented with the narrative, and the aforementioned statements would either be in causal or noncausal locations (or be absent). After reading the narrative, to test recall, participants were prompted with the beginning of a statement and then asked to complete the statement with as much accuracy as possible. Results showed that participants recalled statements with more accuracy when statements were placed in causal locations. More specifically, the mean of the recall of statements at causal locations ($M = 0.46$, $SD = 0.32$) was significantly higher than the statements at noncausal locations ($M = 0.29$, $SD = 0.22$), and both causal and noncausal statements were recalled significantly more than the control statements that were not present in the narrative ($M < 0.01$, $SD = 0.04$; Dahlstrom, 2010).

Participants were then asked to rate the perceived truthfulness of each individual statement. Results showed that statements placed in causal locations were perceived as more truthful. Specifically, the mean of the perceived truthfulness of statements at causal locations ($M = 5.26$, $SD = 1.12$) was significantly higher than the statements at noncausal locations ($M = 4.93$, $SD = 0.97$), and both causal and noncausal statements were perceived as significantly more truthful than the control statements not presented in the narrative ($M = 4.53$, $SD = 0.83$; Dahlstrom, 2010).

Dahlstrom (2015) continued researching the role of causal locations in narratives by testing the impact of causal location and perceived realism on information acceptance. In this study, causal locations serve as a moderating variable between perceived realism and information acceptance. Participants were presented with a stimulus narrative that contained statements of information in either causal or noncausal locations, and the

narrative in this study focused on environmental communication, not piracy. Narratives were manipulated to be either high or low in perceived external and narrative realism.

High external realism narratives were narratives that contained events that the audience would deem possible. Low external realism narratives contained events that the audience would deem impossible. High narrative realism narratives contained descriptions of characters and character behaviors that would be deemed as consistent within the narrative world. Low narrative realism narratives contained descriptions and behaviors that would not be deemed as consistent within the narrative world. After reading their assigned narrative, participants rated the perceived truthfulness of statements. Participants also rated the perceived external and narrative realism of the story. The results of the study, once again, showed that when statements were placed in causal locations, they were perceived as more truthful. Additionally, narrative causality was a moderator of external realism, but not narrative realism. Basically, narratives that were high in external realism resulted in higher levels of perceived truthfulness but only when information was placed in a causal location (Dahlstrom, 2015).

Dahlstrom's work, while valuable, is not without its flaws. First, both of Dahlstrom's narratives, as well as the statements within them, were undemanding (2010, 2015). In the first study, a fantastical story about pirates was the test stimulus, and the statements consisted of "neutral descriptions of the natural world" (Dahlstrom, 2010, p. 864). Dahlstrom claims that the story was purposefully made whimsical in an attempt to both subvert persuasive intent and avoid controversy and that the statements were made intentionally neutral to avoid any competing psychological processes. The second study contained a stimulus that was less fantastical than the first but, for the previously

mentioned reasons, was still frivolous. The statements in the second study, false environmental statements, were also purposefully created to inhibit the triggering of competing psychological processes. The intentional neutrality of both stimuli and sets of statements, along with the lack of persuasion-based message goals, calls into question any insights the research claims to offer the field of persuasive message design.

Additionally, Dahlstrom (2010, 2015) claims that the results of his research serve as evidence of the relationship between narrative causality and information acceptance. Teng et al. (2015) explain that information acceptance is determined based on a number of factors that come together to create an individual's belief system. This belief system determines how an individual will react to information based on how closely it aligns with their beliefs. Considering this, along with Dahlstrom's exclusive use of perceived truthfulness and recall measures, his claim linking narrative causality and information acceptance appears unsound.

Finally, Dahlstrom's work asserts that the reported results provide confirmation that causal location impacts narrative persuasiveness (2010, 2015). Likely due to the conflation between perceived truthfulness and information acceptance, this claim is rather tenuous. For example, although McGuire (2013, p. 134) identified "storing this new position in memory" and "retrieval of the new position from memory when relevant" as steps 8 and 9 in his communication and persuasion matrix, these steps come *after* attitude change (step 7: "agreeing with the communication's position"). And although perceived truthfulness of a statement may relate to perceptions of source credibility, its link to persuasion is more distal than variables more commonly used in persuasion research, such as attitude and behavioral intention.

Despite these limitations, Dahlstrom's work has laid important groundwork for understanding the influence of causal locations on narrative processing outcomes, but no tangible insights can be gleaned about the relationship between causality and narrative persuasiveness. By using Dahlstrom's work as a starting point for the present study, however, current understanding of persuasive narratives can be advanced.

2.3 End-of-Life Planning

Planning for end-of-life allows for a shared understanding regarding a patient's wishes should they become unable to make decisions for themselves. Arranging advance care directives provides doctors and family members with concrete instructions on what to do in medical situations where the patient would normally be consulted (Smith, 2017). More specifically, it is "a process of communication between an individual, their healthcare providers, and often those close to them about their values and preferences for their future treatment and care"
(Cornally et al., 2015, p. 2). Although the benefits associated with advance care planning are widely agreed upon (Mroz et al., 2020), young adults exhibit a lack of knowledge regarding the process of planning for end-of-life and advance care planning (Tripken et al., 2018). This is primarily due to a lack of awareness regarding best practices of advance care planning (Spoelhoff & Elliott, 2012).

Currently, discussions between healthcare providers and patients regarding advance care planning occur primarily with elderly adults and terminally ill individuals (Institute of Medicine, 2014). This is due to the perception that advance care planning is only needed when someone is ill. However, it has been widely acknowledged that discussion of advance care directives should be an ongoing conversation between

provider and patient regardless of patient age (Spoelhof & Elliott, 2012). Advance care planning requires thinking about death seemingly far in advance and is a challenging subject to broach regardless of one's age. This challenge is further exacerbated for young adults (Tripken & Elrod, 2018). Young adults are rarely encouraged to think about death and, as a result, do not have the knowledge or resources needed to properly engage in advance care planning, which leaves them vulnerable in unexpected medical emergencies (Mroz et al., 2020; Wiener et al., 2012).

2.3.1 Legalities of End-of-Life Planning

The process of making advance care plans and doing so in a legally binding way varies from state to state (Wiener et al., 2012). The research for this dissertation was conducted in Kentucky. Therefore, understanding the legal framework and terms associated with these plans in the state of Kentucky is pertinent to understanding the process overall. When considering the advance care planning process, there are a number of terms that are important to understand.

The first of these terms is *advance directive.* An advance directive is any type of legal document that explains an individual's treatment preferences. Therefore, this term can be used as an umbrella term when discussing advance care planning. The second term that is important to understand is *living will*. A living will is a legal document that contains what medical treatments an individual would and would not want to be used for pain management and to keep them alive; it also covers organ donation preferences. The next important term to understand is *medical proxy*. The term medical proxy refers to an individual who is responsible for making medical decisions if the patient's decision-making capacity is compromised. In Kentucky, a medical proxy is often referred to as the

surrogate decision maker, and the two terms are often used interchangeably (Kentucky Living Will Directive Act, 1994). A patient can choose one or more individuals to serve as their medical proxy/surrogate. The final term to know is *Medical Order for Scope of Treatment*. A Medical Order for Scope of Treatment is a form that is filled out with the patient, selected medical proxies, and the patient's physician. The form serves as a guide for future healthcare providers and covers everything from Do Not Resuscitate orders to specific directions regarding when to withhold life prolonging treatment. It is important to note that a living will does not require a Medical Order for Scope of Treatment (Kentucky Living Will Directive Act, 1994).

Determining a medical proxy is a significant aspect of the advance care planning process. In Kentucky, these proxies are referred to as surrogate decision makers. Selected by the patient, the surrogate decision maker makes medical decisions if the patient's capacity to do so is compromised. Once a physician has determined that a patient lacks decisional capacity, then the surrogate decision maker is supposed to follow all directives as clarified in the patient's advance directive. If certain aspects of care are not covered in a living will, then the surrogate is able to make medical decisions with the guidance of physicians and other healthcare personnel (Kentucky Living Will Directive Act, 1994).

In order for a surrogate to be determined, however, a patient must create a living will in the first place. In the state of Kentucky, an individual must be of appropriate decisional capacity to make their living will. In the will, an individual can make directives regarding the withholding of life-sustaining treatments such as respirators or artificial nutrition. If the individual chooses to have more than one surrogate, then medical decisions not covered in the living will must be made unanimously among

surrogates. Advance care directives determined in the living will are not to be used unless the individual is unconscious, incapacitated, or determined to lack decisional capacity by a medical provider (Kentucky Living Will Directive Act, 1994).

As previously mentioned, the surrogate decision maker is charged with making the decision whether to withhold life-prolonging treatment if specific directives have not been made available by the patient. However, there are guidelines for when a surrogate can decide to withhold such treatment. The patient's death must be deemed inevitable and imminent by a healthcare provider or, if the individual already is receiving life-prolonging treatment (such as intubation), the treatment must reach a threshold where it is hurting the patient more than it is helping. In terms of determining whether a patient is to remain on life support, surrogates have significant limitations if there are not advance directives in place. This prevents surrogates from taking advantage of their position in a negative manner (Kentucky Living Will Directive Act, 1994).

An individual can also create what is referred to as a Medical Orders for Scope of Treatment form. This form contains specific guidance regarding the patient's care preferences, such as Do Not Resuscitate (DNR) orders, whether to intubate the patient, and use of comfort medications. This form is reviewed every year and must be made available to any healthcare providers caring for the individual, including paramedics and hospital personnel. Any and all documentation of a living will or medical orders for scope of treatment must be signed by the individual and signed by a notary public. If not properly documented, directives are not required to be followed (Kentucky Living Will Directive Act, 1994).

The state of Kentucky has clearly laid out the legalities surrounding advance care directives and limitations regarding what surrogate decision makers can and cannot do. However, for these directives to be made, individuals must make decisions about their preferred end-of-life treatment. Once these decisions have been made, they must be properly documented. Therefore, it is important for an individual to have conversations regarding their wishes with family members, healthcare providers, and, potentially, friends. As previously mentioned, these conversations require intense consideration about one's death (Mack et al., 2012). Individuals are often hesitant, however, to make such decisions when they are healthy and, in their perception, far from death (Institute of Medicine, 2014).

Considering the hesitation around making advance care directives and the discomfort such conversations may cause, it is important to address the barriers to these conversations to provide guidance on how to best plan for the worst. One of the largest barriers to these conversations, besides the concept of death, is a lack of literacy regarding the importance of such directives and their components (Spoelhof & Elliott, 2012). Another significant barrier is lack of knowledge and skill for navigating conversations about advance care planning.

It is important to note that there are health interventions that exist to assist with the process of advance care planning (e.g., Billings & Bernacki, 2014; Mitchell et al., 2020; Volandes et al., 2022). The majority of these interventions utilize video visual decision aids to both inform individuals about the importance of advance care planning and guide them through the advance care planning process. However, existing interventions do not address the lack of healthy, young adults who engage in advance

care planning as they are primarily targeted towards older adults and terminally ill individuals. Therefore, effective advance care planning narratives targeted towards healthy young adults could provide an entry to further advance care planning resources.

Although an individual certainly could complete such a directive entirely on their own, ideally the directive would be developed in conjunction with input from family members, particularly those who might be named as surrogates. In fact, it is recommended that advance care planning be an ongoing conversation, not one that is initiated when someone becomes sick (Crane & Wittink, 2005). This is where the field of health communication comes into play. Health message design provides insight regarding how to craft effective health messages, especially those dealing with uncomfortable topics. Using the extensive research provided by the field, researchers can design and implement interventions at both the patient and provider level to address existing barriers.

2.4 Study Rationale

As previously discussed, narrative persuasion can be used to facilitate changes in attitudes, behavioral intention, and overall behavior (Kim et al., 2012; Lee et al., 2015). There has been much research done regarding the use of narrative persuasion versus other methods of persuasion. Research regarding the impact of transportation and identification within narratives has provided some insight regarding how persuasive narratives can be enhanced, but, overall, there is still a lack of knowledge regarding best practices related to the construction of information within persuasive narratives.

Dahlstrom (2010) points out that, because causal structure is inherent in all narratives, causality exists as a potential source of message variance. In other words, the causal structure of a narrative is something that likely impacts a message but is not

currently studied as a variable. That means narrative causality falls into what Slater et al. (2015) have termed message *heterogeneity*. According to Slater et al., message heterogeneity can be understood as "the undefined, unexplained, often idiosyncratic variation among messages" (p. 2). In contrast, *message variability* is "the explanatory potential in conceptualizing and operationally defining message characteristics so that they may serve as variables" (p. 2). The goal of this dissertation research is to take an existing source of message heterogeneity and transform it into message variability.

Unfortunately, the concept of narrative causality has not been adequately examined despite compelling results from previous research (Dahlstrom, 2010, 2015). This is primarily due to the limited variables that have been analyzed when applying the causal network model to message design: recall and perceived truthfulness. Therefore, it is necessary to examine a broader array of variables to extend knowledge of the effects of causal structure in narratives. Despite Dahlstrom's claim that the variables he has studied are indicators of persuasiveness, it can be argued that perceived truthfulness and recall are more accurately classified as information processing variables. By examining other information processing variables in tandem with Dahlstrom's original variables (2010, 2015), more knowledge can be gained about the relationship between causally placed information and health narratives.

Processing fluency is a measure of information processing that assesses the level of ease with which an individual understands a message (Shulman & Bullock, 2019). Messages that result in higher levels of processing fluency are perceived to be more accessible. In addition, higher levels of processing fluency are often linked with higher levels of message acceptance (Briñol & Petty, 2004; Lee & Aker, 2004). Therefore,

investigating the potential relationship between causal location and processing fluency may contribute to further understanding of the causal network model as a potential message design tool.

Additionally, to understand the relationship between information causality and persuasion, persuasive outcome variables must be tested. In the reasoned action approach, Fishbein and Ajzen (2010) lay out a number of variables theoretically implicated in behavior change, including attitude and behavioral intent. Considering the theoretical grounding of these variables, along with their prevalence as measures of persuasiveness in the field of health message design, attitude and behavioral intent are well positioned for the present study (O'Keefe, 2004).

The purpose of this study is to analyze how the causal network model can be applied to design health narratives. Causal network-driven research to date has not been integrated into health message design in a way that adequately informs application. When the causal network model has been used, it has been in the context of messages that had no firm foundation in reality and that were relatively simple in nature. Analyzing this model in a realistic health message context to determine how statement location impacts variables more closely related to persuasion, as well as narrative processing variables, provides the opportunity to expand the reach of the model and extend the model as a whole. Therefore, the following research questions and hypotheses, which explore the influence of causal location on a range of outcome variables, are proposed:

RQ1: How does the causal placement of information influence reported levels of *transportation*?

RQ2: How does the causal placement of information influence reported levels of *identification*?

RQ3: How does the causal placement of information influence *processing fluency*?

H1: Participants in the causal condition will exhibit higher levels of *recall* than participants in the noncausal or control conditions.

H2: Participants in the causal condition will perceive advance care planning statements as more *truthful* than participants in the noncausal or control conditions.

H3: Participants in the causal condition will report higher levels of *perceived importance* of advance care planning than participants in the noncausal or control conditions.

RQ4: How does the causal placement of information influence *attitudes* toward advance care planning?

RQ5: How does the causal placement of information influence participants' *intent to engage* in advance care planning?

RQ6: Does causally placed information increase the likelihood of *advance care planning information seeking*?

CHAPTER 3. FORMATIVE RESEARCH AND MESSAGE DEVELOPMENT

This study made use of a narrative presented in text on screen with information in the form of specific *statements* about advance care planning placed in different categorized locations. There were three versions of the narrative created for this study: one that placed test statements in causal locations, one that placed test statements in noncausal locations, and one that did not include the test statements (control condition). The story did not change between the versions, only the location/presence of the tested statements.

The narrative shared the story of a character named Kat, who was resistant to advance care planning. In the narrative, Kat recently lost a romantic partner and is struggling with the uncertainty around the decisions she made. When Kat's sister, Caroline, suggests a support group, Kat meets Alex. Alex and Kat realize they have both lost their romantic partners in similar ways. However, because Alex's partner had advance directives, he is relatively at peace with the decisions he made. At various points in the story, Kat is encouraged to engage in advance care planning activities by both Alex and Caroline. In the end, Kat realizes the importance of advance care planning and begins the process of making advance directives. Each narrative was between 2,191 and 2,429 words in length (see Appendices A, B, & C).

3.1 Narrative Testing and Statement Selection

When creating persuasive health messages, formative research is often conducted to collect information about a target audience and their reactions to draft messages. In doing so, health message designers are able to increase the likelihood of reaching their

target audience in a meaningful way. For this study, focus groups were conducted to guide the development of the health narrative and to inform statement selection.

To begin the formative research process, the researcher created a core narrative that would serve as the basis for the three message conditions. The researcher then conducted background research on the benefits of advance care planning and developed a list of 15 benefit-based statements. The researcher chose to emphasize benefits due to the previously discussed lack of literacy around the importance of advance care planning. Underscoring the benefits of advance care planning can help to address this barrier by illustrating the positive impact advance care planning can have on not only individuals but their loved ones as well. Benefit-driven statements also help to address the current negative connotation associated with advance care planning. The benefits included in the list were derived from information provided by the CDC (2012) and Khan et al. (2014).

After creating the core narrative and developing the list of test statements, the researcher conducted two focus groups with college students aged 18-25. The focus groups were conducted to determine whether participants identified with the characters in the narrative and to determine memorability and impact of the statements outside the context of the story.

Participants (n = 15) were recruited via email and received extra credit in their courses for participating. All participants were between the ages of 18 and 25 (M = 19.07, SD = .70). Both men (n = 6) and women (n = 9) participated in the focus groups. The focus groups were conducted via Zoom. Once the participants entered the Zoom room, the researcher reviewed the informed consent process. The researcher then attached the control narrative in the Zoom's chat and instructed participants to read the narrative in

their individual breakout rooms. After reading the narrative, participants returned to the main session and responded to discussion questions assessing their identification with the characters in the narrative. Finally, the researcher shared a list of statements with participants via screensharing and asked participants questions about the impact and memorability of the statements.

3.1.1 Focus Group Findings

3.1.1.1 Identification. Overall, participants reported high levels of identification with the main character (Kat). Specifically, when asked whether there were any characters in the story that the participants had a good understanding of, many participants reported having an understanding of Kat. For example, one participant explained,

> I think Kat like, just the feelings about being heard or like going to the group after experiencing trauma or not wanting to deal with it after you experience that trauma...like you'd want to put that on the back burner and not bring up those emotions.

Other participants expressed an understanding of Kat due to loss of their own loved ones. One participant shared, "I identified with Kat just because like, I've had family members who have been sick like that and so I know that, you know, like pit in your stomach."

When asked if there were any characters that participants found themselves rooting for, participants reported rooting for Kat as well. One participant shared, "I was really rooting for Kat and Alex to get together...like she took that first step to go to the focus [support] group and then they had that, like, instant connection." Other participants also reported rooting for Alex (the love interest) to "make his move." Finally, some participants reported identifying with Caroline and the concern she felt for her sister. One

participant explained, “I actually really liked Caroline because, like, I have a sister and I know how that when, like, your sister isn’t doing good, like, you just want to fix it for her.” Other participants who reported identifying with Caroline also pointed to this desire to help loved ones and the frustration that can sometimes arise from such situations.

Overall, participants consistently reported identifying primarily with Kat, but also reported some level of identification with the other characters, Alex and Caroline. Considering these impressions were consistent among both focus groups, the results of the focus groups provided adequate evidence that participants were identifying with the story’s characters.

3.1.1.2 Statements. The second half of the focus group asked participants to respond to questions about the list of statements. Focus group participants found statements that emphasized benefits to loved ones to be particularly impactful. One participant explained, “I think talking about, like, family members just make it more memorable because it gives people a closer connection and it creates, kind of, empathy.” Participants also preferred statements that highlighted the planning and control aspect of advance directives. Overall, both focus groups had a clear preference for statements focused on the ways advance care planning can maintain individual autonomy and facilitate decision making. Additionally, participants made note that some statements that struck them as redundant (see Appendix D for the full list of test statements).

Using the focus groups’ findings, the researcher returned to the original list of statements and highlighted the statements that participants reported to be impactful. The researcher then highlighted any statements that participants felt were redundant. The

result of this process culminated in a list of six statements demonstrating the advantages of advance care planning for patients and loved ones (Table 3.1).

Table 3.1

Narrative Statements

Benefits of Advance Care Planning (CDC, 2012; Khan et al., 2014)
1. Advance directives give peace of mind to family members
2. Advance directives let you name the person you want to be in charge of treatment decisions
3. Advance directives mean family members have less guilt when it comes to decision making
4. Advance directives allow you to plan for the "what ifs" in life
5. Advance directives ensure you get the treatment you want
6. Having advance directives can reduce unnecessary costs of unwanted care

3.2 Message Creation

After completing the focus groups, the researcher was able to select six statements from the original list of 15 statements. The researcher then created three narratives—causal, noncausal, and control—by varying the presence and placement of the six statements. As previously noted, the story presented in each narrative did not change. The only difference between the three narratives was where the advance care planning statements were located: causal location, noncausal location, or absent.

Statements in the causal narrative were placed in locations with at least one connection to other narrative events. For example, one of the statements in the narrative reads, "Advance directives can reduce unnecessary costs of unwanted care." This statement, when causal, is part of Alex's explanation as to why advance directives were helpful when his wife was sick. Without the statement, Kat would not be reminded of the medical debt that accrued while she contemplated her partner's medical decisions. Additionally, when causal, the statement allows Alex to further explain how his wife's advance directives eased what was already a difficult process. In this version, if the

statement were to be removed, the rest of the conversation could not happen. Therefore, the statement's location is causal.

In the noncausal version, statements were placed in a location that had no connection to other parts of the narrative. The statement, "Advance directives mean loved ones have less guilt when it comes to decision making," is presented as a title of one of the brochures provided at the support group that Kat attends. In this version, the statement has no connection to narrative events and is, therefore, noncausal. The control narrative did not contain the statements.

In order to provide more explanation for how causal location was defined in implementation, the table provided in Appendix E was created. Specifically, this table highlights the differences between the causal and noncausal placements of the narrative statements. It provides the six core test statements and how they were presented when causal. The table then provides the list of causal connections. As previously discussed, in order to be causal, statement must hold at least one connection to other events within the narrative. For the present study, each statement held at least two connections to other occurrences in the narrative when in a causal location. The table also provides the statements' noncausal locations for comparison.

The formative research conducted for the present study provided valuable information regarding how the target audience was likely to respond to the narratives and statements created for the experiment. The confirmation of the target audience's identification with the characters in the story and the identification of the most impactful statements provided confidence in the experimental manipulation overall.

CHAPTER 4. METHOD

4.1 Experimental Design

To better understand narrative causality and the effect causal locations have on both narrative processing and persuasive outcome variables, a post-test only, between-subjects experimental design was used. Participants were randomly assigned to one of three narrative conditions: causal, noncausal, or control. The causal narrative contained the test statements placed only in causal locations (i.e., locations that had a direct relationship to other events in the story). The noncausal narrative contained the same statements, but in locations with no relationship to other events in the story. The control narrative did not contain any of the test statements.

As previously discussed, there has been speculation that causality represents a source of variance within narratives, but existing research cannot provide support for this speculation. Therefore, this experiment attempts to account for this potential unexplained variance by manipulating the causal structure of a narrative in its entirety.

4.2 Experimental Protocol

Participants were recruited using the University of Kentucky's College of Communication and Information SONA system. Considering that healthy, young adults are rarely encouraged to engage in advance care planning, the use of a university research subject pool provided an excellent opportunity to reach an appropriate sample. Before beginning the survey, participants were provided with a brief overview of the study informing them that they would be randomly assigned a story about advance care planning and then asked to answer a series of questions about their response to the story.

Once participants began the survey, they were presented with a page detailing the informed consent process. After providing consent, participants were then asked if they were between the ages of 18 and 25 to determine their eligibility. Once participants' eligibility was confirmed, they were provided with their assigned narrative and instructed to take their time reading the story presented to them. After reading their assigned narrative, participants were directed to the post-test survey containing the measures of the narrative processing variables, persuasive outcome variables, and demographics (all survey items are available in Appendix F).

4.3 Participants

When data collection concluded, 341 participants had taken the survey. To promote sample quality, three strategies were used to identify and remove questionable data: identification of straightlining (providing the same answer to multiple questions), time spent in the study, and study completion. Twelve participants were removed for straightlining responses; straightlining was identified by responses having a standard deviation of zero (Naseer et al., 2019). The average participant took 14.17 minutes to complete the survey. Thirty-six participants took less than four minutes to complete the study (i.e., less than three standard deviations below the mean), so they were removed. There were 3 participants who did not complete more than 50% of the survey; they also were removed from the sample. The final sample, therefore, contained 290 respondents.

The final sample (N = 290) consisted of 187 women (64.5%), 99 men (34.1%), and 4 gender-nonbinary individuals (1.4%). All participants were between the ages of 18 and 25 (M = 19.84, SD = 1.43). Of these participants, 36.9% were freshman (n = 107), 27.2% were sophomores (n = 79), 17.2% were juniors (n = 50), and 18.3% were seniors

(*n* = 53). One participant did not provide their year in school. The majority of study participants identified as Caucasian (79.0%, *n* = 229); 8.3% of participants identified as African American (*n* = 24); 4.1% identified as Latinx or Hispanic (*n* = 12); 4.1% identified as Asian/Asian American (*n* = 12); 0.3% identified as American Indian/Alaskan Native (*n* = 1); 3.4% of participants chose Other/Unknown (*n* = 10); and 0.7% of participants chose not to disclose their ethnicity (*n* = 2).

4.4 Measures

Table 4.1 provides mean scores, standard deviations, skewness and kurtosis scores, and reliabilities for all variables except behavior (a nominal variable).

4.4.1 Independent Variable

4.4.1.1 Narrative Type. For this experiment, three different narratives were created: causal, noncausal, and control. The causal narrative contained a total of six test statements placed in causal locations in the narrative. The noncausal narrative contained the same six statements placed in noncausal locations. The control narrative did not contain any of the test statements.

There were minor wording differences between the causal, noncausal, and control narratives. Because causal locations have connections to subsequent events in a narrative, their removal will disrupt the flow of the narrative. Therefore, when these locations are removed, edits must be made to ensure the flow of the narrative is not disrupted. For more information about the differences between statement locations, see Appendix E.

4.4.2 Dependent Variables

4.4.2.1 Transportation. Transportation was measured using a revised version of Green and Brock's (2000) 7-point scale. The scale contained 12 items. Participants were

asked to indicate their agreement with each statement on a scale from 1 (*not at all*) to 7 (*very much*). Items included statements such as, "While I was reading the story, I could easily picture the events taking place," "I wanted to learn how the story ended," and "While reading the story I had a vivid image of Kat." The scale demonstrated acceptable reliability ($\alpha = .73$). This alpha level is in line with previous research (Green & Brock, 2000).

4.4.2.2 Identification. Identification was assessed using an adapted version of Cohen's (2001) 7-point scale. The scale contained 10 items. Participants were asked to indicate their agreement with each statement on a scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The scale included statements such as, "While reading the story, I felt as if I was part of the action," "While reading the story, I could feel the emotions Kat portrayed," and "When Kat succeeded, I felt joy, but when she failed, I was sad." The scale demonstrated good reliability ($\alpha = .89$).

4.4.2.3 Recall. Recall was measured using a scale developed by Smith and Graesser (1981). The scale contained 12 items. Six of the items were statements that were included in the causal and noncausal narratives, and the other six items were statements that were not in the narrative but were still relevant to advance care planning. Participants were asked to rate each statement on a scale from 1 (*claim was definitely not presented in the story*) to 6 (*claim was definitely presented in the story*). The score for recall was calculated by taking the average of the six items that were included in the narrative. The items that were not included in the narrative were only included as distractor items. The scale demonstrated good reliability ($\alpha = .85$).

4.4.2.4 Perceived Truthfulness. Perceived truthfulness was assessed using the 7-point scale developed by Dahlstrom (2010). The scale contained six items (one for each statement). Participants were asked to rate the likelihood of each statement's being true on a 7-point Likert-type scale ranging from 1 (*absolutely false*) to 7 (*absolutely true*). The scale demonstrated good reliability ($\alpha = .84$).

4.4.2.5 Perceived Importance. Perceived importance was measured using an adapted version of Robin et al.'s (1996) perceived importance of an ethical issue measure (PIE). The measure assesses perceived importance as the mean of four 7-point semantic differential scales (*extremely important issue—unimportant issue, highly significant issue—insignificant issue, issue of considerable concern—issue of no concern,* and *fundamental issue—trivial issue*). Participants were asked to respond to four prompts. The measure included prompts such as, "Making advance directives with my healthcare provider is a(n)..." and "Talking to my loved ones about their advance care planning is a(n)..." The scale demonstrated excellent reliability ($\alpha = .96$).

4.4.2.6 Processing Fluency. Processing fluency was measured using an adapted version of the 7-point scale developed by Dragojevic and Giles (2016). The scale contained four items measuring the extent to which the story was easy to understand, comprehensible, clear, and effortful to understand. Participants rated their response to each item on a scale from 1 (*not at all*) to 7 (*very*). The scale demonstrated acceptable reliability ($\alpha = .69$). After removing the last item in the measure ("How effortful was it to understand the story?"; personal communication, Marko Dragojevic, June 7, 2022), the scale demonstrated very good reliability ($\alpha = .93$).

4.4.2.7 Attitude. Participants' attitudes toward engaging in advance care planning were assessed using an adapted version of Conner et al.'s (2002) measure of attitudes toward healthy eating. The measure assesses attitude as the mean of six 7-point semantic differential scales (*good—bad, pleasant—unpleasant, enjoyable—unenjoyable, necessary—unnecessary, beneficial—harmful,* and *wise—foolish*). Participants were asked to respond to six prompts. The measure included prompts such as, "Engaging in advance care planning would be," "Determining the best advance directives for me would be...," and "Talking with my family members about advance care planning would be..." The scale demonstrated excellent reliability ($\alpha = .95$).

4.4.2.8 Behavioral Intent. Behavioral intent was measured using a scale developed by Fishbein and Ajzen (2010). The scale contained three items asking about likelihood of engaging in advance care planning activities. Participants were asked to respond on a 5-point Likert-type scale from 1 (*very likely*) to 5 (*very unlikely*). The items were, "How likely are you to engage in an advance care planning conversation at your next doctor's visit?" "How likely are you to engage in advance care planning with your family in the next 3 months?" and "How likely are you to engage in advance care planning with your friends in the next 3 months?" The scale demonstrated good reliability ($\alpha = .84$).

4.4.2.9 Behavior. Because measuring the actual behavior of advance care planning is outside the scope of the present study, information seeking was used as a proxy. Participants were presented with the following prompt: "If you would you like more information and resources on advance care planning, click 'Yes, I would like more information to be taken to a page of resources.' If you would not like more information,

click ‘No thank you.’” Participants who responded “*Yes, I would like more information*” were recorded as engaging in the behavior. Participants who responded “*No thank you*” were recorded as not engaging in the behavior.

4.4.2.10 Demographics. Finally, demographic information was collected from participants. The demographics measure contained four items. The first question asked about the participant’s gender. Participants responded by choosing “Male,” “Female,” “Nonbinary,” or “Prefer not to answer.” Participants were also asked to provide their age. Additionally, participants were asked to provide information about their ethnicity. Participants responded by selecting “Caucasian,” “African American,” “Latinx or Hispanic,” “Asian/Asian American,” “American Indian/Alaskan Native,” “Hawaiian/Pacific Islander,” “Other/Unknown,” or “Prefer not to answer.” The last demographic question prompted participants to report what year they were in school, with the options being “Freshman,” “Sophomore,” “Junior,” “Senior,” or “Other.”

Table 4.1

Descriptive Statistics

Variable	*M*	*SD*	Skewness	SE	Kurtosis	SE	α
Transportation	4.53	0.79	-0.14	0.14	0.11	0.28	0.73
Identification	4.96	1.01	-0.45	0.14	0.30	0.28	0.90
Processing Fluency	5.99	1.12	-1.11	0.14	-0.81	0.28	0.94
Recall	4.69	0.96	-0.36	0.14	-0.83	0.28	0.83
Perceived Truthfulness	5.79	0.95	0.65	0.14	-0.33	0.28	0.84
Perceived Importance	5.47	1.22	0.82	0.14	0.12	0.28	0.96
Attitude	5.19	0.85	-0.51	0.14	0.19	0.28	0.94
Behavioral Intent	3.15	1.02	0.05	0.14	-0.72	0.28	0.84

CHAPTER 5. RESULTS

Participants ($N = 290$) were randomly assigned to the three conditions: 94 participants were assigned to the causal condition, 94 participants were assigned to the noncausal condition, and 102 participants were assigned to the control condition. After data collection was complete, the researcher used descriptive statistics to ensure all means were plausible and to identify any missing data. Missing values made up 1.21% of the dataset; maximum likelihood estimation was used to address missing data values (Schafer & Graham, 2002). Finally, data normality was confirmed using skewness and kurtosis scores (see Table 4.1).

The aforementioned goal of this study was to determine the relationship between causality and narrative processing variables (transportation, identification, recall, perceived truthfulness, perceived importance, and processing fluency) and the relationship between causality and persuasive outcome variables (attitude, behavioral intent, and behavior). A series of one-way ANOVAs was used to test the research questions and hypotheses. Table 5.2 reports mean scores, standard deviations, F values, and p values for all tests.

5.1 Research Questions 1 and 2

The first research question addressed the impact of causal location on levels of transportation. A univariate ANOVA was conducted to identify differences in mean scores for transportation across message conditions. The results of the ANOVA indicated that the location of information did not significantly impact the level of transportation reported by participants, $F(2, 287) = 0.58$, $p = .56$, $\eta^2 = .01$ (see Table 5.2).

The next research question was aimed at determining whether information location had any impact on reported levels of identification. In response, the ANOVA revealed no significant differences in identification between the causal, noncausal, and control conditions $F(2, 287) = 1.030$, $p = .36$, $\eta^2 = .01$.

5.2 Research Question 3

Research question 3 sought to understand the relationship between information location and processing fluency. No significant differences in processing fluency were detected between message conditions, $F(2, 287) = .03$, $p = .97$, $\eta^2 = .01$.

5.3 Hypotheses 1, 2, and 3

The hypothesis in the present study tested the variables used in prior causal location research. All three hypotheses predicted that participants in the causal narrative condition would demonstrate a higher score than those in the noncausal and control conditions. Hypothesis 1 predicted that participants in the causal condition would exhibit higher levels of recall than participants in the noncausal or control conditions. The first univariate ANOVA revealed a significance difference, $F(2, 287) = 3.45$, $p = .02$, $\eta^2 = .02$. Further examination using planned contrasts revealed that participants in the causal condition exhibited a significantly higher level of recall than those in the control condition, $t(287) = 2.48$, $p = .007$. Planned contrasts did not reveal a significant difference in recall scores between causal and noncausal conditions, $t(287) = 0.531$, $p = 0.298$. Therefore, hypothesis 1 is partially supported (see Table 5.1).

The second hypothesis predicted that participants in the causal condition would perceive advance care planning statements as more truthful than participants in the noncausal or control conditions. Conducting a univariate ANOVA did not show any

significant differences in perceived truthfulness between conditions, $F(2, 287) = 1.05$, $p = .35$, $\eta^2 = .01$. Therefore, hypothesis 2 was not supported (see Table 3.1).

The final hypothesis proposed that participants in the causal condition would report advance care planning at higher levels of importance than participants in the noncausal or control conditions. To test this, a univariate ANOVA was conducted. The results of the ANOVA indicated that no significant differences in perceived importance were present between conditions, $F(2, 287) = .18$, $p = .83$, $\eta^2 = .01$. Therefore, hypothesis 3 was not supported.

5.4 Research Questions 4, 5, and 6

Because previous studies have neglected to include persuasive outcome variables in their analyses of the causal network model, the last set of research questions was posed to investigate any relationship between causal location and variables most commonly used in persuasive message design research. Research question 4 investigated the relationship between information location and attitudes towards advance care planning. There were no significant differences in reported attitudes towards advance care planning between message conditions, $F(2, 287) = .04$, $p = .97$, $\eta^2 = .004$.

The fifth research question was aimed at analyzing the impact of causality on participants' intent to engage in advance care planning. The results of the ANOVA did not reveal any significant differences in behavioral intent between conditions, $F(2, 287) = .59$, $p = .56$, $\eta^2 = .01$.

The final research question asked whether information location would affect whether individuals were willing to engage in advance care planning information seeking. This question was addressed by conducting a cross-tabulation analysis to

determine any significant differences in the percentage of those who clicked "yes" versus "no" when offered more information about advance care planning between message conditions. The results showed that very few participants chose to receive more information when prompted. In addition, although more respondents in the casual and noncausal conditions were interested in seeking more information about advance care planning than individuals in the control condition, this difference did not reach statistical significance, $X^2(2, N = 290) = 2.97$, $p = .23$ (Table 5.2).

Table 5.1

Means, Standard Deviations, and One-Way Analyses of Variance

Variable	Causal		Noncausal		Control		$F(2, 287)$	p
	M	*SD*	*M*	*SD*	*M*	*SD*		
Transportation	4.46	0.84	4.59	0.74	4.54	0.78	0.58	0.56
Identification	4.88	1.03	4.92	0.92	5.07	1.08	1.03	0.36
Processing Fluency	5.99	1.04	6.01	1.11	5.97	1.21	0.03	0.97
Recall	4.84[a]	1.02	4.77[b]	1.03	4.50[b]	0.92	3.45	0.02
Perceived Truthfulness	5.89	0.97	5.84	0.93	5.68	0.97	1.05	0.18
Perceived Importance	5.50	1.22	5.41	1.25	5.51	1.21	0.18	0.42
Attitude	5.21	0.90	5.18	0.85	5.18	0.83	0.04	0.97
Behavioral Intent	3.07	0.97	3.22	1.03	3.18	1.02	0.59	0.56

Note: Transportation, Identification, and Processing Fluency were measured on scales ranging from 1 to 7, with 7 being the highest response value. Recall was measured using a scale ranging from 1-6, with 6 being the highest value. Perceived Truthfulness, Perceived Importance, and Attitude were measured on scales ranging from 1 to 7, but with 1 being the highest response value; these variables were reverse coded so that higher scores meant better outcomes across all variables. Behavioral Intent was measured using a scale ranging from 1-5, with 1 being the highest value; this variable was reverse coded so that a higher score meant a better outcome. For Recall, means with different superscripts differ significantly at $p < .05$.

Table 5.2

Behavior Crosstabulations

		Condition			
		Causal	Noncausal	Control	Total
Behavior	Yes	7	8	3	18
	No	87	86	99	272
Total		94	94	102	290

CHAPTER 6. DISCUSSION

Current narrative research does not adequately explore the structure of narratives and how that structure may influence persuasive outcomes. The causal network model offers an opportunity to confront this lack of knowledge and provide additional insight into narrative persuasion as a whole. The purpose of this study was to assess how narrative causality might impact processing and persuasive outcomes of an advance care planning narrative. Specifically, this study manipulated narrative causal structure via information placement and analyzed the impact on narrative processing and persuasive outcome variables.

6.1 Recall, Perceived Truthfulness, and Perceived Importance

Prior to this study, perceived truthfulness and recall were the primary variables used in causal location research. Research using these variables has typically found statistically significant effects. Perceived importance was included with these variables in the present study due to the multiple claims that causality impacts information importance (Bower & Marrow, 1990; Graesser et al., 2002; Lakoff & Johnson, 2008; Trabasso & Sperry, 1985). The findings of the present study, however, revealed no significant differences between conditions for perceived truthfulness and perceived importance. Additionally, although significant differences for recall existed between control and causal conditions, no significant differences existed among causal and noncausal conditions for recall. This is especially interesting considering that Dahlstrom (2010, 2015) reported significant differences for perceived truthfulness and recall across conditions in both of his studies.

One reason for this lack of differences in dependent variables could be the differences between Dahlstrom's narratives and the narratives developed for the present study. As previously discussed, in both of his studies, Dahlstrom constructed narratives and statements that were intentionally neutral in an effort to avoid competing psychological processes. However, as previously discussed, health narratives are often advocating for a change in behavior (Miller et al., 2020). Therefore, the use neutrality in health-related message design research is not practical. Because the narratives developed for the present study addressed a sensitive health topic and involved secondary characters attempting to influence the main character's behavior, neither the test statements nor the narrative versions could be considered neutral. Therefore, it is likely that the lack of neutrality could have impacted how the statements were perceived regardless of condition.

Another potential consideration is the relationship between the narrative topic and the tested statements. Regardless of statement placement, the narrative served to promote advance care planning as a behavior. Because the statements tested in this study consisted of the benefits that advance care planning can provide, participants could have perceived any positive statements about advance care planning as truthful. Finally, due to the narrative's portrayal of advance care planning, there is the possibility that the narrative adequately conveyed the importance of advance care planning regardless of message condition.

Although participant recall for the test statements was significantly lower for the control narrative than the causal narrative, participants still exhibited a somewhat moderate level of recall across conditions ($M = 4.69$, $SD = 0.96$). This could be due, in

part, to the aforementioned relationship between narrative topic and tested statements. The core narrative was developed in such a way that no explicit benefits of advance care planning were shared by either Kat or any other character. However, there are multiple points in the story where it is implied that advance care planning is beneficial. Therefore, it is understandable that individuals, regardless of message condition, would be more likely to claim to recall statements associated with the benefits of advance care planning.

Finally, the lack of significant findings for perceived truthfulness and perceived importance in the present study can be viewed as a test of the causal network model as a health message design theory. These variables were included in this study as a means of replicating Dahlstrom's conceptualization of the causal network model and its relationship with narrative persuasion. Although the results of the present research do not confirm replicability of results or predictive power of the model, it is also important to note that this study is the first of its kind. Ongoing investigation of the causal network model as a message design tool will continue to develop the field's understanding of the model.

6.2 Processing Fluency

Processing fluency was included in the analysis to contribute to the understanding provided by perceived truthfulness, perceived importance, and recall. As previously discussed, these variables are more indicative to an individual's cognitive processing of a message, rather than the actual persuasiveness of a message. Unfortunately, as with perceived truthfulness, perceived importance, and recall, no significant differences were found across conditions regarding processing fluency. One explanation for this could be that the narrative was presented in a way that was easy to understand and causal location

neither facilitated nor inhibited that understanding. Indeed, participants reported high levels of processing fluency across conditions (M = 5.98, SD = 1.12).

In previous research, processing fluency has been manipulated in various ways. For example, Dragojevic and Giles (2016) utilized both the presence of a speaker's accent and the presence of white noise, whereas Shulman et al. (2020) manipulated the presence of jargon. Most relevant to this study, however, is the manipulation used by both Dragojevic and Giles (2016) and Bullock et al. (2021). In each study, message conditions were created containing audio recorded messages with white noise and messages without white noise. Similar to the present study, the researchers manipulated how the information was presented in order to determine its effect on processing fluency. This manipulation of information presentation impacted processing fluency and, subsequently, message persuasiveness. Taking this into consideration, the assessment of the relationship between causal location and processing fluency prompts further investigation into the causal network model as an information processing model.

6.3 Persuasive Outcome Variables

The present study tested commonly used persuasive outcome variables to provide more insight into how the causal network model may be used as a tool to advance the development of persuasive health narratives. Specifically, attitude, behavioral intent, and behavior were tested as they are most frequently used in persuasive message design research (O'Keefe, 2004). Despite not finding any significant differences in reported attitudes towards advance care planning, it is important to note that reported attitudes were moderately positive across all conditions (M = 5.19, SD = 0.86). According to the reasoned action approach (Fishbein & Ajzen, 2010), such positive attitudes should be

related to higher levels of behavioral intention. However, participants consistently reported *low* levels of intent to engage in advance care planning across conditions (M = 3.17, SD = 1.02). Additionally, very few participants, regardless of condition, chose to seek additional information about advance care planning.

One explanation for these results could be that individuals became aware of the persuasive intent of the narrative. Because the narrative depicts Kat being successfully persuaded by Alex and Carol, it could be that participants were able to recognize that the story was encouraging readers to follow in Kat's footsteps. As a result, participants would be defensive when asked questions about the likelihood of them engaging in advance care planning behaviors (Slater & Rouner, 2002). This is the very thing Dahlstrom sought to avoid, but it may have been the case here.

Another explanation is that, regardless of reporting positive attitudes towards advance care planning, the 18- to 25-year-old participants in this study simply were unwilling to consider that behavior for themselves. Although the reasoned action approach (Fishbein & Ajzen, 2010) ordinarily would predict a positive relationship between attitude, behavioral intent, and behavior, the nature of the behavior in this study may have attenuated that relationship. Rimal et al. (2011) explain that the nature of the behavior investigated in health studies has been undertheorized. Behavioral attributes such as whether the behavior is public or private, has particular costs or benefits associated with its performance, or can be managed by an individual or requires assistance may influence predicted outcomes in ways not anticipated by current theories. Advanced care planning is a complicated behavior in that, while it is arguably private, it cannot be completed by an individual on their own (i.e., at minimum, it requires a notary

public; ideally, it involves family/friends and a healthcare provider), and although there are benefits, underlying costs such as contemplating one's own death may overshadow any benefit, especially for young adults. In short, the complex nature of advanced care planning may have been enough to weaken an expected attitude-intent-behavior relationship.

It is also important to note that the present study has a higher level of ecological validity than previous research. As discussed earlier, Dahlstrom prioritized neutrality within his narratives. Therefore, the narratives themselves contained no salient subject matter. The topics of narrative health messages, however, are always rooted in the targeted health behavior. Advance care planning is significantly less neutral than pirate adventures. Moreover, current narrative persuasion and message design research is concerned with the persuasive outcomes of these health messages (O'Keefe, 2004). Taking this into consideration, the difference in ecological validity between Dahlstrom's work (2010, 2015) and the present study is notable.

Additionally, the present study chose a posttest only design to avoid any priming effects. However, because no pretest was conducted, it is impossible to know whether participants already held positive views towards advance care planning. It could be that they held more neutral or even negative attitudes, and the narratives functioned to improve their attitudes. Future research aiming to analyze the impact of causality on attitude levels should consider the use of a pretest−posttest experimental design to determine whether any change in attitude is detected. Finally, it is important to note that for this study, participants were required to complete a survey that was moderately long. Because the behavior measure appeared at the end of the survey, it is likely that

participants simply wanted the survey to end. Future research to measure behavior in a similar manner should be aware of survey length.

Overall, the present study did not identify any significant differences across conditions for persuasive outcome variables. However, this does not mean the study lacks insight. On the contrary, these findings provide some of the insight that is needed to determine the usefulness of causality in the development of narrative messages. The present results suggest that causal location placement does not matter in contexts where the desired outcome is as integral to the story as it was for this study. That being said, because this study is the first of its kind, more research is needed to confirm this conclusion. Regardless of the need for future research, this study begins to close the previously discussed research gap associated with the causal network and its application to health message design and narrative persuasion.

6.4 Theoretical Implications

This study did not provide evidence that the causal network model is a useful tool for advance care planning messages. However, this was the first study of its kind, and only one story was tested. Further research is warranted to explore how the concept of causal location may help to design the structure of ecologically valid narratives in the health context. Beyond that, it is important to note that the nature of health messages (and persuasive messages in general) is extremely complex (Capella, 2006). In these messages, there are multiple message variations at play. Harrington et al. (2015) explain that content, format, and structure are the foundational dimensions of messages, and within these core dimensions, there are countless variations that can impact a message's

effect. However, the causal network model is based in the modification of one message component: causality.

Taking this into consideration, much care was put into determining what made a location causal. As previously discussed, each causal location held at least two connections to other occurrences in the narrative. Causality relies heavily on the logic of the reader, so causal locations were also close in temporal and spatial proximity to increase the likelihood that causal links were made. Because of this valid manipulation, the present findings potentially serve as an indicator of a limitation of the causal network model.

Additionally, it is important to note that the present study made use of a written narrative. As such, these findings (or lack thereof) are limited to written modes of narrative persuasion. Some research suggests that the medium through which a message is communicated can play an indirect role in message effects (Rickard et al., 2021). Therefore, to gain a fuller understanding of the causal network model in a narrative health persuasion context, future research should analyze the model in conjunction with other modalities of health messaging.

Although the present findings found no significant relationship between causality and transportation or identification, participants reported moderate levels of transportation ($M = 4.53$, $SD = 0.79$) and identification ($M = 4.94$, $SD = 1.01$) across conditions. This suggests that the core story effectively engaged readers, regardless of causality. It is possible that there were other elements of the story that had a more significant impact on transportation and identification. When developing the narrative for this study, significant efforts were made to ensure the narrative told an engaging story

with compelling characters. It is possible that a narrative intentionally lacking the components that make a good story could find effects for causality. Future research is needed to fully determine whether or not a relationship exists between narrative causality and these variables.

Overall, the present study does provide interesting theoretical implications for the causal network model. In his input-output matrix, McGuire (2013) provides a list of communication "input" factors that should be considered when creating persuasive messages to have an impact on "output" variables. One of the input variables included in this matrix is the structure of an argument. Basically, attitudes can be changed by increasing the importance of information that is already part of a current point of view held by the individual. In the causal network model, information location is representative of this input variable. However, the findings of this study suggest that causal location does not play the role it is proposed to play, at least not in the context tested in this study.

6.5 Research Design Implications

Although the results of the present study did not establish a relationship between commonly used persuasive outcome variables and causal information placement, it is important to keep in mind that prior research analyzing the relationship between causality and narrative persuasion is lacking. In fact, this study is the first to apply the causal network to a persuasive health narrative. Therefore, the findings of this study should serve as a starting point for future analysis of the relationship between causality and persuasive outcomes.

More specifically, past research regarding the causal network model has been highly focused on experimental control. As mentioned numerous times, the narratives used in Dahlstrom's work were designed to be intentionally neutral in an attempt to isolate the effect of the manipulation of information placement. However, it is simply not ecologically valid when applied to a health context. Health narratives, as well as most persuasive messages, rarely lend themselves to arbitrary tales about pirates. It could be argued that this focus on experimental control, instead of benefitting the studies, actually hinders them. This criticism, however, can be applied to other message design research as well. The challenge presented by message design, primarily due to the aforementioned abundance of message variations, is to determine which message components to test (Harrington et al., 2015). As a result, message design research must make the conscious decision to avoid over-controlling the environment in which the research takes place.

Although the present research did not provide any significant results regarding the relationship between the causal network model and the tested variables, the implications of the research pose an interesting question to the field of message design: How much control is too much? This provides valuable considerations for future research and can facilitate continued growth of the field as a whole.

6.6 Future Research

Although formative research was conducted to ensure that the target audience identified with the narrative and that impactful test statements were chosen, it did not assess the salience of the health topic—advanced directives. It seems that even though advanced directives are technically relevant to a younger audience, and even though the experimental narratives demonstrated that, the research participants may not have agreed.

By focusing on and exploring in more depth the perceived importance of the health topic in the formative research stage, future researchers may be able to explore ways to enhance the salience of health behaviors that are ultimately important yet not necessarily believed to be so by the target audience.

Future research should also consider creating some level of separation between the core narrative and the statements that are tested. As previously addressed, the narrative and statements used in this study were interconnected. However, that could have attenuated any potential effects due to conflating the statement locations and narrative topic. In a similar vein, subsequent studies should also consider the development of a control narrative that prioritizes, ironically, neutrality. By creating a narrative that is completely removed from the test narrative topic, the overlap between topic and statements can be avoided altogether. As a result, more accurate information can be gleaned regarding the impact of causality on both recall and perceived truthfulness.

Additionally, future research should consider the behaviors of the narrative characters. Since Kat was persuaded to engage in advance care planning, this could have enhanced participants' awareness of persuasive intent. Moreover, while not overt, there was persuasion from Carol and Alex. Shifting how narrative characters behave and more closely monitoring the level of persuasion coming from supporting characters could better test the causal network in a persuasive context. Similarly, the narratives in the present study contained the same ending, regardless of condition. Future research should consider testing multiple endings where the character either chooses to engage in the goal behavior or does not engage in the behavior. By testing multiple narratives with different

outcomes, future analyses can continue to expand the field's understanding of narrative causality.

6.7 Limitations

A few limitations to this study should be acknowledged. First, the relationship between the content of the story and the test statements is of most concern. In previous research, the stimulus narratives and their statements were not related. For example, Dahlstrom's 2010 narrative told the story of pirates on an adventure, and the statements were simply facts inserted into causal or noncausal locations. However, the stimulus narrative for this study was directly related to the statements. The narrative was centered around an individual with an aversion to talking about and engaging in advance directives. The existence of multiple characters who believe advance care planning is important and the change in behavior exhibited by the main character could have affected participants' perceptions of advance care planning regardless of causal locations.

A second limitation is the use of perceived truthfulness as a dependent variable. Dahlstrom (2010, 2012, 2015) made use of statements whose veracity was unknown (e.g., Vines thicker than a man's wrist can support even the heaviest monkey). The statements used in this study are facts. Because all of the message conditions implicitly conveyed advance care planning as something beneficial, it is likely that this is the reason that participants in all conditions exhibited some level of recall.

Third, despite efforts to minimize evidence of persuasive intent, participants could have become aware that the narrative was attempting to persuade. The main character in the narrative was persuaded by other characters and, as a result, engaged in a behavior change. The persuasive efforts from other characters, for the most part, were not overt

(with the exception of Caroline's slumber party suggestion), but, because of the behavior change, there is concern regarding participants' awareness of persuasive intent. Considering that an awareness of persuasive intent can hinder the persuasiveness of a narrative, this could account for the inconsistent results between reported attitudes and behavioral intent.

Moreover, there are some demand characteristics that should be considered. The narratives used for this study were all in support of advance care planning, regardless of a person's age or health status. This positive depiction of advance care planning could have swayed participants towards the desired outcomes. As previously discussed, participants exhibited positive attitudes towards advance care planning across conditions. The aforementioned framing of the narratives could have influenced these attitudes. However, it is also important to note that participants across conditions reported low levels of intent to engage in advance care planning and rarely chose to engage in information seeking behavior related to advance care planning, so social desirability may not have had too large an impact after all.

Additionally, the study took place during the COVID-19 pandemic. During this time, many otherwise healthy young adults were being hospitalized and, at times, intubated. There is the possibility that, due to increased exposure to such stories, participants were more likely to view advance care planning in a favorable light. In conjunction with the aforementioned lack of effect on behavioral intent and behavior, any influence of this history effect, however, was probably minimal.

Due to the COVID-19 pandemic, all data was collected virtually. Therefore, participants could have been distracted when completing the survey. Multiple participants

were removed for completing the survey too quickly or for straightlining their survey responses during data cleaning to account for this, but there is still the possibility that participant distraction presented itself in other ways, such as not paying enough attention to the narrative.

Finally, no manipulation check was performed, which some message design researchers may consider a limitation. There were two reasons for forgoing a manipulation check, however. First, the manipulation of causal location was objective: a statement either was or was not in a causal location. Participant *perception* of causal location was irrelevant. It would either function as predicted (i.e., have a direct effect on outcome) or not (O'Keefe, 2003).. Second, even if a manipulation check were warranted (i.e., if participant psychological state had been predicted to mediate the effect of causal location on outcome), the variable used in previous research (e.g., Dahlstrom, 2010) as a manipulation check—recall—was actually a dependent variable. So, it made little logical sense to use the same variable as both a check on manipulation and an outcome.

6.8 Conclusion

The aim of this study was to broaden current understanding of the causal network model by analyzing its relationship with both cognitive processing variables and persuasive outcome variables and to do so in the context of a health behavior. However, the results of the study did not suggest that causally placed information impacts variables in either category. Despite this lack of statistically significant results, the present study offers significant theoretical implications and considerations regarding the use of the causal network model in a narrative persuasion context. The study achieves its goal of addressing the gap in current research on the causal network model by providing valuable

theoretical implications, worthy practical considerations, and promising directions for additional research.

APPENDIX A. CAUSAL STIMULUS

Tested statements in bold

The Cynic and The Support Group

"I found this support group. I really think it could help." My sister handed me a brochure that looked almost as depressing as the idea of a grief support group felt. "I'm fine. I swear," I told her, but she wasn't buying it. To be honest, I wasn't even buying it. It had been six months since my partner of 8 years passed away, and I was a shell of a human.

I remember the phone call like it was yesterday. "Your husband has been in an accident, and you need to come to the hospital as soon as possible." When I showed up, they told me that he was in a coma. Over the next few days, the doctors ran what felt like millions of tests until one night they informed me that, at the age of 36, my husband had no brain activity. I was then presented with the lovely task of deciding whether he should be left on life support. "He likely would have addressed something like this in his advance directives," the doctors told me. I responded with a confused look. "You know, a living will? Documentation of his medical treatment preferences in case of emergency." The doctor explained. "But we never talked about advance directives," I responded. "Well, then, it looks like the decision is up to you."

Over the next day or so I talked through the possible decisions with my sister and cried. A lot. Finally, I realized that there was no way I was going to let my person rely on a machine to breathe for the rest of his life.

About a week after the funeral, I started waking up in the middle of the night, wondering if I made the right decision. What if John didn't want to be taken off life support? Did I wait long enough? The internal torture and lack of sleep were obvious to my sister. She, being the saint she is, spent the next few months comforting me in my breakdowns and talking me out of guilt trips. That's probably why she had the idea for a grief support group. She wanted to give me tools to get better.

My first visit to the group was weird. All of the experiences were sad, but none of them really hit me until the last. A man in the group, Alex, stood up and began talking about his wife's death. He mentioned how sudden it was and how he had to take her off life support. The similarities were not lost on me. The end of the group session was met with stale cookies and bitter coffee. Originally, I had planned to jet out of there as soon as the group ended, but I wanted to talk to this man who had such an eerily similar experience to mine.

"So, do your guilt questions come in the middle of the night too or do you get to sleep?" It was a weird start to the conversation, I know. He looked at me with a slight smile and responded, "No, mine usually come when I start to feel any sliver of happiness." I laughed. "I really enjoyed your share today. We've actually been through very similar

experiences. Want to grab coffee that's actually drinkable and talk about our shared trauma?" He laughed, agreed, and we went to a coffee shop down the street.

After sitting down with our respective coffee orders, I broke the ice. "My husband died six months ago, and I don't even know if I should be in that group." My new friend explained that he thought the same thing at first. "But it's really helped me to be able to talk about Miranda and hear what others have been through."

I asked him to tell me more about his wife, and he explained that she had been riding her bike when she was hit by a car. Like me, he received a phone call letting him know that she had been hurt. Not unlike my husband, his wife slipped into a coma with very little chance of coming out.

"The worst part for me was having to make those awful decisions for John. I still don't know if I did the right thing," I confided. "Thankfully my wife had advance directives," Alex explained. "**Advance directives mean loved ones have less guilt when it comes to decision making,** so making those decisions was a little bit easier than it would have been otherwise." This surprised me. "Oh, I didn't realize she had been sick before her accident," I said. "She wasn't sick," Alex replied. "It's just something we made a point to do." I had never heard of people making these kinds of plans without them being sick or elderly. It was hard for me to wrap my mind around.

We continued talking about our experiences while we finished our coffee. "I really enjoyed getting to know you," he said as we walked to our cars. "See you at the next support group?" I didn't even have a chance to answer before he exclaimed, "Great! See you then!" I got in my car resigned to the fact that I was going to attend at least one more support group meeting.

Later, at home, I couldn't stop thinking about what Alex had said about advance directives. Sure, John and I had talked about it before, but we agreed it wasn't something we needed to do. "How was the group?" My sister had walked into my house without me noticing. "It was fine. I think I made a friend." I told her about Alex and the similarities in our experiences. "See? I told you it was a good idea." I rolled my eyes and changed the subject. "How was your day?" I asked. We continued catching up until we realized it was late and said our goodbyes.

A few days passed, and I still found myself thinking about those damn advance directives. One day, at lunch, I brought up the topic with my sister. "Do you know what an advance directive is?" I asked. "Yeah. Mom and Dad had them. Why?" I explained my reason for bringing it up. "Do you think we should make yours together?" she asked. I was still skeptical. "I'm not sure, it still feels weird to me." Caroline gave me a confused look. "Why? **Advance directives ensure you get the treatment you want,"** she said. "Without advance directives, Dad would have been left on a ventilator for who knows how long." I didn't like the direction this conversation was headed, so I quickly changed the subject. We finished lunch and promised to call each other when we got home.

My second visit to the support group, I listened more intently to everyone's stories. One member talked about losing her best friend. Another told the story of the loss of their mother. These stories were hard to hear but also sort of nice to listen to; it made me feel less alone. After the support group, I found myself at the brochure table. The brochures had cheesy titles like, "What To Expect After The Unexpected" and "Having an *Advanced* Mindset." I picked one up and skimmed the information. It was about advance directives.

"So, Kat, how was your second meeting?" My friend from the week before, Alex, had caught me perusing the sad people literature. "I definitely paid more attention this time, and I kind of enjoy listening to everybody share their experiences." "Yeah, funny how that works, right?" he teased. I gave him a smirk and invited him for another round of post-group coffee.

"I've been thinking a lot about our conversation last week," I told him. "I actually brought up advance directives with my sister." I laughed, even though it wasn't necessarily funny. "Is this not something you two have talked about before?" Alex asked. I explained to him that my parents had advance directives, but they didn't make theirs until they were older. "It doesn't make sense to me to make those kinds of plans when I'm young and healthy." I said. A brief look of disbelief crossed Alex's face, "Well, actually," he said, **"advance directives allow you to plan for the 'what ifs' in life.** We've both had the unthinkable happen, so better to be prepared, right?" He had a point. The thing that everyone thinks would never happen to them happened to both of us. The only difference was his Miranda had someone to voice her wishes. My John didn't. "Plus," he continued. "**Advance directives can reduce unnecessary costs of unwanted care,** and I would have spent every last dime and more if Miranda hadn't made her wishes clear." I anxiously reflected on the medical debt that had accumulated in the few short days John had been on life support.

Once again, on the drive home, I couldn't stop thinking about our conversation. Do I really need advance directives? I had never thought so much about making plans before. When I pulled into my driveway, I noticed my sister's car. "I really need to change the hiding spot for the spare key," I thought.

When I walked in, my sister was seated at my kitchen table surrounded by a sea of papers. An excerpt from one glared up at me. I braced myself for whatever she had planned. "Oh, hey, you're home!" she exclaimed with a scheming look in her eye. "Caroline, no. Whatever you're about to say, I can tell I'm not going to like it," I warned. "Remember that conversation we had at lunch the other day? Well, I was thinking we should sit down and put together *your* advance directives. We can make it like a slumber party!" she proclaimed. "No offense, but that sounds like the most depressing slumber party in existence, and that includes the one I had as a kid where no one showed up."

She gave a slight laugh but wasn't going to let this conversation go, "Come on, Kat, I know you've been thinking about it." Now she was starting to bug me. "The one person who would be able to make those choices for me is dead. Just drop it!" It came out far

more aggressive than I meant. My sister's eyes began to well up with tears. "**Advance directives actually let you name the person you want to be in charge of treatment decisions**. I thought we could do that for each other. Forget it." The sadness in her voice was impossible to ignore. I watched her gather her papers and leave. I felt awful.

I tried to call my sister the next morning, but it went to voicemail. "I'm sorry I snapped at you last night. Call me when you can. I love you." I hung up the phone with a pit in my stomach. She usually answers the phone, even if we're fighting. I spent the rest of the day catching up on work that had fallen to the wayside. I was finishing up for the day when I saw a text from my sister: "It's okay. I know it's been hard. I love you too." The pit in my stomach disappeared.

A few weeks later, Alex and I were sitting at our usual post-group coffee shop when my phone rang. It was my sister. "Hey you! What's up?" "Is this Kat?" My stomach dropped. That wasn't my sister's voice. "This is Gold River hospital. Your sister had an accident. You should get here as soon as possible." The line went dead, and I found myself back where I was six months ago. Alex was looking at me across the table with a concerned expression. "Something happened to my sister." It didn't feel like the words were coming out of my mouth. "I'm coming with you." I almost told him no but realized my legs felt like jelly, and I needed someone to drive me.

When we arrived at the hospital, a doctor came out to talk to me. "Your sister has a concussion and is unconscious. There's a chance of severe brain swelling, so we may put her into a medically induced coma." I felt a flood of dread come over me. I can't make those decisions again. "Luckily," the doctor continued, "we were able to reach your sister's primary care physician who sent over her advance directives. She wanted you to make the call on any decisions, so we'll provide you with her treatment preferences if things escalate."

Caroline had advance directives? I had no idea, but the doctor told me she had made them about six months ago. Not long after John died. "We don't think we're dealing with a fatal injury here. Regardless, we like to have these directives on hand if patients have them." I felt Alex put his hand on mine. "She's going to be okay," he reassured me. "You know," I began. "I had heard that **advance directives give peace of mind to family members**. Now I can see why."

My sister woke up later that evening, which meant, as she put it, "no Coma Cabana for me!" I rolled my eyes. Once she was up and cracking jokes, they did some tests to make sure everything was working the way it should, and the next morning, I got to take her home. "Why didn't you tell me you had advance directives?" I asked. My sister shrugged and responded, "I didn't want to freak you out." That was fair. For the rest of the day, my sister and I cozied up in front of the TV and watched every cheesy rom com we could think of. The doctors told her to "take it easy," and we took full advantage of that.

A few months after my sister's accident, I had my yearly check-up with my doctor. "I've been thinking about advance directives. What are your thoughts?" My doctor told me that

making them would be a good idea and walked me through the process. I left the doctor's office feeling optimistic and accomplished and headed to my weekly support group.

The support group went along like always and ended with Alex and me drinking coffee in our usual spot. I told him about the conversation with my doctor and was delighted by his supportive smile. I smiled in return and began to wonder if this friendship was growing into something more and realized I was truly ready for whatever the future may hold.

APPENDIX B. NONCAUSAL STIMULUS

Tested statements in bold

The Cynic and The Support Group

"I found this support group. I really think it could help." My sister handed me a brochure that looked almost as depressing as the idea of a grief support group felt. "I'm fine. I swear," I told her, but she wasn't buying it. To be honest, I wasn't even buying it. It had been six months since my partner of 8 years passed away, and I was a shell of a human.

I remember the phone call like it was yesterday. "Your husband has been in an accident, and you need to come to the hospital as soon as possible." When I showed up, they told me that he was in a coma. Over the next few days, the doctors ran what felt like millions of tests until one night they informed me that, at the age of 36, my husband had no brain activity. I was then presented with the lovely task of deciding whether he should be left on life support. "He likely would have addressed something like this in his advance directives," the doctors told me. "But we never talked about advance directives," I responded. "Well, then, it looks like the decision is up to you."

Over the next day or so I talked through the possible decisions with my sister and cried. A lot. Finally, I realized that there was no way I was going to let my person rely on a machine to breathe for the rest of his life.

About a week after the funeral, I started waking up in the middle of the night, wondering if I made the right decision. What if John didn't want to be taken off life support? Did I wait long enough? The internal torture and lack of sleep were obvious to my sister. She, being the saint she is, spent the next few months comforting me in my breakdowns and talking me out of guilt trips. That's probably why she had the idea for a grief support group. She wanted to give me tools to get better.

My first visit to the group was weird. All of the experiences were sad, but none of them really hit me until the last. A man in the group, Alex, stood up and began talking about his wife's death. He mentioned how sudden it was and how he had to take her off life support. The similarities were not lost on me. The end of the group session was met with stale cookies and bitter coffee. Originally, I had planned to jet out of there as soon as the group ended, but I wanted to talk to this man who had such an eerily similar experience to mine.

"So, do your guilt questions come in the middle of the night too or do you get to sleep?" It was a weird start to the conversation, I know. He looked at me with a slight smile and responded, "No, mine usually come when I start to feel any sliver of happiness." I laughed. "I really enjoyed your share today," I said, and then added, "We've been through very similar experiences. Want to grab coffee that's actually drinkable and talk about our shared trauma?" He laughed, agreed, and we went to a coffee shop down the street.

After sitting down with our respective coffee orders, I broke the ice. “My husband died six months ago, and I don’t even know if I should be in that group.” My new friend explained that he thought the same thing at first. “But it’s really helped me to be able to talk about Miranda and hear what others have been through.”

I asked him to tell me more about his wife, and he explained that she had been riding her bike when she was hit by a car. Like me, he received a phone call letting him know that she had been hurt. Not unlike my husband, his wife slipped into a coma with very little chance of coming out.

“The worst part for me was having to make those awful decisions for John. I still don’t know if I did the right thing,” I confided. “Thankfully my wife had advance directives,” This surprised me. “Oh, I didn’t realize she had been sick before her accident,” I said. “She wasn’t sick,” Alex replied. “It’s just something we made a point to do.” I had never heard of people making these kinds of plans without them being sick or elderly. It was hard for me to wrap my mind around.

We continued talking about our experiences while we finished our coffee. “I really enjoyed getting to know you,” he said as we walked to our cars. “See you at the next support group?” I didn’t even have a chance to answer before he exclaimed, “Great! See you then!” I got in my car resigned to the fact that I was going to attend at least one more support group meeting.

Later, at home, I couldn’t stop thinking about what Alex had said about advance directives. Sure, John and I had talked about it before, but we agreed it wasn’t something we needed to do. “How was the group?” My sister had walked into my house without me noticing. “It was fine. I think I made a friend.” I told her about Alex and the similarities in our experiences. “See? I told you it was a good idea.” I rolled my eyes and changed the subject. “How was your day?” I asked. We continued catching up until we realized it was late and said our goodbyes.

A few days passed, and I still found myself thinking about those damn advance directives. One day, at lunch, I brought up the topic with my sister. “Do you know what an advance directive is?” I asked. “Yeah. Mom and Dad had them. Why?” I explained my reason for bringing it up. “Do you think we should make yours together?” she asked. I was still skeptical. “I’m not sure, it still feels weird to me.” We finished lunch and promised to call each other when we got home.

My second visit to the support group, I listened more intently to everyone’s stories. One member talked about losing her best friend. Another told the story of the loss of their mother. These stories were hard to hear but also sort of nice to listen to; it made me feel less alone. After the support group, I found myself at the brochure table. The brochures had cheesy titles like, “What to Expect After the Unexpected” and “Having an *Advanced* Mindset.” I picked one up and skimmed the information. It was about advance directives

and had information like **"Advance directives mean family members have less guilt when it comes to decision making"**
and "**Advance directives ensure you get the treatment you want."**

"So, Kat, how was your second meeting?" My friend from the week before, Alex, had caught me perusing the sad people literature. "I definitely paid more attention this time, and I kind of enjoy listening to everybody share their experiences." "Yeah, funny how that works, right?" he teased. I gave him a smirk and invited him for another round of post-group coffee.

"I've been thinking a lot about our conversation last week," I told him. "I actually brought up advance directives with my sister." I laughed, even though it wasn't necessarily funny. "Is this not something you two have talked about before?" Alex asked. I explained to him that my parents had advance directives, but they didn't make theirs until they were older. "It doesn't make sense to me to make those kinds of plans when I'm young and healthy," I said. A brief look of disbelief crossed Alex's face, but I let it go.

Once again, on the drive home, I couldn't stop thinking about our conversation. Do I really need advance directives? I had never thought so much about making plans before. When I pulled into my driveway, I noticed my sister's car. "I really need to change the hiding spot for the spare key," I thought.

When I walked in, my sister was seated at my kitchen table surrounded by a sea of papers. An excerpt from one glared up at me: **"Advance directives give peace of mind to family members."** I braced myself for whatever she had planned. "Oh, hey, you're home!" she exclaimed with a scheming look in her eye. "Caroline, no. Whatever you're about to say, I can tell I'm not going to like it," I warned. "Remember that conversation we had at lunch the other day? Well, I was thinking, **advance directives allow you to plan for the 'what ifs' in life,** so we should sit down and put together *your* advance directives! We can make it like a slumber party!" she proclaimed. "No offense, but that sounds like the most depressing slumber party in existence, and that includes the one I had as a kid where no one showed up."

She gave a slight laugh but wasn't going to let this conversation go, "Come on, Kat, I know you've been thinking about it. And I bet there's a lot of things you don't know about them, like that **having advance directives can reduce unnecessary costs of unwanted care**! Or that **advance directives let you name the person you want to be in charge of your treatment!**" Now she was starting to bug me. "The one person who would be able to make those choices for me is dead. Just drop it!" It came out far more aggressive than I meant. My sister's eyes began to well up with tears. I watched her gather her papers and leave. I felt awful.

I tried to call my sister the next morning, but it went to voicemail. "I'm sorry I snapped at you last night. Call me when you can. I love you." I hung up the phone with a pit in my stomach. She usually answers the phone, even if we're fighting. I spent the rest of the day

catching up on work that had fallen to the wayside. I was finishing up for the day when I saw a text from my sister: “It’s okay. I know it’s been hard. I love you too.” The pit in my stomach disappeared.

A few weeks later, Alex and I were sitting at our usual post-group coffee shop when my phone rang. It was my sister. “Hey you! What’s up?” “Is this Kat?” My stomach dropped. That wasn’t my sister’s voice. “This is Gold River hospital. Your sister had an accident. You should get here as soon as possible.” The line went dead, and I found myself back where I was six months ago. Alex was looking at me across the table with a concerned expression. “Something happened to my sister.” It didn’t feel like the words were coming out of my mouth. “I’m coming with you.” I almost told him no but realized my legs felt like jelly, and I needed someone to drive me.

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APPENDIX C. CONTROL STIMULUS

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APPENDIX D. FOCUS GROUP STATEMENTS

Benefits of Advance Care Planning (CDC, 2012; Khan et al., 2014)
1. Advance directives give peace of mind to family members
2. Advance directives ensure you get the treatment you want
3. Advance directives let you name the person you want to be in charge of decisions about your treatment
4. Advance directives mean family members have less guilt when it comes to decision making
5. Advance directives mean family members know exactly what you want; family members don't have to deal with uncertainty
6. Advance care planning improves the grieving process for loved ones because they know they followed your wishes
7. Having advance directives is helpful in emergency situations
8. When you have advance directives, you can decide what your care looks like based on certain situations
9. Advance care planning focuses on the patients' personal preferences about their medical care and treatments
10. Making an advance care plan raises the likelihood that healthcare providers give the care you want, even if you can't make decisions
11. Advance directives allow you to plan for the "what ifs" in life
12. Discussing your advance care plans with loved ones increases the likelihood that your wishes will be followed
13. Making advance directives keeps you in charge of your care
14. Making advance directives can strengthen family relationships
15. Having advance directives can reduce unnecessary costs of unwanted care

APPENDIX E. CAUSAL LOCATION TABLE

Core Statement	**Causal Location**	**Causal Connections**	**Noncausal Location**
Advance directives give peace of mind to family members (psychological) Causal: p. 4, para. 3 Noncausal: p. 3, para. 3	I felt a flood of dread come over me. I can't make those decisions again.... ...Caroline had advance directives? I had no idea, but the doctor told me she had made them about six months ago. Not long after John died. "We don't think we're dealing with a fatal injury here. Regardless, we like to have these directives on hand if patients have them." I felt Alex put his hand on mine. "She's going to be okay," he reassured me. "You know," I began. "I had heard that **advance directives give peace of mind to family members**. Now I can see why."	Causal Connections: 1. The statement contains Kat's reaction to information about Caroline's advance directives. 2. The statement links Kats feelings to the existence of advance directives.	When I walked in, my sister was seated at my kitchen table surrounded by a sea of papers. An excerpt from one glared up at me: **"Advance directives give peace of mind to family members."** I braced myself for whatever she had planned. "Oh, hey, you're home!" she exclaimed with a scheming look in her eye.
Advance directives let you name the person you want to be in charge of treatment decisions Causal: p. 3, para. 5 Noncausal: p. 3, para. 4	"Come on, Kat, I know you've been thinking about it." Now she was starting to bug me. "The one person who would be able to make those choices for me is dead. Just drop it!" It came out far more aggressive than I meant. My sister's eyes began to well up with tears. "**Advance directives actually let you name the person you want to be in charge of**	Causal Connections: 1. The statement is used to correct Kat 2. Without the statement, Kat wouldn't be corrected. 3. The statement foreshadows	"Come on, Kat, I know you've been thinking about it. And I bet there's a lot of things you don't know about them, like that having advance directives can reduce unnecessary costs of unwanted care! Or that **advance directives let you name the person you want to be in charge of your treatment!**"

	treatment decisions. I thought we could do that for each other. Forget it."	Caroline wanting Kat to make her decisions.	Now she was starting to bug me. "The one person who would be able to make those choices for me is dead. Just drop it!" It came out far more aggressive than I meant. My sister's eyes began to well up with tears. I watched her gather her papers and leave.
Advance directives mean family members have less guilt when it comes to decision making Causal: p. 2, para. 3 Noncausal: p. 2, para. 6	"The worst part for me was having to make those awful decisions for John. I still don't know if I did the right thing," I confided. "Thankfully my wife had advance directives," Alex explained. "**Advance directives mean loved ones have less guilt when it comes to decision making,** so making those decisions was a little bit easier than it would have been otherwise."	Causal Connections: 1. The statement directly responds to Kat's guilt. 2. The statement explains why making medical decisions for his wife was easier for Alex.	The brochures had cheesy titles like, "What to Expect After the Unexpected" and "Having an *Advanced* Mindset." I picked one up and skimmed the information. It was about advance directives and had information like **"Advance directives mean family members have less guilt when it comes to decision making"...**
Advance directives allow you to plan for the "what ifs" in life Causal: p. 3, para. 2 Noncausal: p. 3, para. 3	"It doesn't make sense to me to make those kinds of plans when I'm young and healthy." I said. A brief look of disbelief crossed Alex's face, "Well, actually," he said, **"advance directives allow you to plan for the 'what ifs' in life.** We've both had the unthinkable happen, so better to be prepared, right?" He had a point. The thing that everyone thinks would never happen to them happened to both of us. The only difference was	Causal Connections: 1. The statement allows Alex to make the point about the unthinkable. 2. The statement also facilitates Kat's realization of, if John had advance directives, she would have been	Well, I was thinking, **advance directives allow you to plan for the 'what ifs' in life,** so we should sit down and put together *your* advance directives! We can make it like a slumber party!" she proclaimed.

	his Miranda had someone to voice her wishes. My John didn't.	able to "voice" his wishes.	
Advance directives ensure you get the treatment you want Causal: p. 2, para. 6 Noncausal: p. 2, para. 5	"Yeah. Mom and Dad had them. Why?" I explained my reason for bringing it up. "Do you think we should make yours together?" she asked. I was still skeptical. "I'm not sure, it still feels weird to me." Caroline gave me a confused look. "Why? **Advance directives ensure you get the treatment you want,"** she said. "Without advance directives, Dad would have been left on a ventilator for who knows how long."	Causal Connections: 1. The statement provides an explanation for Caroline's confused look. 2. The statement explains how they knew to take their Dad off of the ventilator.	The brochures had cheesy titles like, "What to Expect After the Unexpected" and "Having an *Advanced* Mindset." I picked one up and skimmed the information. It was about advance directives and had information like "Advance directives mean family members have less guilt when it comes to decision making" and "**Advance directives ensure you get the treatment you want."**
Having advance directives can reduce unnecessary costs of unwanted care Causal: p. 6, para. 3 Noncausal: Stimulus 3, p. 3, para. 6	"Plus," he continued. "**Advance directives can reduce unnecessary costs of unwanted care,** and I would have spent every last dime and more if Miranda hadn't made her wishes clear." I anxiously reflected on the medical debt that had accumulated in the few short days John had been on life support.	Causal Connections: 1. The statement explains why Alex didn't spend "every last dime." 2. The statement causes Kat to think about her medical debt.	"Come on, Kat, I know you've been thinking about it. And I bet there's a lot of things you don't know about them, like that **having advance directives can reduce unnecessary costs of unwanted care**! Or that advance directives let you name the person you want to be in charge of your treatment!"

APPENDIX F. SURVEY MEASURES

Transportation (Green & Brock, 2000):

1. While I was reading the story, I could easily picture the events in it taking place.

Not at all 1 2 3 4 5 6 7 *Very much*

2. While I was reading the story, activity going on in the room around me was on my mind.

Not at all 1 2 3 4 5 6 7 *Very much*

3. I could picture myself in the scene of the events described in the story.

Not at all 1 2 3 4 5 6 7 *Very much*

4. I was mentally involved in the story while reading it.

Not at all 1 2 3 4 5 6 7 *Very much*

5. After finishing the story, I found it easy to put it out of my mind.

Not at all 1 2 3 4 5 6 7 *Very much*

6. I wanted to learn how the story ended.

Not at all 1 2 3 4 5 6 7 *Very much*

7. The story affected me emotionally.

Not at all 1 2 3 4 5 6 7 *Very much*

8. I found myself thinking of ways the story could have turned out differently.

Not at all 1 2 3 4 5 6 7 *Very much*

9. I found my mind wandering while reading the story.

Not at all 1 2 3 4 5 6 7 *Very much*

10. The events in the story are relevant to my everyday life.

Not at all 1 2 3 4 5 6 7 *Very much*

11. The events in the story have changed my life.

Not at all 1 2 3 4 5 6 7 *Very much*

12. While reading the story I had a vivid image of Kat.

Not at all 1 2 3 4 5 6 7 *Very much*

Identification (Cohen, 2001):

1. While reading the story, I felt as if I was part of the action.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

2. While reading the story, I forgot myself and was fully absorbed.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

3. I was able to understand the events in the story in a manner similar to that in which Kat understood them.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

4. I think I have a good understanding of Kat.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

5. I tend to understand the reasons Kat does what she does.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

6. While reading the story, I could feel the emotions Kat portrayed.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

7. While reading the story, I felt I could really get into Kat's head.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

8. At key moments in the story, I felt I knew exactly what Kat was going through.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

9. While reading the story, I wanted Kat to succeed in achieving her goals.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

10. When Kat succeeded, I felt joy, but when she failed, I was sad.

Strongly Disagree 1 2 3 4 5 6 7 *Strongly Agree*

Recall (Smith & Graesser, 1981):

1. Advance directives give peace of mind to family members

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

2. Advance directives let you name the person you want to be in charge of treatment decisions

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

3. Advance directives mean family members have less guilt when it comes to decision making

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

4. Advance directives allow you to plan for the “what ifs” in life

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

5. Advance directives ensure you get the treatment you want

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

6. Having advance directives can reduce unnecessary costs of unwanted care

1	2	3	4	5	6

Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

7. Advance directives need to be notarized to be official

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

8. Patients should share their advance directives with their doctor

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

9. Advance directives are only for sick people

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

10. Advance directives mean “do not treat”

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

11. Making advance directives can strengthen family relationships

1	2	3	4	5	6
Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

12. Patients should discuss their advance directives with loved ones

1	2	3	4	5	6

Claim was definitely not presented in the story	Fairly sure the claim was not presented in the story	Uncertain, but think the claim was presented in the story	Uncertain, but think claim was presented in the story	Fairly sure claim was presented in the story	Claim was definitely presented in the story

Perceived Truthfulness (Dahlstrom, 2010, 2012, 2015):

1. Advance directives give peace of mind to family members

1	2	3	4	5	6	7
Absolutely true	Probably true	Possibly true	Don't know	Possibly false	Probably false	Absolutely false

2. Advance directives let you name the person you want to be in charge of treatment decisions

1	2	3	4	5	6	7
Absolutely true	Probably true	Possibly true	Don't know	Possibly false	Probably false	Absolutely false

3. Advance directives mean family members have less guilt when it comes to decision making

1	2	3	4	5	6	7
Absolutely true	Probably true	Possibly true	Don't know	Possibly false	Probably false	Absolutely false

4. Advance directives allow you to plan for the "what ifs" in life

1	2	3	4	5	6	7
Absolutely true	Probably true	Possibly true	Don't know	Possibly false	Probably false	Absolutely false

5. Advance directives ensure you get the treatment you want

1	2	3	4	5	6	7
Absolutely true	Probably true	Possibly true	Don't know	Possibly false	Probably false	Absolutely false

6. Having advance directives can reduce unnecessary costs of unwanted care

1	2	3	4	5	6	7
Absolutely true	Probably true	Possibly true	Don't know	Possibly false	Probably false	Absolutely false

Perceived Importance of an ethical issue (PIE) (Robin et al., 1996):

Advance care planning is a(n):								
Extremely important issue	1	2	3	4	5	6	7	*Unimportant issue*
Highly significant issue	1	2	3	4	5	6	7	*Insignificant issue*
Issue of considerable concern	1	2	3	4	5	6	7	*Issue of no concern*
Fundamental issue	1	2	3	4	5	6	7	*Trivial issue*
Talking to my loved ones about my advance care planning is a(n):								
Extremely important issue	1	2	3	4	5	6	7	*Unimportant issue*
Highly significant issue	1	2	3	4	5	6	7	*Insignificant issue*
Issue of considerable concern	1	2	3	4	5	6	7	*Issue of no concern*
Fundamental issue	1	2	3	4	5	6	7	*Trivial issue*
Talking to my loved ones about their advance care planning is a(n):								
Extremely important issue	1	2	3	4	5	6	7	*Unimportant issue*
Highly significant issue	1	2	3	4	5	6	7	*Insignificant issue*
Issue of considerable concern	1	2	3	4	5	6	7	*Issue of no concern*
Fundamental issue	1	2	3	4	5	6	7	*Trivial issue*
Making advance directives with my health provider is a(n):								
Extremely important issue	1	2	3	4	5	6	7	*Unimportant issue*
Highly significant issue	1	2	3	4	5	6	7	*Insignificant issue*
Issue of considerable concern	1	2	3	4	5	6	7	*Issue of no concern*
Fundamental issue	1	2	3	4	5	6	7	*Trivial issue*

Processing Fluency (Dragojevic & Giles, 2016):

1. How easy was the story to understand?

Not at all 1 2 3 4 5 6 7 *Very*

2. How comprehensible was the story?

Not at all 1 2 3 4 5 6 7 *Very*

3. How clear was the story?

Not at all 1 2 3 4 5 6 7 *Very*

4. How effortful was it to understand the story?

Not at all 1 2 3 4 5 6 7 *Very*

Attitude (Conner, Norman, & Bell, 2002):

1. Engaging in advance care planning would be:

Good	1	2	3	4	5	6	7	*Bad*
Pleasant	1	2	3	4	5	6	7	*Unpleasant*
Enjoyable	1	2	3	4	5	6	7	*Unenjoyable*
Necessary	1	2	3	4	5	6	7	*Unnecessary*
Beneficial	1	2	3	4	5	6	7	*Harmful*
Wise	1	2	3	4	5	6	7	*Foolish*

2. Determining the best advance directives for me would be:

Good	1	2	3	4	5	6	7	*Bad*
Pleasant	1	2	3	4	5	6	7	*Unpleasant*
Enjoyable	1	2	3	4	5	6	7	*Unenjoyable*
Necessary	1	2	3	4	5	6	7	*Unnecessary*
Beneficial	1	2	3	4	5	6	7	*Harmful*
Wise	1	2	3	4	5	6	7	*Foolish*

3. Talking with my healthcare provider about advance care planning would be:

Good	1	2	3	4	5	6	7	*Bad*
Pleasant	1	2	3	4	5	6	7	*Unpleasant*
Enjoyable	1	2	3	4	5	6	7	*Unenjoyable*
Necessary	1	2	3	4	5	6	7	*Unnecessary*
Beneficial	1	2	3	4	5	6	7	*Harmful*
Wise	1	2	3	4	5	6	7	*Foolish*

4. Talking with my healthcare provider to determine my advance directives would be:

Good	1	2	3	4	5	6	7	*Bad*
Pleasant	1	2	3	4	5	6	7	*Unpleasant*
Enjoyable	1	2	3	4	5	6	7	*Unenjoyable*
Necessary	1	2	3	4	5	6	7	*Unnecessary*
Beneficial	1	2	3	4	5	6	7	*Harmful*
Wise	1	2	3	4	5	6	7	*Foolish*

5. Talking with my friends about advance care planning would be:

Good	1	2	3	4	5	6	7	*Bad*
Pleasant	1	2	3	4	5	6	7	*Unpleasant*
Enjoyable	1	2	3	4	5	6	7	*Unenjoyable*
Necessary	1	2	3	4	5	6	7	*Unnecessary*
Beneficial	1	2	3	4	5	6	7	*Harmful*
Wise	1	2	3	4	5	6	7	*Foolish*

6. Talking with my family members about advance care planning would be:

Good	1	2	3	4	5	6	7	*Bad*
Pleasant	1	2	3	4	5	6	7	*Unpleasant*
Enjoyable	1	2	3	4	5	6	7	*Unenjoyable*

Necessary	1	2	3	4	5	6	7	*Unnecessary*
Beneficial	1	2	3	4	5	6	7	*Harmful*
Wise	1	2	3	4	5	6	7	*Foolish*

Behavioral Intent (Fishbein & Ajzen, 2010):

1. How likely are you to engage in an advance care planning conversation at your next doctor's visit?

1	2	3	4	5
Very Likely	Likely	Neutral	Unlikely	Very Unlikely

2. How likely are you to engage in advance care planning with your family in the next 3 months?

1	2	3	4	5
Very Likely	Likely	Neutral	Unlikely	Very Unlikely

3. How likely are you to engage in advance care planning with your friends in the next 3 months?

1	2	3	4	5
Very Likely	Likely	Neutral	Unlikely	Very Unlikely

Demographic Information

What gender do you identify as?

A. Male
B. Female
C. Nonbinary
D. Prefer not to answer

What is your age? ____

Please specify your ethnicity

A. Caucasian
B. African American
C. Latinx or Hispanic
D. Asian/Asian American
E. American Indian/Alaskan Native
F. Hawaiian/Pacific Islander
G. Other/Unknown
H. Prefer not to say

What is your year in school?

A. Freshman
B. Sophomore
C. Junior
D. Senior
E. Other

Behavior:

If you would like more information and resources on advance care planning, click "Yes I would like more information" to be taken to a page of resources. If you would not like more information click "No thank you".

- Yes, I would like more information
- No thank you

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  - *Doctoral Graduate Teaching Assistant*, Department of Communication and Information, University of Kentucky
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  - *Graduate Teaching Assistant*, Department of Communication, James Madison University
- August 2016-May 2018
  - *Graduate Assistant Speech and Debate Coach*, Department of Communication, James Madison University

Honors/Awards

- 2021
  - Palmgreen Fellowship Fund, University of Kentucky
- 2018
  - Top Paper Award, Eastern Communication Association

Publications

- Cooley, L., Harville, K.L., & Lewis, B. (2021). Patient experience. *International Encyclopedia of Health Communication*.

- Carmack, H. J., & Harville, K. L. (2020). Including Communication in the Nursing Classroom: A Content Analysis of Communication Competence and Interprofessional Communication in Nursing Fundamentals Textbooks. *Health communication*, *35*(13), 1656-1665.