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Effects of Entertainment-Education Versus eLearning on Pharmaceutical Sales Ethical Decision-Making

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Walden University
2018

Abstract

Effects of Entertainment-Education Versus eLearning on Pharmaceutical Sales Ethical

Decision-Making

by

Brian G. Miller

MS, Philadelphia University 1999

BS, Rowan University, 1993

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Management

Walden University

November 2018

Abstract

Ethics and compliance training of sales managers in the U.S. pharmaceutical industry showed little evidence that eLearning interventions developed to address employees' (a) awareness of unethical sales practices, (b) ability to judge a selling practice as unethical, and (c) intentions to speak up about unethical sales practices have had the desired effects. The purpose of this study was to compare the effectiveness of an entertainment-education video to an eLearning course, to improve ethical issue awareness, ethical judgment, and speaking-up behaviors in the pharmaceutical sales profession. Social cognitive theory and the extended elaboration likelihood model provided a theoretical framework for studying the effects of entertainment-education. The primary research question was, if entertainment-education programs can be used as an effective methodology to improve ethical decision-making and increase intentions to speak up, compared to a narrative-style eLearning course. In this quantitative study, 64 sales professionals from a U.S.-based pharmaceutical company were randomly assigned to either an entertainment-education video or an eLearning group to compare the effects of intervention format on ethical issue awareness, ethical judgment, and intentions to speak up, measured using two ethical scenarios and surveys. Although both treatments had a significant effect on behavioral intentions to speak up, there was only a moderate difference between the two groups $t(62) = 2.20$, $p = .032$ when participants observed a patient safety issue. Results from this study may impact social change by providing compliance managers with evidence to evaluate the use of entertainment-education strategies to increase sales representatives' intentions to speak-up when they observe behaviors that may put patient safety at risk.

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Dedication

I dedicate this dissertation to my wife, Dalila, and my children, Rod, Sean, and Steven, who endured 9 years of lost Saturdays during my PhD journey. I want to thank them for their encouragement and patience. I also wish to dedicate this to my mother Jenny, who has always encouraged me to reach for greater achievements. I also dedicate this to my uncle Sam Panepinto who passed away in 2015. He was a mentor and an inspiration to me. I hope he is proud of my accomplishments.

Acknowledgments

I want to acknowledge Dr. David Metcalf for encouraging me to enroll in the Walden University PhD program. I want to thank my former manager Laurie Gallagher who initially encouraged me to pursue a PhD in management to expand my knowledge and capabilities in business management. I want to acknowledge my former managers Regina Cavaliere and Jennifer McGee who encouraged, supported, and contributed to the development of *The Workshop* video series used in this study. Thanks also goes to all of my colleagues who contributed to the development of *The Workshop* video series. I also want to acknowledge the support of my committee members, Dr. Howard Schechter and Dr. Thomas Spencer, for their patience and encouragement at those moments when I needed it most.

I would like to acknowledge the support of my colleagues at The Second City of Chicago who provided me with the permission to use *The Workshop* videos in this research study. Also, I want to thank OnPoint Digital, Inc., for permission to use its Cell-Cast mobile learning application for this research study. I am forever grateful to all those who contributed in some fashion to the successful completion of this dissertation.

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Chapter 1: Introduction to the Study

Introduction

Executives and managers of pharmaceutical companies continue to find themselves in court facing charges for illegal and unethical business practices regarding the selling and marketing of prescription drugs. On October 29, 2015, the U.S. Department of Justice arrested the president of Warner Chilcott and later charged him for paying kickbacks to physicians to influence the writing of prescriptions (Rao & Poswistilo, 2015). In addition, three sales managers of Warner Chilcott pled guilty to violations of healthcare fraud and the Health Insurance Portability and Accountability Act (Rao & Poswistilo, 2015). Between 1991 and 2012, pharmaceutical company settlements with the U.S. federal government exceeded $30 billion dollars (Rodwin, 2015). The question asked by Rodwin (2015) and others (Gagnon, 2013; Outterson, 2012) is whether financial fines have had an effect stemming illegal and unethical business management practices in the pharmaceutical industry. In 2017 and 2018, pharmaceutical sales and marketing managers continued to make decisions that led to U.S. Department of Justice settlements of up to $350 million for conducting unethical and illegal business practices (U.S., Department of Justice, 2017, 2018), suggesting that financial penalties alone may not be addressing these behaviors.

In response to years of unethical business practice, the U.S. government decided to provide guidelines (Duke, 2003) for companies to regulate their business practices more effectively. The guidelines center on the development of an internal compliance management program which should include an effective training and education strategy.

Compliance and ethics training managers have found it challenging to develop effective training programs which meet the expectations of the U.S. government, contribute to lowering compliance risks, and increase the likelihood that employees will speak-up when presented with an unethical or noncompliance issue. In 2003, the U.S. Department of Health and Human Services, Office of the Inspector General (OIG), issued a guidance document to pharmaceutical manufacturers which provided a framework for managers of pharmaceutical companies to develop internal compliance and ethics programs. The OIG explained that compliance and ethics programs should include an effective training program (Duke, 2003). The OIG recently provided direction on training requirements in a Corporate Integrity Agreement with Endo Pharmaceuticals following a 2014 settlement of $193 million for illegal marketing practices (Deconti & Riordan, 2014). Despite the guidance provided to pharmaceuticals companies in 2003, the OIG continues to provide additional direction and regulatory enforcement to ensure that companies like Endo Pharmaceuticals properly train their sales and marketing managers and employees.

Although most pharmaceutical companies have instituted compliance and ethics training programs to improve awareness of regulations and policies, and improve ethical decision-making skills (Weber, 2015), it is unclear if these programs are having the desired effect on business ethics behaviors (Warren, Gaspar, & Laufer, 2014). As part of a 2013 study, which included participants from multiple industries, researchers reported that nearly 92% indicated that their compliance and ethics training included goals to increase ethical awareness (Weber & Wasieleski, 2013). Yet, despite the millions of dollars spent each year by companies on compliance and ethics training, further research

is needed to understand the effects of these programs (Treviño, Nieuwenboer, & Kish-Gephart, 2014). Based on my review of the literature, few researchers have quantitatively evaluated the effects of compliance and ethics training programs on business ethics behaviors which include ethical decision-making and speaking-up behaviors. In a 2018 corporate integrity agreement with Pfizer Inc., the OIG set expectations that Pfizer management should conduct training annually that addresses awareness of U.S. healthcare laws and regulations (U.S., Health and Human Services, Office of Inspector General, 2018). While the OIG expected Pfizer to develop a compliance training program, they did not specify the duration, the approach, or how they should measure its effectiveness.

Desired Effects of Compliance and Ethics Training Programs

Given the ongoing criminal settlements facing the pharmaceutical industry (U.S., Department of Justice, 2017, 2018), sales and marketing professionals operating in the United States should develop training to increase awareness of the laws and regulations which may influence their business management decision-making. In the United States, the Food and Drug Administration (FDA) has established regulations for pharmaceutical manufacturers which should influence sales and marketing behaviors (Riggs, Widmier, & Plank, 2016). For example, the FDA provided legal requirements for the sale and marketing of pharmaceutical products in Chapter V of the Food Drug and Cosmetics Act (1938). In support of FDA regulations, U.S. pharmaceutical companies develop internal policies, procedures, communications, and training to regulate compliance with government laws and regulations (Francer et al., 2014). Although most compliance

training managers focus on awareness of regulations and policies in their training programs, it is unclear whether awareness is sufficient to have a positive impact on employee and management decision-making (Weber, 2015).

Corporate integrity agreements are becoming common in the pharmaceutical industry. Several pharmaceutical companies including Merck (Tanne, 2011), GlaxoSmithKline (Roehr, 2012), Johnson and Johnson (Kmietowicz, 2013), and Pfizer (Dyer, 2018) have entered into such agreements with the OIG as part of an effort to develop more effective ethics and compliance programs. Corporate integrity agreements between the U.S. government and pharmaceutical companies include requirements for training on the company code of ethics. The Endo Pharmaceutical corporate integrity agreement states that the company must provide at least two hours of general compliance training annually which includes training on the company code of conduct or ethics (Deconti & Riordan, 2014). Employee certification to a code of ethics, a common practice in most U.S. corporations, may not have a significant effect on manager behavior (Davidson & Stevens, 2013). Based on my review of the literature, I have found a lack of sufficient evidence to determine whether training on a code of ethics can be designed to influence the ethical behaviors of managers and employees.

One's intention to behave ethically is a component of the ethical decision-making process. Researchers have identified the behavioral intention to speak up regarding unethical issues as a critical behavior in organizations with effective compliance and ethics programs (Warren et al., 2014). Although there are studies on speaking-up or whistle-blowing (Cassematis & Wortley, 2013; Pillay, Ramphul, Dorasamy, & Meyer,

2015), based on my review of the literature, there are very few studies concerning the effects of compliance training on these behaviors. Managers within pharmaceutical companies face challenges improving awareness of regulations and policies, influencing ethical business decision-making, and creating a culture of transparency where employees have the confidence to speak up.

Focus of Study

The focus of this study was on the effectiveness of pharmaceutical company compliance and ethics training programs on employee ethical decision-making and behavioral intentions to speak up. eLearning is a traditional method used for corporate compliance training programs (Weber, 2015). Researchers have demonstrated that eLearning may have a more significant impact on ethical judgments and intentions to whistle-blow when compared to a traditional classroom approach (McManus, Subramaniam, & James, 2012). Researchers of nursing ethics education have compared eLearning to traditional classroom approaches and found no significant differences on learning outcomes (Trobec & Starcic, 2014). While university educators have used video-based case studies to teach business ethics (Drumwright, Prentice, & Biasucci, 2015), the use of educational videos is a novel approach to influence and raise awareness of compliance and ethics issues in the pharmaceutical sales and marketing profession. For this study, I compared the effects of two compliance training strategies on ethical decision-making and behavioral intentions to speak up for managers and employees working in pharmaceutical sales.

Use of eLearning in compliance training. Online eLearning may positively affect cognitive outcomes such as improving knowledge, performance of a task, or objective decision-making in addition to some behaviors. Feng et al., (2013) identified 14 research studies related to the effectiveness of eLearning for healthcare professionals and concluded that eLearning might be an effective instructional strategy to increase both knowledge and performance. There is some empirical evidence suggesting that traditional eLearning using text, images, and audio narration can have a positive effect on attitudes and behaviors. Meader, Knight, Coleman, and Wilkins (2015) reported that viewing a still photo with text captions, commonly used in eLearning had a greater effect on moral judgment scores when compared to viewing a video of the same content. In contrast, Bezdek and Gerrig (2017) found that showing participants images from scenes of a movie were not as effective as a suspenseful narrative-based movie when measuring transportation effects. Based on this research, it is unclear whether an entertainment-education video will have a more significant effect on ethical decision-making than eLearning using text and static images.

Some researchers of business ethics education have questioned whether eLearning is more beneficial than other methods such as classroom lecture or group discussion. Weaver, Reynolds, and Brown (2014) suggested that eLearning can be economical and meet expectations of external parties, such as regulators, but it is unclear whether it will have a significant effect on the complexities of moral intuition. As part of an analysis of corporate ethics training programs, Weber (2015) concluded that while ethics training managers select eLearning as the most common strategy, they lack confidence in its

effectiveness. Consequently, for this study, I compared the effects of an eLearning course with the novel instructional method of entertainment-education.

Use of videos and films in compliance and ethics training. Researchers who investigate the effects of films on ethical decision-making frequently use professionally developed films produced primarily for entertainment and profit (Bay & Felton (2012). For example, O'Boyle and Sandoná (2014) evaluated a series of feature films including *Silkwood* and *Erin Brockovich* to teach whistle-blowing behaviors. They posited that viewing movies should be more effective than reading text-based case studies. Searight and Allayer (2014) evaluated the effects of a series of feature films such as *Outbreak* and *Side Effects* on medical ethics behaviors. Werner (2013) studied the effects of the movie *Margin Call* on business ethics behaviors. Biktimirov and Cyr (2013) suggested that the movie *Inside Job* could be used to teach business ethics. Fisher, Grant, and Palmer (2015) recently reported that many of the entertainment films used in research may not be in full alignment with business ethics teaching principles. In addition, Bay and Felton (2012) expressed concern that business ethics educators, constrained to use existing films, must be careful that the films do not detract from the intent of the business ethics education. A study conducted by Murphy, Frank, Chatterjee, and Baezconde-Garbanati (2013) is a rare example of researchers using a custom entertainment-education film to conduct research on behaviors related to seeking cancer screening.

For this study, I used findings from the research in entertainment-education, narrative persuasion, and the effects of films on business ethics to develop a custom video series, *The Workshop*, which was specifically designed to target pharmaceutical

sales ethics behaviors. Together with members of the ethics and compliance department of a pharmaceutical company located in the United States in collaboration with a production company from Chicago, I led the development of a custom entertainment-education film targeting unethical or illegal behaviors in pharmaceutical sales described by Rodwin (2013) and Valverde (2012). The development team designed the video series to improve awareness of compliance and ethics issues, change attitudes regarding unethical or noncompliant behaviors, and positively impact behavioral intentions to speak up for pharmaceutical sales and marketing professionals working at the pharmaceutical company. As the project researcher and lead, I worked with a professional scriptwriter and production team using past research in entertainment-education and industry case studies to design and produce the film. The video series, entitled *The Workshop*, was licensed back to the production company to distribute to other pharmaceutical companies. The president of the production company gave me permission for continual research using *The Workshop* videos (see Appendix G).

Potential Implications for Social Change

When pharmaceutical companies engage in illegal and unethical sales and marketing business practices, they may create a risk for patient safety. In 2010, the U.S. government recovered nearly $5 billion as a result of fraudulent or illegal sales and marketing activities of drug companies (Valverde, 2012). Some of these unethical and illegal activities have led to thousands of deaths because of misleading communications to patients and physicians regarding product safety risks (Loftus, & Kendell, 2011). In 2011, GlaxoSmithKline paid $3 billion for illegal promotion of an anti-depressant to

minors, illegal promotion of a second anti-depressant for unapproved uses including weight-loss, and failure to report data regarding cardiovascular risks for a diabetes drug (U.S., 2012). When patients receive prescriptions for unapproved uses or physicians make prescription decisions with insufficient safety information, patient health may be at risk (Mintzes et al., 2013; Rodwin, 2013). The desired outcome of an effective compliance and ethics training program is to increase awareness of how ethical sales and marketing activities can protect physician rights to choose treatments and a patient's right to safe and effective treatments (Francer et al., 2014). Also, an effective compliance and ethics training program should improve ethical decision-making made by managers and employees working in pharmaceutical sales and marketing professions, which could contribute to protecting the rights of doctors to make well informed prescribing decisions.

Background of the Study

For this study, I conducted an analysis of four areas of research. These research areas include ethical decision-making, compliance and ethics training, entertainment-education, and narrative persuasion. I was unable to identify a research study on the effects of entertainment-education videos on pharmaceutical compliance and business ethics outcomes.

Research on Ethical Decision-Making

Although researchers have been reporting on ethical decision-making, moral reasoning, and moral judgment for nearly 50 years, there is little research on the effectiveness of corporate ethics training programs on ethical decision-making. Calabretta, Durisin, and Ogling (2011) conducted a quantitative study using a

bibliometric analysis of 30 years of articles from the Journal of Business of Ethics. They

reported that between 1997 and 2008 only 5% of published articles addressed the topic of

teaching business ethics. They did report a decline in research on ethical theory, and an

increase in ethical decision-making research. More recently, Craft (2013) evaluated 84

studies on ethical decision-making, conducted between 2004 and 2011, and identified

357 empirical findings. In Chapter 2 of this study, I will include a review of the ethical

decision-making research conducted between 2011 and 2017. Of the business ethics and

ethical decision-making studies reviewed in this current study, only seven include the

topic of teaching or training.

Researchers of ethical decision-making have frequently measured the effects of

reading fictional ethical-dilemma vignettes. Researchers use these vignettes to simulate

conditions of an ethical decision-making situation. After participants read an ethical

dilemma, researchers ask them to complete a measure of ethical decision-making.

Bagdasarov et al. (2013) manipulated social context and character goals in four versions

of an ethical dilemma to compare the effects on ethical issue recognition and ability to

forecast outcomes. Fishbach (2014) manipulated the media format of ethical cases, using

text only cases versus graphic novels, and measured effects on ethical self-efficacy. Hark

Rider et al. (2012) manipulated references to a code of ethics and statements regarding

outcomes, and measured effects on knowledge and sense making. Johnson et al. (2013)

manipulated experimental conditions by providing some groups with notes and structured

reviews while measuring effects on ethical sense making. While there are many other

vignette or case-based ethical decision-making studies (Mudrack & Mason, 2013), these

few citations suggest that presenting ethical dilemmas before measuring ethical decision-making variables, is a common practice in the research. Mudrack and Mason (2013) have pointed out that there may be construct validity issues with many of these types of studies because of the variable effects of different types of vignettes.

Research on Compliance and Ethics Training

Compliance and ethics officers and training managers lack the research to evaluate the effectiveness of compliance and ethics training programs. Treviño et al. (2011) and Weber (2015) have suggested that further research is needed to understand the effects of compliance and ethics training programs. While studies exist that report on the frequency and other attributes of corporate ethics training programs, Weber (2015) pointed out that there are few studies which have evaluated the effectiveness of corporate ethics training programs. McClaren (2013) was able to identify only four studies, conducted between 2000 and 2009, directly related to measuring the effects of training on ethical decision-making. Craft (2013) evaluated 84 ethical decision-making studies conducted between 2004 and 2011 and found that out of 357 findings, only two were related to training. For the literature review for this study, I have included an analysis of the ethical decision-making studies conducted between 2011 and 2018 which include some experimental studies (Donoho & Heinze, 2014; Elbe & Brand, 2014; Fishbach, 2013; Harkrider et al., 2013) related to effects of training on ethics attitudes or behaviors.

Researchers have evaluated and reported on compliance and ethics programs in the research literature, but few have conducted empirical research on the effects of these programs on ethical decision-making or behavioral outcomes. For example, Weber and

Wasieleski (2013) presented a descriptive statistical analysis of corporate ethics and compliance programs, but they did not investigate a research question or develop a new model or theory. Weber (2015) also evaluated compliance and ethics training programs, but he only reported general descriptive statistics. Altizer et al. (2013) reported that only 35% of the respondents in their survey of multiple companies felt that their compliance and ethics training had a positive effect on ethical decision-making behaviors. In addition, he reported that less than 40% of respondents felt that their compliance training was relevant to their role, and compliance training managers rarely measured change in employee behaviors. It should be noted that Altizer et al.'s (2013) study did not undergo peer review. Consequently, there appears to be a gap in the peer review literature regarding studies related to behavioral outcomes of compliance and ethics training programs.

While significant research exists on the effects of online training courses, we have limited empirical research on their effectiveness on ethical decision-making and ethical behavioral intentions. Weber (2015) expressed a concern that participants were unsure whether online ethics training was yielding the desired effect and suggested that researchers should explore additional empirical studies in this area. In contrast, McManus et al. (2012) did report a significant effect of a web-based training course on ethical judgments and behavioral intention to whistle-blow or speak-up. Ethics training programs should include strategies to raise awareness, provide vicarious models of good and bad behavior, and provide for ways to further encourage and support good ethical behaviors (Warren, et al., 2014). While eLearning courses can be designed to raise

awareness, entertainment-education videos may be more appropriate to impact behavioral outcomes.

Research on Entertainment-Education

Entertainment-Education is a novel instructional method used to raise awareness of a social issue, modify attitudes, increase self-efficacy, and positively affect behavioral intentions. According to Singhal, Cody, Rogers, and Sabido (2004), entertainment-education is "the process of purposely designing and implementing a media message to both entertain and educate, in order to increase audience members' knowledge about an educational issue, create favorable attitudes, shift social norms, and change overt behaviors" (p. 5). Bandura (1986) has contributed to understanding the effects of entertainment-education with his social cognitive theory, specifically the principle of vicarious modeling. An entertainment-education narrative includes vicarious models who present both good and bad behaviors and demonstrate the positive and negative outcomes of those behaviors.

There is significant research in entertainment-education, and its effects on issue awareness, attitudes, and behavioral intentions modeled in the early research methods reported by Singhal and Rogers (1999), and Singhal et al., (2004). Storey and Sood (2013) reviewed topics from entertainment-education conferences between 1989 and 2011 and found that most topics were related to health communications. Several researchers have measured the effects of entertainment-education on health-related behaviors including intentions to take an HIV test (Aronson, Plass, & Bania, 2012), seek health screenings (Harris, 2013; Hoffman et al., 2017), become an organ donor (Jeong &

Park, 2013), select evasive breast cancer surgery (Jibaja-Weiss et al., 2011), engage in safe sex (Igartua & Casanova, 2015; Moyer-Gusé, Mahood, & Brookes, 2011; Wasylkiw, & Currie, 2012), and intentions to abuse tobacco or alcohol (Green & Clark, 2012; Leeuwen, Renes, & Leeuwis, 2013; Leeuwen, Putte, Renes, & Leeuwis, 2016). Despite a significant number of research studies, there appears to be a gap on the effects of entertainment-education interventions in the business ethics and business ethics education literature.

While, research does exist on the effects of commercially developed feature films and television programs on various outcomes, very few researchers have conducted studies with custom developed films. Bay and Felton (2012) evaluated the effects of several commercially available films on business education outcomes, such as theory application, and identification of ethical decision-making. For example, Biktimirov and Cyr (2013) evaluated the use of the film *Inside Job* for teaching business ethics. Cain and Policastri (2013) evaluated the use of clips from the television series, *The Office,* to improve attention in a business ethics university course. Zwarun and Hall (2012) used two films, *Smart Card* and *Delivery* in an experimental study to evaluate effects on narrative persuasion. Other than the early research reported by Singhal et al., (2004), and one recent exception of the entertainment-education film *The Tamale Lesson* (Murphy, Frank, Chatterjee, & Baezconde-Garbanati, 2013), there are few studies with custom films designed using the entertainment-education model and recent research findings in this area.

Few researchers have evaluated entertainment-education films using humor which may be a result of recommendations to use melodrama for developing entertainment-education programs (Singhal, Cody, Rogers, & Sabido, 2004). In a 1997 conference, a few speakers did explore humor within entertainment-education programs (Storey & Sood, 2013). Some compliance and ethics training managers have experimented with humorous video vignettes of compliance or ethical situations to gain attention (Briggs, 2010). Strick, Holland, Baaren, and Knippenberg (2012) evaluated the use of humor in advertisements on consumer behaviors to resist negative associations with a product. While the entertainment-education video, *The Workshop*, includes humor to gain attention and reduce message counter-arguing, I did not manipulate humor as an independent variable. The inability to manipulate humor was a limitation in this study. Future researchers could compare effects of humorous entertainment-education videos to serious melodramas.

Research on Narrative Persuasion

Entertainment-Education researchers frequently include predictive or mediating variables in their models, based on research in narrative persuasion. Narrative persuasion researchers evaluate the effects of stories on attitudes, beliefs, and behaviors of all kinds when people become engaged with the story and identify with the characters. Researchers of narrative persuasion have measured the effects of several variables which include narrative engagement or transportation (Leeuwen, Putte, Renes, & Leeuwis, 2016), emotional involvement, character identification, and perceived realism (Bilandzic & Bussele, 2011; Cho, Shen, & Wilson, 2012). Cohen (2001) developed an instrument

for measuring character identification which he recently used and modified in a study designed to measure effects of narrative transportation and character identification on controversial issues (Cohen, Tal-Or, & Mazor-Tregerman, 2015). Green and Brock (2000) developed an instrument for measuring narrative transportation, which is a measure of how engaged a person is in the narrative. Following an evaluation of 76 studies, Laer, Ruyter, Visconti, and Wetzels (2014) concluded that the Green and Brock (2000) scale was the best instrument to assess narrative transportation. Green and Clark (2012) recently used this instrument to evaluate the impacts of entertainment media on tobacco use. For this study, I have evaluated the potential effect of narrative transportation and character identification on ethical issue awareness, ethical judgment, and behavioral intentions to speak up.

Rationale for the Study

The reason for this study is to contribute to the gap in compliance and ethics training research by comparing traditional compliance and ethics eLearning programs with a novel approach referred to as entertainment-education. McClaren (2013) recommended further research in ethics training in the sales profession. In a 2003 guidance document, the U.S. government set an expectation that corporate compliance and ethics training efforts are effective in influencing compliance with federal regulations, ethical business decision-making, and behaviors to speak up when unethical business practices occur (Duke, 2003). Based on my review of the literature, neither regulators nor researchers of compliance and ethics management have provided empirical evidence, nor practical guidance for designing an effective compliance and ethics training

program. While entertainment-education appears to be a viable instructional strategy for addressing health and consumer behavioral outcomes, researchers have not evaluated the effects of entertainment-education on compliance and business ethics outcomes.

Problem Statement

Management within U.S. pharmaceutical companies continues to accept risks that may lead to illegal and unethical sales and marketing practices (Sah & Berman, 2013; Aegerion & Gerrits v. United States, 2017), despite substantial civil settlements and criminal fines imposed on the industry by the U.S. Department of Justice (Gagnon, 2013; Valverde, 2012). Between 1991 and 2012, pharmaceutical company fines and settlements with the U.S. government exceeded $30 billion dollars, with illegal promotion of company products being the most common violation (Almashat & Wolfe; 2012; Rodwin, 2015). The general problem is that while management at pharmaceutical companies spend an average of $200,000 annually on compliance and ethics training (Kann, 2013), the effectiveness of these programs in raising employee awareness of compliance risks and improving ethical decision-making is unknown (Treviño et al., 2011; Warren et al., 2014). The more specific problem is that sales and marketing managers consistently struggle to identify compliance risks, effectively judge the ethicality of sales and marketing strategies, and demonstrate behavioral intentions to speak up. The target audience for this study includes pharmaceutical sales managers and employees.

Purpose of the Study

The purpose of this quantitative experimental study was to compare the effectiveness of two compliance training program types, entertainment-education and eLearning, on ethical decision-making and behavioral intentions to speak up in the pharmaceutical sales professions. Researchers have demonstrated that eLearning can have a significant positive effect on knowledge acquisition (Salter, Karia, Sanfilippo, & Clifford, 2014), ethical judgment, and behavioral intentions to speak up or whistle-blow (McManus et al., 2012). Additionally, Hernandez and Organista (2013) have demonstrated that an entertainment-education narrative presented with only still photos and text can have a significant effect on knowledge acquisition, attitudes, and self-efficacy to change behaviors. This finding may suggest that an eLearning course using still images and on-screen text may be a valid instructional approach for raising awareness of social issues, changing attitudes, and influencing behavioral intentions. Entertainment-Education researchers have reported effects on awareness of social issues and behavioral intentions which include behavioral intentions to purchase a natural gas vehicle (Schneider, Weinmann, Roth, Knop & Vorderer, 2015), seek help regarding health issues (Harris, 2013; Hernandez & Organista, 2013), reduce one's carbon footprint (Flora et al., 2014), and discuss cancer with family members (Beach et al., 2016).

In this study, I evaluated a five-part episodic entertainment-education video series that I developed in collaboration with a group of industry experts, to influence ethical decision-making and behavioral intention to speak up to report an unethical issue. The comparative treatment group completed an eLearning course using text and images,

presented in a narrative format. I developed the eLearning course using the content from the entertainment-education video script. The theoretical framework for this study consisted of social cognitive theory (Bandura, 1986), ethical decision-making models (Hunt & Vitell, 1986; Kohlberg, 1963; Rest, 1986), and models used in narrative persuasion research (Bilandzic & Bussele, 2012). Researchers and practitioners may use findings from this study to determine whether a high-cost professionally developed entertainment-education video is significantly more effective than a simple eLearning course using static images and on-screen text to influence ethical issue awareness, ethical judgments, and behavioral intentions to speak up.

Research Questions and Hypotheses

Research Question 1: What effect will viewing an entertainment-education video series have on ethical issue awareness, compared to reading a narrative style eLearning course?

$H_0 1$: There is no difference in effect on ethical issue awareness, between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

$H_1 1$: The effect on ethical issue awareness is greater for the group viewing the entertainment-education video series when compared to the group reading the narrative style eLearning course.

Research Question 2: What effect will viewing an entertainment-education video series have on ethical judgment, compared to reading a narrative style eLearning course?

$H_0$2: There is no difference in effect on ethical judgment between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

$H_1$2: The effect on ethical judgment is greater for the group viewing the entertainment-education video series compared to the group reading the narrative style eLearning course.

Research Question 3: What effect will viewing an entertainment-education video series have on behavioral intention to speak up when compared to reading a narrative style eLearning course?

$H_0$3: There is no difference in effect on behavioral intention to speak up between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

$H_1$3: The effect on behavioral intention to speak up is greater for the group viewing the entertainment-education video series compared to the group reading the narrative style eLearning course.

Research Question 4: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect ethical issue awareness?

$H_0$4: There is no effect of narrative transportation, character identification with the transformative character, or instructional method on ethical issue awareness.

$H_1$4: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on ethical issue awareness.

Research Question 5: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect ethical judgment?

$H_0$5: There is no effect of narrative transportation, or character identification with the transformative character, or instructional method on ethical judgment.

$H_1$5: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on ethical judgement.

Research Question 6: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect behavioral intention to speak up?

$H_0$6: There is no effect of narrative transportation, or character identification with the transformative character, or instructional method on behavioral intention to speak up.

$H_1$6: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on behavioral intention to speak up.

Theoretical Foundation

A study of the effects of entertainment-education on ethical decision-making required an analysis of ethical decision-making, social cognitive theory, and principles of narrative persuasion. Researchers of ethical decision-making regularly cite Rest (1986) who developed a general moral decision-making model and Hunt and Vitell (1986) who developed a general theory of marketing ethics. Researchers of entertainment-education frequently cite Bandura's (1986) social cognitive theory, Miguel Sabido's entertainment-education model (Singhal et al., 2004), and Slater and Rouner's (2002) extended-

elaboration likelihood model. For this section, I included an analysis and synthesis of these theories and models to provide a framework to study the effects of entertainment-education on ethical decision-making and behavioral intention to speak up regarding unethical business practices.

Ethical Decision-Making

Researchers of ethical decision-making use multiple theoretical frameworks and models which include moral development theory (Kohlberg, 1963, 1977), the issue-contingent model (Jones, 1991), moral or ethical judgment (Rest, 1986), Hunt and Vitell's (1986) general theory of marketing ethics, and the sense-making intuition model (Sonenshein, 2007). Kohlberg's (1963) research on moral stage development provided a foundation for evaluating ethical decision-making. Rest (1986) and Hunt and Vitell (1986) both developed rational models to describe the decision-making process that people experience when faced with an ethical dilemma. In contrast, Sonenshein (2007) developed an intuition model that suggests that ethical decision-making is not a rational process. The existence of multiple models may suggest that ethical decision-making is a complex area of research.

Moral development theory. Kohlberg (1963) devised a method for measuring levels of moral development by presenting people with ethical dilemmas and then asking the subjects to describe the critical issues to be considered while making a decision. Kohlberg's (1963) original three levels of moral development included pre-conventional, conventional, and post-conventional, where the term conventional refers to social or societal norms. Researchers have since revised Kohlberg's (1963) stages as (a) personal-

interest motivations, (b) compliance with societal or social norms, and (c) principle or value-based reasoning (Thoma & Dong, 2014). Ethical decision-making and moral reasoning researchers have built on the foundational work of Kohlberg (1963).

To measure moral reasoning, Rest (1986) modified Kohlberg's qualitative assessment and created a quantitative instrument referred to as the Defining Issues Test (DIT), which researchers continue to use and modify (Rest, Narvaez, Thoma, & Bebeau, 1999). While researchers have continually used the DIT instrument for nearly 30 years, it has recently come under scrutiny. Curzer, Sattler, Dupree and Smith-Genthos (2014) have identified several risks to internal validity for the DIT instrument. They argued that there is an underlying problem with the manner in which the DIT is used to measure ethical decision-making based on the Kohlbergian model of moral development. They pointed out that the developers of the DIT may have made the error of combining theory choice with the moral reasoning process. Also, when researchers average scores across multiple situations, they may introduce additional error. The findings of Curzer et al. (2014) align with the conclusions of Mudrack and Mason (2013) who suggested that the dilemmas used in the DIT and other ethical dilemma studies have introduced internal validity issues by not measuring between different types of dilemmas. As a result of these findings, I will not use the DIT instrument in this study.

One's social environment, which includes modeling of behaviors by peers, authoritative figures (Mayer, Nurmohamed, Treviño, & Schminke, 2013), or actors in a film or theater (Bandura, 1963), can have an effect on behavior. Dewey (1930) suggested that conduct cannot be studied or managed by only evaluating the individual. Also,

Dewey suggested that the environment in which the individual lives and learns is also critical to understanding moral conduct and ethical decision-making. While not intentional, Bandura (1986) built on Dewey's conclusions in the development of his social cognitive theory.

Issue contingent model & moral intensity. Similar to the conclusions of Bandura (1986) and Dewey (1930), Jones (1991) also concluded that behaviors are contingent on the environment, in addition to the stage of one's moral development. In Rest's (1986) instrument for measuring moral judgment, the person completing the assessment is asked to judge a list of issues. Jones concluded in his research that moral judgments and subsequent behavioral intentions correlate to perceived outcomes following an action. Jones referred to these perceived outcomes as moral intensity. Similarly, in the Hunt & Vitell (1986) model for ethical decision-making, the second step in the process is to weigh the consequences of each alternative decision, before making an ethical judgment. For example, if a pharmaceutical sales representative considers the issue of giving a small gift to increase sales of a product, the impact is low, as long as the sales are for a use approved by a regulatory agency. In this scenario, there are only winners and no perceived negative outcomes. The doctor received a small gift. The sales representative received a financial award by hitting his or her sales target. The patient received a product which has been tested and approved by a regulatory agency for the patient's illness. In contrast, if a pharmaceutical sales representative decided to give a series of expensive gifts to multiple physicians, to influence prescribing of a product for an unapproved use, with unknown safety risks, this could result in many victims. In this

second scenario, a population of patients could receive a drug for an unapproved use, and be injured or die, suggesting that the moral intensity is high. According to Jones (1991) the decision of the sales representative, in this hypothetical example, should be influenced by the intensity of the impact of the decision.

Jones (1991) suggested, in his issue contingent model, that the moral intensity of the issues, may affect moral behavioral intent and action. Pan and Sparks (2012) reported that out of eleven studies measuring the effects of moral intensity, all eleven reported significant effects on ethical judgment. The levels of moral intensity, defined by Jones include: "magnitude of consequences," "social consequences," probability of expected effect or outcome, "temporal immediacy," and the "proximity" of the potential consequences. In this study, participants will view fictional case studies with different levels of moral intensity.

It remains unclear from the research whether ethical decision-making is a step-by-step rational process or an intuitive decision-making process. Kohlberg (1963), Rest (1986), Hunt and Vitell (1986), and Jones (1991) all suggested that people reason and judge issues when making ethical decisions in a rational step by step process, beginning with issue awareness and ending with a decision. Some, researchers have suggested that ethical decision-making, particularly in business decision-making (Dedeke, 2015; Sonenshein, 2007; Weaver et al., 2014) is not a fully rational or logical process. Ethical decision-making may be an intuitive process. Perhaps, a study of both models may provide insight into how people make ethical decisions. In some types of decision-

making, people may follow a methodical process, and in other situations, ethical decisions may be intuitive and rapid.

Sense-making intuition model. Sonenshein (2007) proposed an ethical decision-making model which he referred to as the sense-making intuition model. There are three phases in the sense-making intuition model which include: issue construction, intuitive judgment, and explanation and justification. Accordingly, when a person faces an ethical decision, their action may depend on the lens through which the person views the decision and the outcomes. For example, sales professionals may not perceive their selling activities through the same lens as a clinical researcher or a corporate compliance attorney (McClaren, 2012). People construct mental models which they use to make decisions. People may see different levels of moral intensity (Jones, 1991), and as a result, make different decisions when presented with an ethical dilemma. Dedeke (2015) added to this concept in his cognitive-intuitionist model, suggesting that how someone frames a decision, may impact how the decision will be made. Sonenshein suggested that moral intensity can vary from person to person. Sonenshein went one step further to suggest that moral reasoning follows decision making. He suggested that moral reasoning is used to rationalize our ethical decisions. The implication of the sense-making intuition model in business ethics education is that instructional strategies designed to modify ethical decision-making should be designed to change mental models rather than strengthen moral reasoning.

Social Cognitive Theory

Albert Bandura (1986) developed social cognitive theory. Bandura suggested that we have an internal mechanism of self-regulation that allows us to manage our behaviors by setting goals, monitoring the outcomes of our actions, and reacting either in a positive or negative manner. Bandura described self-regulation in three sub-processes which include *self-observation*, *judgmental process*, and *self-reaction*. Self-observation is a measure of one's ability to make observations and be aware of self, and the environment. This is analogous to Rest's (1986) first step in moral decision-making, to be aware of ethical issues. The judgmental process includes one's ability to evaluate an observation and weigh it using one's internal value system. This judgment process is analogous to Rest's second step in moral decision-making, and Jones' (1991) concept of moral intensity while evaluating issues prior to making an ethical decision. Finally, self-reaction is related to self-efficacy. Self-efficacy is a measure of how confident one is that their actions will yield expected outcomes (Bandura, 1986). Rest mentioned this as the final step in ethical decision-making. He explained that following a decision, the person needs the confidence to follow through with the action. Similarly, Hunt and Vitell (1986) posited that once a person has perceived an ethical issue, they must evaluate the alternatives and the consequences before making an ethical judgment. Self-efficacy, or confidence to follow through on a behavioral intention, can be strengthened through vicarious modeling (Bandura, 1986).

Researchers and practitioners can present vicarious models through different mediums. Practitioners can present vicarious modeling through on-stage theater (Dill-

Shackleford, Green, Scharrer, Wettterer, & Shackleford, 2015; Lieberman, Berlin, Palen, & Ashley, 2011) or film (Harris, 2013; Schneider et al., 2015). The actors provide the vicarious modeling by acting out either positive or negative behaviors. The viewer can observe the rewards and punishments vicariously and learn from this type of modeling. The viewer learns by reflecting on the message and developing new expectations or levels of confidence to behave the same way as the actors in the film. Vicarious modeling in entertainment-education videos can significantly increase self-efficacy to follow through with behavioral intentions. For example, Beach et al. (2016) reported a 775% increase in self-efficacy to increase communications regarding the sensitive topic of cancer of a family member, when comparing viewers of an entertainment-education video to viewers of an informational video.

Entertainment Education Model

Entertainment-Education is a model for developing narratives designed to influence behavior, change attitudes, and address social issues. Entertainment-Education is an application of communication theory, dramatic theory (Aristotle, trans. 1909), and social cognitive theory (Bandura, 1986). Film producers categorize movies as social-issue or social-change movies when the intent is to influence social norms. For example, the movie *The Imitation Game* focused on the social issue of gay rights while presenting the historical significance of Allen Turing's innovations during WWII (Grossman & Tyldum, 2014). The producers of both *Avatar* and *The Day After Tomorrow* presented messages regarding environmental conservation in their films (Chen & Lin, 2014). While the primary intent of movie producers is to generate profit, developers of

entertainment-education programs integrate educational messaging and entertainment with the intent to raise awareness of social issues, change attitudes, and influence behaviors.

Entertainment-Education narratives are dramas which include characters and storylines designed to model good and bad behaviors and demonstrate the positive and negative outcomes of those behaviors. Entertainment-Education provides a mechanism to apply social cognitive theory by providing a channel for vicarious modeling of good and bad behaviors. Entertainment-Education provides a method for developing self-efficacy through vicarious modeling (Kawamura, Ivankova, Kohler, & Perumean-Chaney, 2009) which may have an indirect effect on behavior (Bandura, 1986). Because entertainment-education narratives are designed to influence behavior, researchers can understand their effects by evaluating them through the lens of narrative persuasion.

Narrative Persuasion

Narrative persuasion is a study of how stories may be written to persuade an audience to change their attitudes and behaviors. Researchers of narrative persuasion, study how viewers or readers experience stories and internalize them. Bilandzic (2013) defined narrative persuasion as "any influence on beliefs, attitudes, or actions brought about by a narrative message through the process associated with narrative comprehension or engagement" (p. 201). Narratives intended to persuade, can be as short as a one-minute advertisement, as long as a two-hour feature film, or a full-length novel. The intent of narrative persuasion aligns with the intent of an entertainment-education program. Entertainment-Education is a form of narrative persuasion.

Extended-Elaboration Likelihood Model

Slater and Rouner (2002) developed the extended-elaboration likelihood model to provide a framework for conducting narrative-persuasion research. The emergence of the extended-elaboration likelihood model changed the way researchers evaluate the effects of persuasive narratives and entertainment-education programs. Slater and Rouner (2002) suggested that for a persuasive narrative to be effective, two things must occur. First, the viewer or reader must be fully engaged or transported into the story. Green and Brock (2000) referred to this as narrative transportation and developed an instrument to measure the level of transportation. Second, the viewer or reader must make a vicarious social connection with the characters in the story. Cohen (2001) referred to this as character identification and developed an instrument for measuring the level of identification.

The extended-elaboration likelihood model is a tool used by researchers of entertainment-education and other forms of narrative persuasion. Researchers have also added other variables to the model including perceived realism, telepresence (Bilandzic & Brussel, 2011), music (Costabile & Terman, 2013), and character perspective (Graaf, Hoeken, Sanders, & Beentjes, 2012). Slater and Rouner (2002) suggested that when a reader or viewer of a persuasive narrative experiences transportation into the narrative and identifies with the characters, negative reactions and message counter-arguing may be reduced which then conditions the viewer or reader to receive the intended message. The experience of narrative transportation and character identification may predict the outcomes influenced by the educational or persuasive message.

Nature of the Study

For this a quantitative experimental study, two randomized groups completed a pretest and posttest to compare the effects of two training strategies on ethical decision-making and speaking-up behaviors. McManus, Subramiam, and James (2012) studied the effects of classroom versus eLearning on the propensity to speak up using a pretest-posttest model. Researchers of entertainment-education typically ask one group to view or read an entertainment-education program, followed by completing a posttest to evaluate the effects on knowledge, attitudes, or behaviors (Aronson, Plass, & Bania, 2012; Castañeda, Organista, Rodriquez, & Check, 2013; Grigsby, Unger, Molina, & Baron, 2016; Harris, 2013). Researchers of entertainment-education have also evaluated the effects of narrative transportation and character identification on attitudes (Graaf et al., 2012; Green & Clark, 2012).

For this study, the first treatment group viewed an entertainment-education video series. The second treatment group completed an eLearning course that included the same narrative presented in the entertainment-education video series. I developed the eLearning course using a "fotonovela" design used by other entertainment-education researchers (Grigsby et al., 2016; Jagt et al., 2018) with text and images only. As an alternative, I could have included voice over narrations similar to other studies (Grigsby et al., 2016). Both groups were asked to complete a scenario-based ethical decision-making pretest and posttest to measure ethical issue awareness, ethical judgment, and behavioral intentions to speak up. The posttest also included a measure of narrative transportation and character identification of two characters in the story.

Entertainment-Education Study Design

Researchers of entertainment-education frequently compare the effects of two or more programs, while measuring for changes in awareness, attitudes, or behavioral intentions. For example, Aronson, Plass, and Bania (2012) manipulated the race of the actors, and the emotional content. They then measured the effects on behavioral intentions to receive HIV testing between groups. Bilandzic and Busselle (2011) compared the effects of three different film genres. They measured transportation, identification, telepresence, and perceived realism as independent variables and evaluated the effects on enjoyment and narrative experience. Other studies use only one media program and measure effects on knowledge, attitudes, or behavioral intent (Grigsby et al., 2016). For example, Castañeda, Organista, Rodriquez, and Check (2013) asked participants to watch a soap opera for two weeks. Using a pretest and posttest design, they measured for changes in awareness, attitudes, and behavioral intentions regarding ladder safety procedures. The pretest-posttest research method is one of the most common for entertainment-education research studies.

Independent Variables

In this study, participants either viewed an entertainment-education video series or completed a narrative-style eLearning course. I created three regression models to evaluate whether the two predictor variables of narrative transportation and character identification can explain the effects of entertainment-education on three outcomes: ethical issue awareness, ethical judgment, and behavioral intentions to speak up. I included the two conditions, (a) viewed an entertainment-education video or (b)

completed an eLearning course, as a categorical indicator in each model. After viewing

the video series, or completing the eLearning course, each treatment group completed a

measure of narrative transportation (Green & Brock, 2000), and character identification

(Cohen, 2001). Cohen (2001, p. 260) explained that identification is related to Bandura's

(1986) vicarious modeling effects. When someone imagines themselves doing what a

character is doing, the behavior can be learned vicariously. Slater and Rouner (2002)

suggested that when a person is transported or fully immersed in a narrative, negative

reactance to the persuasive message and counter-arguing the message are reduced

allowing for a greater effect on the dependent variables.

Dependent Variables

Based on the ethical decision-making models reviewed in this study, I have

identified three dependent variables related to ethical decision-making which include:

ethical issue awareness, ethical judgment, and behavioral intention to speak up regarding

an unethical issue.

Ethical issue awareness. I measured ethical issue awareness using a method

successfully used in similar studies (Valentine & Barnett, 2007; Valentine & Bateman,

2011; Valentine, Nam, Hollingworth, & Callie Hall, 2014) with a 7-point semantic

differential scale (Fabrigar & Norris, 2007). After reading a scenario containing an

ethical dilemma, I asked participants whether they believed that the situation involved an

ethical problem. The participants were then asked to rate their belief from (1) completely

disagree to (7) completely agree.

Ethical judgment. After reading a scenario, each subject was asked to complete a survey to assess ethical judgment of each scenario using the moral equity scale (Robin, Reidenbach, & Forrest, 1996). Valentine and Hollingworth (2012) measured moral equity after asking participants to read two ethical scenarios. Valentine and Hollingworth (2012) also measured moral equity using the moral equity scale (MES) developed by Robin, Reidenbach, and Forrest (1996), which is a four-part seven-point semantic differential scale. For this current study, participants reviewed two ethical dilemmas and the action taken by the main character. Then each study participant rated the action on fairness, justice, morality, and acceptability in one's family.

Behavioral intention to speak up. After reading each scenario, each participant was asked to rate a four-part seven-point question to measure intention to speak up if they were to observe the negative behavior in the scenario. Other ethical judgment researchers have used this strategy to measure behavioral intentions (Valentine & Batemen, 2011; Valentine & Hollingworth, 2012). Participants rated four semantic differential scales which included "likely to unlikely," "probable to improbable," "possible to impossible," and "definitely would to definitely would not". Valentine and Hollingworth (2012) averaged the four scores to create a single behavioral intention score for each participant. I followed this same method.

Pretest-Posttest Design

I have illustrated the study design approach in Table 1. Two randomized groups completed a demographic questionnaire to gather information regarding age, gender, and years of experience in pharmaceutical sales or marketing. Both groups completed a

pretest and posttest to measure ethical issue awareness, ethical judgment, and behavioral

intentions to speak up. The two groups also completed an assessment to measure

character identification and narrative transportation.

Table 1

Pretest-Posttest Experimental Design with Two Randomized Groups

	Pretest (awareness, judgment, speaking-up)	Treatment	Transportation & identification measures	Posttest (awareness, judgment, speaking-up)
Group 1 (Entertainment-Education video)	O_1	X_1	O_4	O_6
Group 0 (eLearning)	O_2	X_0	O_5	O_7

Note. O refers to observation and X refers to the experimental treatment.

Definitions

Character identification: Identification refers to the vicarious social connection

that a viewer or reader of a narrative has with the characters in a story. There are

different forms of identification. A viewer can feel as if they have similar characteristics

to the character in the narrative. Another type of identification, parasocial interaction, is

defined as a vicarious socialization with the characters, creating a feeling of knowing the

character (Jeong, & Park, 2013; Phua, 2014). Cohen (2001) developed an instrument to

measure character identification.

Entertainment-Education: Entertainment-Education is a model or framework for

developing dramas or narratives with the intent to influence attitudes, challenge social

norms, and impact social change (Singhal & Rogers, 1999). Entertainment-Education is a type of persuasive narrative (Slater & Rouner, 2002). Entertainment-Education narratives include vicarious modeling (Bandura, 1986) which present a contrast between good behaviors and bad behaviors with the intent to influence the viewer or reader to adopt the good behaviors modeled in the narrative.

Ethical decision-making: Rest (1986) defined ethical decision-making (EDM) as a four-part rational process which begins with awareness or recognition of a potentially unethical issue, followed by making an ethical judgment on the issue, expressing an intention to act, and acting on those intentions when presented with the situation in real life. Researchers of ethical decision-making refer to both the Rest (1986) and Hunt and Vitell (1986) model when measuring ethical decision-making (Valentine, Nam, Hollingworth, & Hall, 2014). Sonenshein (2002) developed an alternative intuition-based model which suggests that people make rapid-intuitive decisions which are then followed by justifications of their actions.

Narrative-style eLearning: For this study, eLearning refers to a self-paced online training course. There is no single definition of eLearning (Sangrá, Viachopoulos, & Cabrera, 2012). eLearning is a term that has evolved with computer science and the internet. For this study, the term eLearning refers to a self-paced online training course. An eLearning course has a user interface that allows the learner to navigate through lessons or screens. An eLearning course includes a method to receive credit for completion by passing a quiz, completing a task, or visiting every screen in the course.

Narrative-style eLearning includes instructional materials in the form of a story line, with characters.

Narrative transportation: Transportation is a measure of how much a viewer or reader of a narrative is immersed or engaged in a story. Green and Brock (2000) developed an instrument to measure the level of transportation. Green and Brock (2000) defined transportation as a "distinct mental process, an integrative melding of attention, imagery, and feelings" (p. 701). Researchers have used the variable of transportation in studies to measure the effects of fictional narratives (Green & Clark, 2012) on various outcomes.

Speaking-up: The term *speaking-up* is synonymous with whistleblowing, or employee voice (Burris, 2011). When someone becomes aware of an unethical or criminal activity, it is incumbent for them to speak to the proper authority regarding the issue. If a healthcare professional observes unethical behavior, regarding the care of a patient, they should speak-up about the issue to protect the patient (Okuyama, Wagner & Bijnen, 2014; Sayre, Mcneese-Smith, Leach, & Phillips, 2012). If unethical financial practices are observed, employees of the company or agency are expected to speak up or blow the whistle on the persons who have violated policies or laws (Cassematis & Wortley, 2012).

Assumptions

Four assumptions may influence the results of this research study. First, pharmaceutical sales and marketing professionals participating in this study have likely completed some prior compliance and ethics training based on U.S. government

regulations and guidance documents. Second, participants may have had different levels of distractions while watching the videos or completing the eLearning course. Zwarun and Hall (2012) reported a significant effect on narrative transportation when viewers of an entertainment-education video were distracted. Third, participants placed the same level of attention on either the videos or the eLearning course. There was no way to know whether participants watched the entire video series or read through all of the materials in the eLearning course because they viewed them on their mobile device or computer without my direct observation. The final assumption is that participants answered the assessment questions honestly.

Scope and Limitations

To address the research problem for this dissertation, I compared the effects of an entertainment-education video series with a narrative-style eLearning course, on ethical issue awareness, ethical judgment, and behavioral intention to speak up in the pharmaceutical industry. Each video, or lesson in the eLearning course, included a unique ethical dilemma. The population was limited to the pharmaceutical sales and marketing industry for two reasons. First, my current professional role in compliance and ethics training in the pharmaceutical industry has provided me with resources to conduct this research. Secondly, the video used in this study was specifically designed to model behaviors of pharmaceutical sales and marketing professionals, teach them how to identify violations of U.S. federal healthcare laws, and encourage them to speak up when they observe unethical or illegal behaviors. Because the educational message in the video

references U.S. regulations and regulatory authorities, the scope was limited to sales and marketing professionals working in the United States.

This study includes three theoretical foundations, ethical decision-making theory (Rest, 1986; Hunt & Vitell, 1986), social cognitive theory (Bandura, 1986) and narrative persuasion (Bilandzic & Busselle, 2011). While there are many aspects of Bandura's social cognitive theory, I focused this study on the principle of vicarious modeling and its effect on cognitive awareness and behavioral intentions. Similarly, narrative persuasion is an extensive topic that extends across many types of narratives and persuasive messaging, including consumer behaviors resulting from advertising (Brusse, Fransen, Smit, 2015). However, for this study, I have limited the research to the use of entertainment-education films on ethical awareness, ethical judgment, and behavioral intentions to speak up in a pharmaceutical sales context.

Limitations

While I was able to control for years of experience, it was difficult to control for prior compliance and ethics training which may have impacted internal validity. While I did ask participants about prior compliance training, they may not have been aware of how many hours of compliance and ethics training that they had prior to the experiment which limited my ability accurately measure this variable. Due to privacy issues, the participating company did not provide me with training records to control for effects of prior hours of compliance and ethics training.

Due to the cost of developing an entertainment-education video series, it was not practical to manipulate variables such as gender of the main protagonist and antagonist

characters. Murphy, Frank, Chatterjee and Baezconde-Garbanati (2013) found that it was valuable to use Latino actors for a Hispanic audience. Aronson, Plass, and Bania, (2012) found that race of the characters did have an effect, but it was not significant. The entertainment-education video series for this study, includes a white male character for the negative role model, a white female character for the positive role model, and a black female character for the transformative role. The gender and ethnicity of the characters could not be manipulated to study variable effects. While the comedy in the video series may have an effect on the outcomes (Banas, Dunbar, Rodriguez, & Liu, 2011), I will not measure the effects of comedy. The costs were prohibitive to create more than one version of the video series.

Some entertainment-education researchers have conducted studies that measured the effects of entertainment-education programs presented over weeks, months, or years. For example, Castañeda, Organista, Rodriquez and Check (2013) asked participants to view a soap opera of a two-week period. Other researchers have studied the effects of years of exposure to an entertainment-education soap opera (Riley, Sood, Mazumdar, Choudary, Malhotra, & Sahba, 2017). While I was very fortunate to have the opportunity to produce five short videos, each approximately seven minutes in length, I did not study the effects of long-term exposure. I studied the effects of viewing a five-part video series over five days to simulate watching a daily television show for one week. However, not all participants viewed one video per day. Some participants viewed multiple videos in a single day, during the week-long study (e.g. three videos on day three).

Researchers of ethical decision-making and entertainment-education will generally control for social desirability bias (Valentine, Nam, Hollingworth, & Hall, 2014). For this study, I did not control for social desirability bias nor measure for prior social norms (Riley et al., 2017), both of which may be a challenge within the culture of sales representatives (Bush, Bush, Oakely, & Cicala, 2017). Social norms, defined as prior beliefs and attitudes towards a topic, can have a significant effect on the outcomes of an entertainment-education intervention. In this study, I did not measure for prior beliefs or attitudes regarding the ethical issues described in the two ethical dilemmas used as the primer for the dependent variable measures.

Significance of the Study

Significance to Theory

While researchers of ethical decision-making typically use vignettes or short scenarios as a device to measure ethical decision-making (Valentine & Hollingworth, 2012), there is little empirical evidence regarding the persuasive effects of these vignettes. Researchers may be able to use findings from this study to create a new intersection between narrative persuasion (Brindberg & Hamby, 2012) and ethical decision-making (Craft, 2013) research. Also, researchers may be able to use findings from this study to contribute to business ethics education and entertainment-education research.

Significance to Practice

Managers of compliance and ethics training may be able to use the results from this research to make more informed decisions regarding the selection of instructional

strategies. The cost to professionally develop or license entertainment-education videos can be quite high. In contrast, with the assistance of new rapid development tools, deployment of an interactive narrative-style eLearning course can be developed with a reasonable budget (Obedidat, Abuali, & Ghwanmeh, 2013). Compliance and ethics training managers could use the results from this study to either justify the investment in entertainment-education videos or validate the use of lower cost alternative eLearning courses.

Significance to Social Change

Unethical sales and marketing behaviors in the pharmaceutical industry can lead to physician uncertainty when making treatment decisions regarding their patients. Pfizer settled for $2.3 billion dollars for unapproved off-label promotion and false claims to the government for several products (Tanne, 2009). The Merck Vioxx drug was linked to hundreds and possibly thousands of deaths because of misleading communications regarding a serious risk of heart attack (Loftus, & Kendell, 2011; Lyon & Mirivel, 2011). In response to these types of cases, Attorney General Eric Holder (2010) stated, "Illegal acts by pharmaceutical companies and false claims against Medicare and Medicaid can put the public health at risk, corrupt medical decisions by healthcare providers, and take billions of dollars directly out of taxpayers' pockets." By developing more effective compliance and ethics training programs, compliance and ethics managers can indirectly protect the medical decision-making of physicians and save peoples' lives.

Summary and Transition

In summary, it is unclear whether traditional compliance and ethics eLearning programs or novel entertainment-education programs can have a significant effect on ethical decision-making (Warren, Gaspar, & Laufer, 2014; Weber, 2014) or speaking-up behaviors in organizations. The entertainment-education model has proven effective in increasing awareness of various health related issues, changing attitudes, and behaviors such as taking an HIV prevention exam (Aronson, Plasss, and Bania, 2012). However, we do not know if entertainment-education will have a significant effect on business ethics behaviors, specifically ethical decision-making within the pharmaceutical sales and marketing professions. This study has the potential to contribute to the research literature in business ethics education, ethical decision-making, and entertainment-education.

In Chapter 2 of this dissertation, I present an in-depth analysis of research in ethical decision-making. Also, I provide an analysis of the research in entertainment-education programs which includes an in-depth discussion and critical analysis of the variables measured in those studies.

Chapter 2: Literature Review

Introduction

Management within pharmaceutical companies continues to accept risks that may lead to illegal and unethical sales and marketing practices (Sah & Berman, 2013), despite substantial civil settlements and criminal fines imposed on the industry by the U.S. Department of Justice (Gagnon, 2013; Valverde, 2012). Between 1991 and 2012 pharmaceutical company fines and settlements with the U.S. government exceeded $30 billion dollars, with illegal promotion of products being the most common violation (Almashat & Wolfe, 2012; Rodwin, 2015). The general problem is that, while management at pharmaceutical companies spend an average of $200,000 annually on compliance and ethics training (Kann, 2013), the effectiveness of these programs in raising employee awareness of compliance risks and improving ethical decision-making is unknown (Treviño et al., 2011; Warren, Gaspar, & Laufer, 2014). The more specific problem is that sales and marketing managers consistently struggle to identify noncompliance risks, effectively judge the ethicality of sales and marketing strategies, and demonstrate behavioral intentions to speak up (Almashat, Lang, Wolfe, & Carome, 2018).

The purpose of this quantitative experimental study was to compare the effectiveness of two compliance training program types, entertainment-education and eLearning, on ethical decision-making and behavioral intentions to speak up in the pharmaceutical sales and marketing professions. Researchers have demonstrated that eLearning can have a significant positive effect on knowledge acquisition (Salter et al.,

2014), ethical judgments, and behavioral intentions to speak up or whistle-blow (McManus et al., 2012). Additionally, Hernandez and Organista (2013) have demonstrated that an entertainment-education narrative presented with only still photos and text can have a significant effect on knowledge acquisition, attitudes, and self-efficacy to change behaviors. Consequently, an eLearning course using still images and on-screen text may be a valid instructional approach to raising awareness of social issues, change attitudes, and influence behavioral intentions on sales and marketing professionals. Additionally, researchers of entertainment-education have reported effects on awareness of social issues and behavioral intentions which include behavioral intentions to purchase a natural gas vehicle (Schneider et al., 2015), seek help regarding health issues (Harris, 2013; Hernandez & Organista, 2013), reduce one's carbon footprint (Flora et al., 2014), and discuss cancer with family members (Beach et al., 2016). This study may provide additional insight into the question of whether a high-cost professionally developed entertainment-education video is significantly more effective than a simple eLearning course using static images and on-screen text to influence ethical issue awareness, ethical judgments, and the behavioral intentions to speak up. The target audience for this study is pharmaceutical sales and marketing managers and employees.

Synopsis of the Literature

The literature on ethical decision-making is quite extensive. Craft (2013) reviewed 84 studies on ethical decision-making between the years 2004 through 2011. On the topic of speaking-up, whistleblowing, and employee voice, researchers have focused on the healthcare professions (Jones, 2015; Okuyama et al., 2014; Sayre et al.,

2012), public sector professions (Cassematis & Wortley, 2012), and the accounting or financial professions (Jones, Spraakman, & Sánchez-Rodríquez, 2014). Although the practice of entertainment-education began in the 1970s, research in the field of entertainment-education is relatively new, beginning around 1990 in the field of health communications (Singhal et al., 2004). Researchers have continued to study the effects of entertainment-education on prosocial behaviors such as racial attitudes (Soble, Spanierman, & Liao, 2011), attitudes and behaviors regarding health-related decision-making (Harris, 2013; Hernandez & Organista, 2013; Jeong & Park, 2013, Johnson, Harrison, & Quick, 2013; Murphy et al., 2013), and attitudes and behaviors related to sexual activities (Dill-Shackleford, Green, Scharrer, Wetterer, & Shackleford, 2015). While a few researchers have explored the use of films to teach business ethics (O'Boyle & Sardona, 2014; Werner, 2013), researchers have not studied the potential effects of entertainment-education on ethical decision-making behaviors in business.

Sections in the Chapter

The literature review in this chapter includes 32 studies on ethical decision-making published between 2011 and 2018. In this chapter, I first review the theories and research models used to frame this study. These include social cognitive theory (Bandura, 1986), ethical decision-making (Kohlberg, 1963; Rest, 1986; Hunt & Vitell, 1986; Sonenshein, 2007), and narrative persuasion (Bilandzic & Busselle, 2011). Following a review of the theoretical framework, I present a critical analysis of the peer review literature on entertainment-education (Singhal & Rogers, 1999; Singhal et al., 2004), narrative persuasion (Bilandzic, 2013), ethical decision-making (Craft, 2013;

Lehnert, Park, & Singh, 2015), and the behavior of speaking-up or whistleblowing within organizations (Culiberg & Mihelič, 2016). I close the chapter with a conclusion and summary statement.

Literature Search Strategy

In conducting my literature review, I accessed the following search engines and library databases: Google Scholar, EBSCO Business Source Complete, ProQuest Central, Sage Premier, and LegalTrac. I also searched some specific journals including *Journal of Business Ethics, Business Ethics Quarterly*, and the *Journal of Business Ethics Education*. In conducting my searches, I discovered that the majority of entertainment-education researchers have published in communication journals (e.g., Ayala et al., 2015; Bilandzic & Busselle, 2011; Brussse, Fransen, & Smit, 2015; Cho, Shen, & Wilson, 2012). As a result, I also searched in the *Journal of Communication*, *Journal of Health Communication*, *Communications*, and *Communication Quarterly*.

I included the following terms and phrases in my search for educational methods used in ethical decision-making and business ethics: *ethical decision-making* with and without the hyphen; *ethical decision making* and *business*; *ethical decision making* and *pharmaceutical*, *training*, and *ethical decision making*; and *education* and *ethical decision making*. My search for applications of entertainment-education included the following terms and phrases: *entertainment-education* with and without the hyphen, *entertainment education* and *ethics*, and *entertainment education* and *ethical decision making*. The topic of entertainment-education research also appears in narrative persuasion research (Bilandzic & Busselle, 2011). Consequently, I added the terms

narrative persuasion and *narrative persuasion* and *ethics* to my search as well. I also

discovered that some entertainment-education researchers had used the extended-

elaboration likelihood model (Slater & Rouner, 2002) as a research framework. As a

result, I used the search terms *extended elaboration likelihood model* to gain an

understanding of how this research model has evolved since 2002. In addition, I searched

for research on *video education* or *educational video* to understand research methods and

ways in which researchers have used educational videos as an intervention in

experimental quantitative studies, and what type of behaviors they measured. Finally, to

research ethical issues specific to the pharmaceutical industry, I searched for

pharmaceutical and *ethics* and *pharmaceutical* and *ethical decision making.* Although I

found few studies specific to pharmaceutical sales and marketing ethics, I was able to

locate significant research in general *marketing* and *ethics*, or *sales* and *ethics*.

I searched for research published between January 2011 and December 2017.

The focus of my search included research in (a) entertainment-education, (b) narrative

persuasion, and (c) business ethics education and their effects on knowledge, attitudes,

and behaviors. I referenced two seminal books in the field of entertainment-education

(Singhal & Rogers, 1999; Singhal et al., 2004) which include early research findings and

case studies for practitioners. While conducting this literature review, I discovered that

entertainment-education interventions are a form of narrative persuasion (Moyer-Gusé,

Jain, & Chung, 2012). As a result, I also evaluated research in narrative persuasion. In

addition, I searched for specific research in methods for teaching compliance and ethics

in the pharmaceutical industry.

Theoretical Foundation

A study of the effects of entertainment-education on ethical decision-making and behavioral intentions to speak up requires an analysis of multiple theories and models. These include Bandura's (1986) social cognitive theory and narrative persuasion theory (Bilandzic & Busselle, 2012) which provide a framework for researching entertainment-education. The origins of narrative persuasion date back to Aristotle's writings on how drama and the art of rhetoric could be used to persuade and influence the attitudes of an audience (Aristotle, trans. 1924). Narrative persuasion is a sub-field in communications theory. Ethical decision-making has a research tradition in moral development and moral reasoning theory (Kohlberg, 1963; Rest, 1986), social and situational interactions (Bandura, 1986, Jones, 1991), and sense making models (Sonenshein, 2007; Mumford, 2012).

Social Cognitive Theory

In his social cognitive theory, Bandura (1986) explained that there is a reciprocal relationship between a person's cognitive, emotional, and moral development and the environment on human behavior. Bandura's model of reciprocal determinism provided researchers with a framework for understanding the relationship between personal variables (e.g., knowledge, attitudes, intentions) and environmental variables (e.g., corporate culture, financial incentive programs), and how these interactions can influence ethical decision-making or a behavioral intention to speak up. Bandura's model of reciprocal determinism may be used to understand the effects that a person may have on

the environment and the effects that the environment may have on the person, which may affect behaviors.

In the Hunt and Vitell (1986) model for ethical decision-making, they included both personal and environmental variables as predictors of ethical issue awareness and judgment. In accordance with the Pharmaceutical Research and Manufacturers of America (PhRMA) Code on Interactions with Health Care Professionals (2008), pharmaceutical sales representatives are permitted to purchase meals for the physicians they visit, as long as they accompany the meal with an approved product presentation. According to social cognitive theory (Bandura, 1986) and the Hunt and Vitell (1986) model, the environment may play a critical role in the behavioral intentions and actions of both the sales representative and the physician. Sah and Fugh-Berman (2013) suggested that whether physicians are consciously aware of it or not, gifts received from pharmaceutical sales representatives may influence prescribing behaviors. Even a low-cost gift such as a lunch or dinner can trigger a need to reciprocate by writing prescriptions for the product. These effects align with Bandura's (1986) model of reciprocal determinism which states that while people may influence their environment, the environment may also influence them.

Researchers have used social cognitive theory as a framework for both entertainment-education and ethical decision-making research. Hernandez and Organista (2013) used social cognitive theory to frame their entertainment-education research study to measure the effects of a photo and text-based novel on depression help-seeking behaviors and self-efficacy to manage one's health care. Lieberman, Berlin, Palen, and

Ashley (2011) used social cognitive theory as a framework in their entertainment-education study to measure the effects of an on-stage drama on behavioral intentions of young adolescents to have sex, and the self-efficacy to refuse sex. Bandura's (1986) social cognitive theory is quite complex, composed of multiple models and hypotheses. Self-regulation, self-efficacy, and vicarious modeling are part of social cognitive theory and critical for this study.

Self-regulation and self-efficacy. One component of social cognitive theory is self-regulation of behaviors. Bandura (1986) described self-regulation as three sub-processes of "self-observation", "judgmental process," and "self-reaction". I posit that these three sub-processes can be aligned to Rest's (1986) moral decision-making sub-processes (see Table 2). Bandura's self-regulation model is closely related to the rational approach to understanding the ethical decision-making process.

Table 2

Comparison of Self-Regulation Subprocesses to Moral Reasoning

Theorists	Stage 1	Stage 2	Stage 3
Bandura (1986), Self-Regulation Sub-Processes	Self-Observation	Judgmental Process	Self-Reaction
Rest (1986) Moral Reasoning Stages	Issue Awareness	Moral Judgment	Behavioral Intention and Action

Self-observation refers to an awareness of self and the environment (Bandura, 1986). Before people can regulate their behaviors, they must be aware of the gaps in

their ability to perform those behaviors, and also the environmental conditions. Self-observation is similar to the first step in Rest's model to demonstrate awareness of the issues when presented with an ethical dilemma. For example, lack of awareness that off-label promotion of a drug could be harmful to patients (Rodwin, 2013), could have a negative effect on pharmaceutical sales representative decision-making. The second step in self-regulation is the judgmental process which aligns with Rest's moral judgment step in moral decision-making. Like Kohlberg (1963), Bandura discussed the need for the development of a judgmental ability. Bandura suggested that people can learn judgmental abilities by observing behavioral modeling. When a person observes someone modeling an unethical behavior and receiving a reward, that behavior becomes more desirable to adopt (Hanna, Crittenden, & Crittenden, 2013). In contrast, if a person observes someone modeling a behavior and receiving a punishment, that behavior becomes less desirable to adopt. In addition, Bandura discovered that viewers were more likely to adopt aggressive behaviors when the actor in the film appeared to enjoy their actions. I used these principles of vicarious modeling in the design of the entertainment-education program used in this study.

Self-efficacy is a component of the self-regulation model which can be used to predict behavior. Self-efficacy is the ability to exercise confidence that one's actions will result in an expected outcome (Bandura, 1986). Self-efficacy is similar to the concept of internal locus of control, which Rotter (1975) defined as believing that one is in control of the outcomes of one's actions. Bandura defined self-efficacy as "a generative capability in which cognitive, social, and behavioral sub-skills must be organized into

integrated courses of action to serve innumerable purposes" (p. 391). It's not enough to be aware of rules or principles at a cognitive level. One must have a predictive insight into what might happen and be confident that it will happen based on experience or behavioral modeling by others. Self-efficacy is similar to self-confidence that one's actions will result in a particular outcome, also referred to by Bandura as outcome expectations. An important aspect of social cognitive theory is that self-efficacy can be developed or learned. One method for learning or developing self-efficacy is through vicarious modeling. Vicarious modeling is key to research in narrative persuasion and entertainment-education.

Vicarious modeling. Vicarious social modeling is another component of social cognitive theory which can be used by researchers to study the effects of entertainment-education narratives on behaviors (Bandura, 1986). Researchers also refer to this phenomenon as social learning, modeling, or observational learning (Wiedman, Black, Dolle, Finney, & Coker, 2015). An early example of research on vicarious social modeling is the experiment conducted by Bandura, Ross, and Ross (1963) where they reported that behaviors of children were directly affected by watching a film of an adult kicking and punching an inflatable doll. The children who viewed the video not only adopted the behavior of kicking and punching the doll but were also more likely to pick up a toy gun and point it at the inflatable doll. This early experiment in vicarious modeling was foundational for future research on the effects of vicarious models in television and films.

Humans can learn by observing modeling of a task or behavior. Bandura explained that this ability is paramount to how humans learn. Our ability to watch someone doing something and mimic it is a powerful capability that we have as humans. If we were unable to learn by observing others, we would have to learn everything by trial and error. Observations can be made either live or through a vicarious medium such as film or television. People can now search the internet for videos that demonstrate practically any task or behavior. Researchers are beginning to study the effects of online entertaining video clips on knowledge and behavioral intentions (Schneider, Weinmann, Roth, Knop, & Vorderer, 2015). Advertisers can use narratives and modeling of behaviors to persuade people to change their attitudes and actions regarding their products (Ching, Tong, Chen, & Chen, 2013). Researchers refer to this approach to modify attitudes and behaviors as narrative persuasion.

I measured the effects of vicarious modeling through the medium of film which was foundational to Bandura's early experiment on the effects of social modeling (Bandura, Ross, & Ross, 1963). Researchers have measured this same effect in the field of entertainment-education for nearly four decades, following Miguel Sabido's first successful entertainment-education projects in Mexico in the 1970s (Singhal et al., 2004). Producers and researchers of entertainment-education have focused on health-related behaviors (Aronson et al., 2012; Ayala et al., 2015; Harris, 2013; Jeong & Park, 2013; Jibaja-Weiss et al., 2011; Johnson, Harrison & Quick, 2013) rather than business ethics behaviors. I have attempted to address this gap by evaluating the effects of

entertainment-education on ethical issue awareness, ethical judgment, and behavioral

intentions to speak up in the pharmaceutical sales and marketing professions.

Narrative Persuasion

The science and art of persuasion date back to Aristotle's writings on the topic of

rhetoric (Aristotle, trans. 1924). He spoke of the use of rhetoric in the context of a public

speaker presenting to an audience. Aristotle (trans. 1924) explained that the

persuasiveness of the speaker's message is dependent on three things. First, the

personality of the speaker has an influence. Business leaders and salespeople develop

their style of communication and presentation with the intent to influence attitudes and

behaviors of their audience (Conrad, 2013). Speakers may also use their position of

power or experience to build their persuasive message. Aristotle's second premise was

relevant to this current study. "Our judgments when we are pleased and friendly are not

the same as when we are pained and hostile (Aristotle, trans. 1924, p. 10)."

Consequently, the emotional reaction of the audience could be a predictor of the

persuasive influence of the message. In this study, I explored the concept of using

dramatic and comedic techniques to arouse the emotions of the audience while

simultaneously delivering a message intended to influence knowledge, attitudes, and

behaviors. The actual content of the communication must present a logical and

convincing argument which presents a challenge when mixing fiction with an educational

message. Aristotle (trans. 1924) was referring to what an orator, scholar, or lawyer may

do when presenting an argument. Developers of entertainment-education and other forms

of narrative persuasion integrate an argument with a fictional story.

The following is an example of a message integrated into a fictional narrative that can persuade someone to make unethical choices. In Season 1, Episode 6 of the television program *Alias*, one of the key characters, Jack Bristow, is presented with an ethical dilemma (Abrams, 2001). In the storyline, Jack Bristow is a CIA double agent. He learns that his daughter, Sydney Bristow, who is also a CIA double agent, has been captured by the corrupt intelligence agency SD-6. The director of SD-6 has evidence that Sydney is a double-agent. Jack knows that SD-6 interrogators will torture or kill his daughter. Jack has the means to falsify records in the SD-6 computers to shift the blame to Sydney's partner. This act could save his daughter's life but would result in someone else being tortured and killed. Jack decided to falsify the computer data, risking his life, while saving his daughter. The other SD-6 agent was tortured and killed.

In a later scene, Sydney is discussing her father's ethical dilemma and decision with her CIA partner, Vaughn. Sydney and Vaughn both reasoned through the ethical dilemma and Sydney concluded that if she had been in the same position, she might have done the same thing. Vaughn helped Sydney with her reasoning process by explaining that the man who died was a bad person. This narrative has an embedded persuasive message. If a close family member or someone you love is in danger of suffering and dying, and you have the ability to sacrifice someone else that you judge as a bad person, you will be justified in committing fraud, and condemning that person to suffer and die.

It is important to note that during the first five episodes of this television program, Sydney and her father Jack were gradually building a father-daughter relationship which they did not have while Sydney was growing up. This is a key technique in persuasive

narratives. Some viewers will identify with either Sydney, the child who never had a real father or Jack the father who regrets being a workaholic and not being a good father during Sydney's childhood. In later episodes, viewers learn that Jack is a recovering alcoholic which could add to a feeling of empathy by fathers struggling with the same problem. By Episode 6, viewers want to see this father-daughter relationship grow. As a result, the audience was prepared to receive the persuasive message suggesting that we are justified to lie and kill to protect our children. Viewers may have identified with the characters. Also, the intensity of the show makes it easy to be immersed or transported into the story. Whether Abrams (2001) intended to or not, he developed a form of narrative persuasion. Viewers or readers of persuasive narratives balance their enjoyment of the story with what they learn by observing and considering the argument in the story. Slater and Rouner (2002) developed a model for understanding this persuasive process referred to as the extended-elaboration likelihood model.

Extended-Elaboration Likelihood Model

Entertainment-Education programs are designed to persuade an audience to change their attitudes, beliefs, and behavioral intentions while immersed in a story. The extended-elaboration likelihood model (Slater & Rouner, 2002) provides a framework for assessing the effects of an entertainment-education program. The elaboration likelihood model was initially developed by Petty and Cacioppo (1986) to evaluate the persuasiveness of media communications and determine the likelihood that viewers will discuss or elaborate on the intended persuasive message. Slater and Rouner (2002) suggested that for a narrative to have a persuasive influence, the reader or viewer must

first experience a sense of immersion into the narrative world. Green and Brock (2000) referred to this phenomenon as narrative transportation, also referred to simply as transportation. Green and Brock (2000) defined transportation as a feeling of being part of the story, leaving the real-world, and entering the fictional world in one's mind.

In addition to transportation, the reader or viewer must experience an identification with the characters. Identification results when a viewer builds a vicarious social relationship with the character in a book, theater, film, or television show (Cohen, 2001). Identification may refer to liking a character, feeling that the character is similar to oneself, wishing that you could be like the character, or making an emotional connection with the character (Frank, Murphy, Chatterjee, Moran, & Baezconde-Garnanati, 2014). Individuals who have found themselves speaking to the characters on the television screen, and feeling anxious, sad, or fearful about what will happen to them, may have experienced the phenomenon referred to as character identification.

When a reader or viewer experiences narrative transportation and character identification, two things can occur as a result. First, the author of the narrative can reduce the risk of the viewer reacting negatively to the embedded persuasive message. Second, the author can decrease the possibility of the viewer counter-arguing the embedded message. Slater and Rouner (2002) suggested that when a person is immersed and fully engaged in a narrative, and emotional enjoyment is high, that a person is metaphorically sedated to receive the treatment of the persuasive message. This model aligns with the premise presented by Aristotle (trans. 1924) nearly 2400 years ago that audience enjoyment is a predictive variable for explaining the persuasiveness of a

speaker's message. In this study, I explored the effects of entertainment-education, a form of narrative persuasion, on ethical decision-making in business.

Ethical Decision-Making

The study of ethics has ancient roots in the writings of Aristotle (trans. 1909). Aristotle opened his book on ethics with the following statement. "Every art and every inquiry, and similarly every action and pursuit, is thought to aim at some good" (p. 1). Based on this description, ethics is a study of people's intentions to do good. The term ethics comes from the Greek word ethos which refers to customs approved by a community (Dewey & Tufts, 1908). For example, Americans may have one ethos while Asians may have another. Democrats may have a different ethos than Republicans. Pharmaceutical companies and the medical community have developed an ethos, or system of socially acceptable norms, which Rodwin (2013) referred to as "institutionalized corruption" (p. 571). Consequently, research in ethics is a study of intentions to act in such a way that would result in a positive outcome for a community or group, based on the current accepted social norms. Development of societal ethics is not static or absolute, but ever changing. A study of ethical decision-making becomes a challenge when people belong to different communities, each with a different ethos. For example, Americans live in a democratic society whose ethos is shifting all the time. At the same time, Americans participate in hundreds of different religions, live within different cultures, and work in various industries each with their set of ethos. For this study, I have focused on ethical decision-making in the pharmaceutical sales and marketing field, within the United States.

Moral development and moral reasoning theory. Researchers of ethical

decision-making use Kohlberg's (1963) moral development model, Rest's (1986) moral

reasoning process, and Hunt and Vitell's (1986) theory of marketing ethics as a

theoretical framework (Donoho & Heinze, 2014; Singhapakdi, Vitell, Lee, Nisius, & Yu,

2013; Valentine, Nam, Hollingworth, & Hall, 2014). Kohlberg (1963) suggested that

humans develop their abilities to make moral judgments in stages throughout their life.

According to Kohlberg (1963), development begins in childhood and advances through

adulthood. Kohlberg (1963; 1977) defined three levels of moral development with two

stages in each level. The first lower level is the pre-moral level. In this level, people

make moral judgments based on obedience to avoid punishment. In the intermediate

level of moral development, judgment and decisions are based on a desire to please an

authority figure, such as a parent, teacher, or a manager. People who can make decisions

at levels five and six, can make decisions based on moral principles rather than rely

entirely on rules, regulations, or social norms.

Employees who perceive their managers or leaders to be ethical may have higher

awareness, or ability to recognize unethical issues (Zhu, Treviño, & Zheng, 2014).

Authoritative figures, like a manager or an executive, can have an effect on the ethical

behaviors of their employees. In the famous Milgram (1963) experiment, mature,

rational adults made decisions that could have led to the death of a person they met on the

day of the study. Many participants in the study complied with the commands of an

authoritative figure to commit an unethical act. In the Milgram (1963) experiment, the

authoritative figure, dressed in a white lab coat, asked participants to "please continue"

when they hesitated to administer a simulated electric charge on the student. Several

subjects in the study continued administering shocks, even though the evidence suggested

that they were seriously harming or even killing the student. Rest, Turiel, and Kohlberg

(1969) suggested that people step through the six stages of moral development from

childhood through adulthood. The behavior of the Milgram (1963) study participants

may suggest that people could be manipulated to use different strategies of moral

judgment based on context and direction from an authoritative figure like a manager.

If managers advocate and reinforce unethical business practices with financial

rewards, they may influence their employees to make poor moral judgments (Hanna,

Crittenden & Crittenden, 2013). The manner in which a decision is framed may affect

how decision are made (Dedeke, 2015). The corporation of Johnson & Johnson settled

with the U.S. government for 2.2 billion dollars as a result of fraudulent promotion of

their product Risperdal (Voreacos & Pearson, 2013). Voreacos and Pearson (2013)

reported that one of the whistleblowers in the Risperdal case complained to her manager

when she observed unethical promotional practices and her manager responded "What

are you saying? You can't do your job?" Managers at Johnson & Johnson, through their

actions, may have influenced the unethical decision-making of their sales representatives.

While Kohlberg (1963) defined the stages of moral development, Rest (1986)

provided a process of moral reasoning when presented with an ethical dilemma. Rest

(1986) defined four steps in the moral reasoning process which researchers apply in the

ethical decision-making literature (Craft, 2013) to measure ethical decision-making

outcomes. Craft (2013) identified 84 studies published between 2004 and 2011 which he

was able to evaluate using the Rest (1986) moral reasoning model. The first step in the model is to become aware of the moral issues in the situation. If a person is unable to recognize that the situation presents a moral dilemma then no further analysis of the situation will occur. Perhaps a decision will be made absent of any ethical considerations. Dedeke (2015) concluded that prior to Rest's awareness stage, the manner in which the situation is framed may impact subsequent steps in the moral decision-making process. Hunt and Vitell (1986) extended this principle by suggesting that perception of ethical issues includes the perception of alternative actions and consequences of those actions. A person may perceive that a situation contains an ethical issue. However, if they are unaware of the alternatives and the consequences, they may not be effective evaluating the issues and making a judgment. Secondly, once someone is aware of an ethical or moral issue, they need to judge each issue to determine its importance and impact, also referred to as moral intensity (Jones, 1991).

Kohlberg's (1963) development stages of moral reasoning may correlate with ethical decision-making. Buchko and Buchko (2009) measured ethical decision-making by first asking study participants to view a single humorous scene from a movie, *Other People's Money*, followed by reading a fictional ethical business dilemma involving a hostile takeover decision. Buchko and Buchko (2009) then evaluated the influence of moral development (Kohlberg, 1963) on ethical decision-making. Participants voted on an ethical business decision and then recorded reasons for their vote. Buchko and Buchko (2009) found that level of moral development did have a relationship to ethical decision-making. Subjects were asked to make a choice which Buchko and Buchko

(2009) categorized using Kohlberg's (2008) levels of moral development. Participants were also asked to document the reason for their decision, after which the researchers coded to one of Kohlberg's levels of moral development. The reasoning behind the decision was measured. Moral reasoning significantly impacted moral decision-making. Neither gender, educational level, or context of the situation had significance in the moral decision-making. Unfortunately, Buchko and Buchko (2009) did not have a control group to measure the effects of the video on ethical decision-making. Using results from this current study, I have contributed to Buchko and Buchko's (2009) research by evaluating the effects of a humorous video series on ethical decision-making.

     Issue-Contingent Model. Jones (1991) developed the issue-continent model in which he defined moral intensity as a construct of four components which include: the magnitude of consequences, social consensus, the probability of effect, temporal immediacy, and proximity and concentration of effect. Jones (1991) argued "moral issues vary in term of their moral intensity" (p. 367). Similar to moral intensity, Hunt and Vitell (1986) explained that while evaluating consequences of actions, people engage in a deontological evaluation based on their personal beliefs and values. Valentine and Hollingsworth (2012) found that each of the moral intensity components did not have the same effect on ethical decision-making. They found that in one situation magnitude of consequences had a significant effect on ethical issue awareness, and in another situation, temporal immediacy had a significant effect on ethical issue awareness. Both magnitude of consequences and social consensus had a significant effect on the moral or ethical judgment in two situations. The moral intensity did not have a significant direct effect on

behavioral intentions. While people evaluate the moral intensity of a situation, not all types of moral intensity will equally affect ethical decision-making. Additionally, the situation may have an effect on perceived moral intensity which could then have an effect on ethical decision-making.

If a person were to observe the moral intensity or the consequences of an issue acted out in a narrative, this could influence moral judgment by providing a vicarious motivator to either engage in or avoid a behavior. A person's stage of moral development may affect their ethical or moral judgments of issues, (Kohlberg, 1963). Once a person has made his or her judgment of an issue, the next step is to develop a behavioral intention. Hunt and Vitell (1986) suggested that teleological evaluations of consequences may influence behavioral intentions. Valentine & Hollingsworth (2012) also reported that ethical judgments are positively related to ethical intentions. Finally, a person may or may not act on a behavioral intention.

While not part of Rest's (1986) or Hunt and Vitell's (1986) ethical decision-making model, Bandura's (1986) principle of self-efficacy can be used to predict whether a person will take an action. For example, someone may become aware of an unethical business practice but not have the confidence that the action of speaking-up will yield a positive or rewarding outcome. Rotter (1975) referred to this as having an external locus of control. Also, the person may fear retaliation from peers or leaders. As a result, even when a person is aware of an issue, judges the issue correctly, clearly understands the intensity of the potential outcomes, and has an intention to speak up, a lack of self-

efficacy to speak up can shut the process down. As a result, self-efficacy may contribute to predicting ethical decision-making behaviors.

Literature Review

In this literature review, I will first present a critical analysis of what researchers have concluded regarding the effects of entertainment-education on issue awareness, decision-making, and behavioral intentions to adopt a new behavior. I will identify attributes of entertainment-education programs used in the production of the entertainment-education video series for this study. Also, I will explore the variables that may predict the persuasive effects of entertainment-education narratives. Finally, I will review the research regarding ethical decision-making which includes ethical issue awareness, ethical or moral judgment, and behavioral intentions to make ethical decisions including speaking-up when someone identifies an unethical issue.

Entertainment-Education

Entertainment-Education developers combine storytelling, entertainment, and educational messaging to persuade viewers to change their attitudes, promote message elaboration, increase awareness of an issue, or modify behaviors (Singhal et al., 2004). Researchers and practitioners have used entertainment-education programs in a variety of ways to increase awareness of social issues and influence social change. Singhal, Cody, Rogers, and Sabido (2004) cited multiple examples how practitioners have used entertainment-education to impact social change issues such as poverty, lack of health care, illiteracy, aids prevention, abuse of women and children, smoking, and many others. Examples of how researchers have studied the effects of entertainment-education include:

effects on behavioral intentions to receive a vaccination for Human Papillomavirus (HPV) (Frank, Murphy, Chatterjee, Moran, & Baezconde-Garbanati, 2014), behavioral intentions to seek health screenings and health education (Harris, 2013; Hernandez & Organista, 2013), attitudes regarding deer hunting (Heide, Porter, & Saito, 2012), attitudes regarding religion (Igartua & Barrios, 2012), behavioral intentions to become an organ donor (Jeong & Park, 2013), intentions to abuse alcohol (Leeuwen, Renes, & Leeuwis, 2013; Leeuwen, Putte, Renes,& Leeuwis, 2016; Brusse, Fransen, & Smit, 2016), abuse of woman in India (Lapsansky & Chatterjee, 2013), and several other social issues. Entertainment-Education may be a practical model for using drama, storytelling, and vicarious modeling (Bandura, 1986) to increase awareness, influence decision-making, and promote behavioral change.

Increase awareness or knowledge of an issue. Viewing or reading a narrative which contains an educational message may contribute to an increase in awareness or knowledge. Entertainment-education programs have been implemented to raise awareness of job-site safety (Castañeda et al., 2013), cancer (Beach et al., 2016; Hoffman et al., 2016), global warming (Flora et al., 2014), safe sex practices among Latino adolescents (Wang & Singhal, 2016), and depression healthcare (Hernandez & Organista, 2013). Wang and Singhal (2016) reported that 50% of the viewers of the online series, *East Los High*, learned between one and ten new facts regarding the use of condoms, and 36% learned one to seven new facts regarding birth control. In contrast, Searight and Allmayer (2014) were unable to measure significant effects on critical thinking skills after participants viewed a video depicting medical ethics issues. While educational-

entertainment may have an effect on increasing cognitive awareness, it may not have a significant impact on complex analytical thinking skills. Murphy, Frank, Chatterjee and Baezconde-Garbanati (2013) reported a significant increase in cervical cancer awareness after viewing an entertainment-education video when compared to a group viewing a non-narrative educational video. Also, they discovered an unexpected result that happy emotions had a negative impact on knowledge acquisition which may suggest that the entertainment portion may have an adverse effect on awareness. While researchers report mixed findings, the evidence suggests that viewing an entertainment-education program can increase awareness of an issue.

Improve attitudes and behavioral intentions. Researchers have demonstrated that an entertainment-education program can have effects on both changes in attitude, and behavioral intentions after viewing an entertainment-education program. For example, after viewing an episodic educational cartoon series in a doctor's office waiting room, viewers demonstrated a change in health seeking behaviors, and a reduction in stress when speaking with the doctor (Harris, 2013). Murphy et al., (2013) developed two high-quality films, both presenting an educational message regarding the value of cervical cancer screening. One version used an entertainment-education narrative format and the other used a didactic approach with two physicians giving a lecture from a doctor's office. Viewers of the narrative version increased in knowledge more than non-narrative viewers and improved their attitude towards screening. The researchers found changes in behavioral intent difficult to measure. Wang and Singhal (2016) reported significant changes in attitude and behavioral intentions regarding safe sexual activities, in teenagers

who viewed the online video series, *East Los High*. Also, Lieberman, Berlin, Palen, and Ashley (2011) found that an entertainment-education theater had a significant impact on knowledge with male viewers, and attitudes with female viewers regarding the topic of adolescent sexual activity. Schneide, Weinmann, Roth, Knop, and Vorderer (2015) reported a mediating effect of viewer appreciation on behavioral intention. Participants in their study were asked to watch four short video clips. They indicated that level of appreciation explained most of the variance related to behavioral intention. In contrast, Hernandez and Organista (2013) reported a marginal effect on behavioral intention to seek mental health care after reading an entertainment-education "fotonovela" when compared to participation in a traditional health education discussion group. While Hoffman et al. (2017) found that an entertainment-education video significantly increased knowledge regarding the colorectal cancer screening, they found no evidence that the effects were significant to influence attitudes or behaviors to seek for screening. Meader, Knight, Coleman, and Wilkins (2015) concluded that still images and the text was more effective at improving moral judgment scores when compared to a video-based version of the same content. Braddock and Dillard (2016) concluded, from a meta-analysis, that there is no significant difference between media types. These mixed findings cast some doubt on whether video-based entertainment-education programs are more effective than text and image-based programs at modifying behavioral intentions.

While entertainment-education researchers normally focus on behaviors with personal health benefits, some researchers have demonstrated that entertainment-education programs can also change strongly held beliefs with no apparent personal

benefit. For example, attitudes towards a specific religion can be affected (Igartua &

Barrios, 2012). The researchers reported that political ideology moderated the effect on

attitudes after watching the controversial movie *Camino*. Character identification with

the protagonist had a strong effect. Entertainment-Education programs have also been

used to increase intentions to donate one's organs after death (Jeong & Park, 2013). The

older youth did not have the same effect, which suggests that age can moderate effects of

entertainment-education programs. Entertainment-Education programs can be used to

influence attitudes regarding global warming and behaviors to protect the environment

(Flora, Saphir, Lappé, Roser-Renouf, Malbach, & Leiserowitz, 2014). None of these

changes in attitudes or behaviors are directly related to a personal benefit suggesting that

entertainment-education can be used to change attitudes and behaviors to help someone

other than self.

   Not all entertainment-education programs yield the attitudinal and behavioral

changes expected. In one program, researchers embedded a soap-opera-style story in an

eLearning course to teach the differences between evasive and non-evasive treatments for

breast cancer (Jibaja-Weiss et al., 2011). The researchers intended to change the

behavior of selecting an evasive surgery rather than a less evasive procedure. After

viewing the program, more people chose the evasive surgery. This outcome could

suggest that the developers of the entertainment-education program did not design the

program correctly. Jibaja-Weiss et al. (2011) may have inadvertently developed an

entertainment-education program that reinforced rather than changed previously held

beliefs (Gesser-Edelsburg & Singhal, 2013). Prospect theory (Kahneman & Tversky,

1979) suggests that the way in which risky behaviors are framed could have an effect on decision-making. Jibaja-Weiss et al. (2011) may have framed the behavioral message in a way congruent with prospect theory, but incongruent with their intentions. Developers of entertainment-education programs need to careful how they frame their messages to ensure that the intervention has the desired effect. The framing in *The Workshop* series is primarily a lose-frame model (Brusse, Fransen, & Smit, 2016), presenting the penalties associated with performing inappropriate or unethical behaviors. In Episode 2 of *The Workshop*, the character Gina explained how her bad decision-making may have been a result of her poor framing of the situation. She explained that "profits were up, and people were getting rewarded", despite their potentially illegal behaviors. Gina suggested that framing the situation in this manner, may have clouded her judgment.

For this study, the developers of *The Workshop* designed the narrative to encourage viewers to change their behavioral intention to speak up when they become aware of an unethical or potentially illegal issue. While most entertainment-education programs focus on health-related behavioral intentions, some researchers have studied the effects of video-based education on speaking-up. Gesser-Edelsburg and Singhal (2013) cited the entertainment-education program *Soul City*, as an example of changing attitudes and behaviors regarding speaking-up against domestic violence. Sayre, Mcneese-Smith, Leach, and Phillips (2012) measured speaking-up behavioral intentions before asking study participants to view a series of five video-based scenarios. Each of the scenarios showed the outcomes for not speaking-up when patient safety was at risk. The program also included goal setting and a peer support network. The overall program had a

significant effect on improving behavioral intentions to speak up regarding an observed high-risk behavior. While researchers Sayer et al. (2012) measured effects of entertainment-education videos on speaking-up behavior in healthcare professionals, I posit that an entertainment-education program may also influence speaking-up of unethical business behaviors in pharmaceutical sales professionals.

Categories of entertainment-education programs. Entertainment-Education programs fall into three categories, which include reinforcement, entrenchment, and change (Gesser-Edelsburg & Singhal, 2013). First, entertainment-education programs can reinforce existing attitudes which can be positive or negative. As a result, a narrative can be designed to reinforce an undesirable attitude or behavior. Second, entertainment-education programs can cause people to entrench in current attitudes and refuse to change because of the modeling in the entertainment-education program. Gesser and Singhal (2013) referred to this as the "Archie Bunker" or boomerang effect. Despite the fact that the character Archie Bunker, from the 1970s-television program *All in the Family* frequently demonstrated bad behaviors, many viewers liked Archie Bunker (Leer & Speight, 1971). In many scenes in the show, Archie Bunker showed kindness and love towards his friends and family which may have resulted in people identifying with his character and reinforcing their biased beliefs. Finally, entertainment-education program developers who apply the change model can influence a change of attitude, behavioral intentions, and bring about social change. Most entertainment-education programs are designed to bring about change, rather than entrench or reinforce attitudes.

Entertainment-Education as a form of narrative persuasion. Entertainment-Education is a type of persuasive narrative. Bilandzic and Busselle (2012) defined narrative persuasion as "any influence on beliefs, attitudes, or actions brought about by a narrative message" (p. 201), while Singhal et al. (2004) defined entertainment-education as a media message designed to "increase audience member's knowledge, create favorable attitudes, shift social norms, and change overt behavior" (p. 5). In other words, entertainment-education programs are forms of narrative persuasion, while not all persuasive narratives are designed to entertain. For example, a public service announcement with an emotionally charged true success story could impact self-efficacy (Phua, 2014), while not including elements of entertainment. When researchers compared an educational narrative video not designed to entertain with one that was clearly designed to entertain and educate, the effects on attitude and behavior were stronger with the entertaining narrative (Murphy et al., 2013). Adding elements of entertainment such as emotional drama or comedy to an educational video may improve the persuasive effect of a narrative.

The entertainment portion of an entertainment-education program may be effective in reducing negative reactions and counter-arguing of the embedded educational message (Brusse, Fransen & Smit, 2016; Cohen et al., 2015; Moyer-Gusé, Chung & Jain, 2012). When a viewer realizes that the intent of a narrative or film is to persuade or influence attitudes and behaviors, they can develop a negative reaction to the message. Researchers of narrative persuasion refer to this negative reaction as reactance (Laer, Ruyter, Visconti, and Wetzels, 2014). Also, viewers of persuasive narratives can create

counter-arguments to the message (Igartua & Barrios, 2012). If an entertainment-education program can be designed to transport the viewer into the narrative and create a connection between the characters and the viewer, then the viewer may let down his or her guard and be more receptive to the educational message. Researchers refer to this connection as character identification (Cohen, 2001) or parasocial interaction (Jeong & Park, 2013). Researchers have indicated that narrative transportation and character identification may help to explain why entertainment-education can influence changes in attitudes and behaviors.

Narrative transportation. To effectively deliver an educational message embedded in a narrative, it is important for viewers or readers to experience narrative transportation. Green and Brock (2000) defined "transportation as a convergent process, where all mental systems and capacities become focused on events occurring in the narrative" (p. 701). Transportation is an experience in which the storyteller immerses the viewer into a fictional world while the viewer loses focus on the surrounding environment. Researchers have reported different effects of narrative transportation. Narrative transportation can predict message acceptance and perceived salience of the message (Lane, Miller, Brown, & Vilar, 2013) and is a good predictor of increases in knowledge, modification of attitudes, discussion of an educational message, and information seeking behaviors (Murphy, Frank, Moran, & Patnoe-Woodley, 2011). Narrative transportation can also have an impact on affective empathy which can lead to changes in prosocial behavior (Johnson, 2012). Laer, Ruyter, Visconti and Wetzels

(2014) concluded that narrative transportation has significant effects on affective outcomes.

Laer et al. (2014) proposed an extended version of the transportation-imagery model (Green & Brock, 2002) to include the attributes of both the storyteller and the story receiver. They explained that there is a process whereby the storyteller presents a story, and the receiver creates a narrative about the story as they process the story. Narrative transportation is the action taken by the story receiver as they process the story plot in their minds. Narrative persuasion should not be confused with scientific persuasion or rhetoric of a lawyer or politician. Narrative persuasion refers to the effect of fictional entertaining stories, with plots, emotion, and characters.

Character identification. Identification with the characters in narratives is an essential component for strengthening the persuasiveness of the program. Character identification can lead to an increase in self-efficacy (Phua, 2014) and a reduction in counter-arguing (Moyer-Gusé, Chung, & Jain, 2011). Researchers have reported that character involvement was not a good predictor for improving knowledge regarding an embedded message in a television series (Murphy et al., 2011). Identification with the characters in a story can contribute to a change in attitudes and behaviors but reduce an increase in knowledge. Consequently, training managers may want to supplement an entertainment-education approach with didactic training methods to support cognitive outcomes.

There are several ways to improve or manipulate identification with the characters in a narrative. The perspective of the characters, as they present their argument or goals,

may have an effect on identification (Graff, Hoeken, Sanders, & Beentjes, 2012). They

also reported that the type of message did not have an effect on identification.

Tukachinsky (2014) reported that changing the emotional content and "perspective-

taking" had a strong effect on character identification. Cho, Shen, and Wilson (2012)

found that neither perceived plausibility, factuality, or typicality had much of an effect on

character identification. These research findings can be used by developers of

entertainment-education videos to improve character identification.

Identification with characters in a narrative can have either positive desired

outcomes or undesired outcomes. If a character in a story is behaving contrary to the

desired behavior but is acting for altruistic reasons, viewers may still identify with that

character (Krakowiak & Tsay-Vogel, 2013). This effect could suggest that script writers

of entertainment-education programs should be careful not to portray the antagonist

character behaving negatively for altruistic reasons. In Episode 5 of *The Workshop* video

series used in this study, Todd appears to be acting unethically for altruistic reasons. If

viewers identify with Todd, this may affect the results of this study. Frank, Murphy,

Chatterjee, Moran and Baezconde-Garbanati (2014) observed different outcomes

depending on which character a viewer experienced identification. When a narrative has

a complicated story with multiple protagonists and antagonists, the writers and director

must be cautious to construct the narrative to influence identification with the right

character.

Researchers of narrative persuasion have discovered that identification is a

construct of multiple factors. Cohen (2001) described character identification as a feeling

of wanting to act out the role of the character in the narrative. An example may be a child mimicking aggressive behavior while watching a violent fight scene in a movie. Parasocial interaction, a type of character identification, has been described as feeling empathy with a character and feeling like there is a social connection with the character. Igartua and Barrios (2012) defined parasocial interaction as having three dimensions which include emotional empathy, cognitive empathy, and sense of becoming the character. While not a strong effect, researchers have reported that parasocial interaction may predict attitudes towards organ donation, and behavioral intentions to register as an organ donor (Jong & Park, 2013). The fact that character identification is complex may contribute to the reliability of character identification assessment instruments.

Enjoyment. If a narrative is not enjoyable, it is unlikely that an embedded educational message will influence the audience. Schneider, Weinmann, Roth, Knop, and Vorderr (2015) reported that level of enjoyment of a short entertainment-education video was a good predictor of both objective and a subjective increase in knowledge. They also reported that appreciation, defined as thought-provoking, was not found to be a predictor of subjective knowledge. However, a deep thought-provoking appreciation may positively affect behavioral intentions. Leeuwen, Renes, and Leeuwis, (2013) measured four predictors for enjoyment which included character identification, utility or usefulness of the message in their lives, and narrative realism. They reported that enjoyment may positively affect knowledge but may not have a strong effect on behavioral intentions. These findings suggest that creating a fun experience is not

sufficient if the narrative is expected to affect behavioral intentions. In addition to enjoyment, the viewer may also need to develop a deep appreciation for the message.

  Narrative realism. Narrative realism refers to the level at which the audience of a narrative or drama believes what they are watching could be real. The message must be relevant and realistic which can lead to a perceived realism shown to improve transportation and identification (Bilandzic & Busselle, 2011). Narrative realism is a strong predictor for enjoyment (Leeuwen, Renes, and Leeuwis, 2013). The scripts used for *The Workshop* video series were reviewed by pharmaceutical sales and compliance experts to contribute to the realism of the stories. Working with several industry experts, I adopted research on pharmaceutical legal-compliance case studies to develop *The Workshop* stories to ensure that they were realistic.

  Elements of an entertainment-education narrative. Developers of entertainment-education may benefit from a review of the entertainment-education literature. Producers of an entertainment-education program should take into consideration the characters, selection of actors, the media format of the program, the story type, and how to embed the educational message into the story. Singhal, Cody, Rogers, and Sabido (2004) explained that there is no short-cut for developing an effective entertainment-education program. Baezconde-Garbanati et al., (2014) outlined the lengthy process for developing the *Tamale Lesson* video, which included collaboration with subject matter experts and film-making professionals, in addition to interviews with focus groups and practitioners. The development team for *The Workshop* video series

took the following research findings into consideration during design and production of the program.

Types of characters. Miquel-Sabido suggested that an effective entertainment-education narrative should include three types of characters (Singhal et al., 2004). First, a protagonist character demonstrates the desired attitudes and behaviors and receives a positive reward for their behaviors. Second, an antagonist character demonstrates undesirable attitudes and behaviors and receives a negative punishment for their behaviors. Finally, a transformative character begins as an antagonist in the story, progresses through a learning process, and then becomes a protagonist.

The transformative character is important for vicariously modeling a successful change in behavior. For example, if the intent of the entertainment-education program is to improve eating habits, the transformative character may start out with poor eating habits, go through a learning experience, and then successfully change her eating habits. Baezconde-Garbanati et al., (2014) explained how the *Tamale Lesson* video included one protagonist supporting cervical cancer preventive health care and two antagonist characters who transform from having a negative attitude regarding cancer screenings towards a positive change in behavior. Marett (2015) pointed out that there are very few studies that use all three types of characters. She conducted a study to evaluate the effects of cautionary tales which utilized an antagonist who behaved poorly and received a punishment. Marett (2015) manipulated affective disposition towards the main character and found that it did not matter whether the reader had a positive or negative affective disposition to the antagonist. The effects on attitude and behavioral intention

were not significantly different. The lack of a transformative character may have impacted the results of the Marett (2015) study.

Researchers have reported mixed findings regarding the effects of the cultural background of the actors and the viewers. In the film, the *Tamale Lesson*, researchers reported that it was valuable to use Latino actors for a Latino audience to improve transportation & identification (Frank et al., 2014). In contrast, Aronson, Plass, and Bania, T. C. (2012) reported that African-American viewers reacted more positively to white actors in their study. Phua (2014) concluded that it was important for viewers to sense a similarity with and have a parasocial identification with the spokesperson in the story. Consequently, there is no conclusive evidence that cultural background of the characters and actors is critical to the success of a persuasive narrative.

Media format. While many entertainment-education researchers have used a video format (Searight & Allmayer, 2014; Werner, 2013), some researchers have delivered entertainment-education through other channels such as theater. Entertainment-Education can take the form of text-based stories (Johnson, 2011; Johnson, Harrison, & Quick, 2013; Marett, 2015), theater (Heide, Porter & Saito, 2012), animated cartoons (Harris, 2013), audio-only programs (Krakowiak & Tsay-Vogel, 2013), comic-book graphic novels (Fischbach, 2014), motion comics (Willis et al., 2018), and photographic novels referred to as "fotonovelas" (Hernandez & Organista, 2013; Jagt et al., 2018). While the results from these studies have varied, all of them showed significant effects on either awareness, attitudes, or behavioral intentions. Few researchers have compared media formats, other than a comparison to traditional text-based case studies (Fishbach,

2014; Searight & Allmayer, 2014). Cho, Shen, and Wilson (2012) found that the professional quality of the media was a strong predictor of emotional involvement. As part of a meta-analysis, Tuckachinsky (2014) reported that text-based stories had a stronger effect on narrative transportation but not on character identification, when compared to video-based format. In this study, I compared the effects of a professional video-based entertainment-education program to a traditional eLearning version of the same content using a fotonovela design. For the eLearning course I used text and still images only.

Story type. Entertainment-Education researchers have evaluated effects of both comedies (Ayala et al., 2015; Cain & Policastri, 2013 Heide et al., 2012; Moyer-Guse, Mahood & Brookes, 2011) and dramas (Aronson, Plass, Bania, 2012; Catañeda & Organista, 2013; Jeong & Park, 2013). Some successful entertainment-education programs have included a blend of drama and comedy (Murphy et al., 2013). The entertainment-education program in this study, *The Workshop*, can be described as a dramatic-comedy with an emphasis on the comedic style of writing.

Humor has the potential to reduce counter-arguing of the instructional message. However, humor can also reduce the perception of severity or intensity of the ethical issue (Moyer-Guse, Mahood, & Brookes, 2011). Humor, used in persuasive messages, can attract a viewer's attention which may increase focus on the educational message and positively contribute to message retention (Blanc & Brigaud, 2014). Humor may also predict acceptance of a persuasive message (Strick, Holland, Baaren, & Knippenberg, 2012). Use of humor has the potential to lighten the viewer's mood, therefore reducing

reactance and counter-arguing. In the theatrical musical comedy, *Guys and Does*,

viewers changed their attitudes regarding deer hunting (Heide, Porter, & Saito, 2012).

Unfortunately, the researchers did not include a control group. Consequently, it is

unclear what effects humor had on attitude changes. However, after controlling for

variables such as pre-show excitement, viewing the entertainment-education musical was

the only variable that contributed to a change in attitude. Costabile and Terman (2013)

reported that music included in a film added to narrative transportation. While there were

no controls for music in the *Guys and Does* study, the music may have assisted with the

narrative transportation. In some cases, humor can have a negative effect on the desired

behavioral change if not used correctly. Moyer-Guse, Mahood, and Brookes (2011)

reported that while humor in a narrative did reduce counter-arguing of the embedded

message, consistent with the findings of Strick, Holland, Baaren, and Knippenberg

(2012), men in their study increased behavioral intentions to adopt the undesirable

behavior. After viewing a few episodes of the television show *Scrubs,* depicting the risks

of unprotected sex in a humorous manner, men in the study reported a higher intention to

engage in unprotected risky sexual activities.

In another study, researchers reported that viewing university-themed comedic

films that depicted alcohol or drug abuse, and engaging in unprotected sex, may have

positively influenced those behaviors. The researchers showed a correlation between the

number of humorous movies watched and the likelihood to engage in the behaviors

depicted in those movies. Even watching a short clip of the movie *Animal House* had a

significant positive effect on attitudes towards substance abuse (Wasylkiw & Currie,

2012). Comedy may have a positive effect on undesirable behavioral intentions.

Wasylkiw and Currie (2012) did not mention whether the depiction of the behaviors was

either rewarded or punished. Because their intent is to entertain only, university-themed

comedies may show the positive outcomes of alcohol abuse and unprotected sex and not

the negative consequences.

Message integration (covert vs. overt). A complicated aspect of narrative

persuasion is determining how to write the persuasive-educational message into the

storyline. Researchers have provided guidance on designing and integrating these

messages into entertainment-education narratives. Developers of entertainment-

education programs can make the educational message explicit or ambiguous. When a

message is clear, the viewer or reader has no need to discover or interpret the meaning of

the persuasive message. Swanson (2015) suggested that the purpose of using fictional

narratives to teach ethics is to embed and even hide the ethical message in the storyline.

In contrast, Hoeken and Fikkers (2014) concluded that it is important that the message is

clearly understood to affect "issue-relevant thinking." The decision on how to integrate

the persuasive or educational message may be complex. If the message is too deeply

integrated, the reader or viewer may miss it entirely, especially if the narrative is

entertaining. If the message is too obvious, the reader or viewer could react negatively to

the message.

Some researchers have reported that embedding a health message covertly in a

story dialogue, can have a more significant effect on recall, than a message presented

more overtly (Johnson, Harrison, & Quick, 2013). In the entertainment-education

program *Tamale Lesson*, a scene shows the key characters in the kitchen discussing the entertainment-education message that woman of all ages should receive screening for cervical cancer (Murphy et al., 2013). In the scene, two sisters and their grandmother are arguing about the importance of cervical cancer screening. The message is very clear and not highly integrated into the narrative. Johnson, Harrison, and Quick (2013) reported that message integration level did not have an effect on experiential involvement. In fact, when the educational message was not directly part of the story, there was greater experiential involvement. The researchers suggested that the educational message may have distracted viewers from the story. Integration level of the educational message did not show a strong effect on narrative transportation nor character identification. Johnson, Harrison, and Quick (2013) concluded that deep integration of an educational message in the dialogue could reduce narrative transportation and character identification. Writers of persuasive narratives may need to balance the level of engaging entertainment with the integration of the persuasive message.

There are mixed findings in the literature regarding the value of adding a summary epilogue message at the conclusion of an entertainment-education narrative. Miguel Sabido first used the model of a summary epilogue placed at the end of an entertainment-education episode (Singhal & Rogers, 1999), which has been used in many entertainment-education narratives since. Moyer-Gusé, Jain, and Chung (2012) reported that the placement of an epilogue at the end of an entertainment-education program, targeted at drunk driving behaviors, had no significant effect on reducing reactance or counter-arguing when the epilogue message matched the message embedded in the

narrative. However, the epilogue did contribute to a positive outcome by reducing attitudes towards the undesirable behavior. Lane, Miller, Brown, and Vilar (2013) reported that the inclusion of an epilogue had a significant effect on the acceptance of the embedded message. In a separate study, university students who first viewed an episode of *Beverly Hills 90210* with an educational epilogue, increased awareness of the embedded message but also increased counter-arguing (Cohen, Alward, Zajicek, Edwards, & Hutson, 2017).

The entertainment-education video used in this study, *The Workshop*, includes a unique epilogue technique. The transformative character, Kim, stays in character and records the episode summary message into her home computer at the end of each episode as she reflects on what she has learned that day. This strategy is unique when compared to the more traditional entertainment-education model of breaking away from the story and having one of the actors summarize the educational message as him or herself (Singhal et al., 2004). While there are mixed findings on the use of an epilogue, the evidence suggests that they can contribute to an increase in awareness and change of attitude.

Use of emotional content. The intent of an entertaining drama is to touch one's emotions, allowing one to escape the real world, reflect, laugh, or cry. When a storyline has a strong effect on our emotions, we reflect on the story which may predict whether we will share the experience with others. Researchers of entertainment-education and narrative persuasion have examined the mediating effects of emotions on cognitive and affective outcomes. When a storyline includes emotions of the primary character in a

text-based scenario, knowledge retention, decision ethicality, and sense-making may be improved (Thiel et al., 2013). Changes in emotional content may have a strong effect on character identification (Tukachinsky, 2014). Narrative persuasion researchers have also shown that inclusion of positive emotional content can be more effective at impacting attitudes and behaviors when compared with negative emotional content (Aronson et al., 2012). These findings were taken into consideration when writing the scripts for *The Workshop* video series used in this study. The actor who played Kim in *The Workshop* series was asked to focus on emotion when reflecting upon what she had learned each day. In one critical scene, Kim gets very emotional while correcting the antagonist character, Todd, for his unethical and potentially illegal activities.

Character design. Miguel Sabido suggested that entertainment-education narratives should provide a comparison of an antagonist with a protagonist, and also include a transformative hero-like character (Singhal et al., 2004). Very few studies on the effects of entertainment-education have included a film or story with an antagonist, a protagonist, and a transformative character (Marett, 2015). In this study, *The Workshop* video series used all three character types. The main character Kim goes from a state of low awareness and low intentions to speak up, through a series of learning experiences, and arrives at a state of heightened awareness of unethical issues and a demonstrated behavioral intention to speak up. Todd, the antagonist, demonstrates a lack of knowledge of unethical business practices, and an unwillingness to learn. David, the workshop facilitator, and all of the workshop participants play the role of protagonist, as they tell their stories as confessionals, and encourage others to avoid their past mistakes.

Modeling of contemplation and reflection. Contemplation and reflection are actions that may contribute to ethical decision-making. Gunia, Wang, Huang, Wang, and Murnighan (2012) reported that contemplation might lead people to do the right thing. In their experiment, participants were challenged to either tell the truth or lie. The group who were encouraged to take the time to contemplate before making a decision told the truth 90% of the time. When told to decide quickly, only 50% told the truth. The researchers reported that people who are encouraged to think about a decision are five times more likely to make the right choice. It doesn't seem to matter how long a person contemplates. When people have an opportunity to consider a decision, before making it, they may be more likely to make an ethical decision.

It may also be important what the person is contemplating or reflecting upon and for how long. Bandura (1986) felt that too much contemplation could lead to moral disengagement. If someone is reflecting upon adverse outcomes of negative behaviors, this may not have as strong an effect as reflecting upon the positive results of doing the right thing (Antes et al., 2012). Immediate intuitive decision-making in certain contexts may also lead to poor decision-making. For example, retail store environments are designed to influence our impulse buying behaviors (Mohan, Sivakumaran, & Sharma, 2013). Perhaps this is why marketers place candy and soda in the check-out lane at some department stores. While standing in the check-out line, the consumer needs to make a rapid decision on that candy or soda purchase. Marketers know that if consumers don't have time to reflect, it's more likely that they will choose to make a purchase. Developers of entertainment-education projects may wish to consider how a storyline

will influence the right type of contemplation and reflection. In the video used in this study, David encouraged Kim to write a journal and think about what she's learned. Also, Kim vicariously modeled reflection and contemplation while listening to *The Workshop* stories and at the end of each episode. When people are encouraged to contemplate and do the right thing, there may be a greater likelihood that they will make the right choice.

Story context. There may be a relationship between the context of an ethical scenario and the reasoning used to make a decision. For example, if a decision may have negative results in the distant future, people may choose the unethical choice regardless of experience level (Husser, Gautier, Andre, & Lespinet-Najib, 2014). The social context of the narrative may have an effect on recognition of unethical issues, and one's ability to forecast adverse outcomes (Bagadsarov et al., 2013). Husser, Gautier, Andre, and Lespinet-Najib (2014) reported that when the context of an ethical dilemma describes a long-term harmful outcome, people are more likely to make the unethical choice when compared to short-term effects. Similarly, Valentine and Hollingsworth (2012) report that the seriousness of consequences depicted in two vignettes has an impact on ethical issue recognition. The context of the situations illustrated in an entertainment-education program, based on this evidence, could be important when the goal is to influence issue awareness, attitudes, behaviors, and decision-making.

In this study, I evaluated the effects of persuasive narratives in the context of pharmaceutical sales and marketing business practices. In pharmaceutical sales and marketing, an unethical decision regarding the promotion of a product may not result in a

negative impact for weeks, months, or even years. For the Vioxx drug, Merck had a

knowledge of cardiovascular risks in 2000. They marketed and sold the product for four

years before removing it from the market in 2004 (Lyon & Mirivel, 2011). While the

details of this case are still unresolved, many of the management decisions made

regarding sales and marketing of the product may have contributed to the deaths of

thousands of people. At the time when Merck management made these decisions, the

company made large short-term financial profits. Managers may justify unethical

decisions for commercial reasons consistent with the findings of Gunia, Wang, Huang,

Wang and Murnighan (2012). It is unlikely that managers at Merck took into

consideration the seriousness of the long-term adverse effects on patient health when

making early decisions concerning sales and marketing. The stories told in *The

Workshop* video series provide viewers the opportunity to see the long-term effects of

unethical sales and marketing decision-making.

Ethical Decision-Making Research

　　　　While there exists extensive research on the predictors and effects of ethical

decision-making, there is minimal research on the effects of education and training on

ethical decision-making. From 357 findings, Craft (2013) was only able to identify one

conclusion that training had an effect on ethical judgment. Craft found no empirical

research to suggest that training could have an effect on ethical awareness, ethical

behavioral intent, or ethical behaviors. McManus, Subramaniam, and James (2012)

reported that a well-designed web-based training course could have a significant effect on

ethical judgment scores, which included likelihood to whistle-blow when compared to

participants completing a traditional textbook-based course. For this current study, I re-evaluated McManus, Subramaniam, and James's research by comparing the effects of a web-based training course with an entertainment-education video series.

When researchers refer to ethical decision-making, they are referring to a process with two or more factors. For example, when Valentine, Nam, Hollingworth, and Hall (2014) studied the effect of ethical context on ethical decision-making, they measured perceived importance of an ethical issue (Robin, Reidenbach, & Forrest, 1996), issue recognition, behavioral intentions, and ethical judgment. These variables are usually not measured alone. They are measured as part of a construct to understand the ethical decision-making process. Valentine and Hollingworth (2012) referred to the construct of "ethical reasoning" as perceived importance of ethical issues, issue recognition, behavioral intentions, and ethical judgment. When researchers refer to either ethical decision-making or ethical reasoning, their study will usually include two or more factors, including ethical judgment.

The common methodology used in ethical decision-making research is to ask participants to read one or more scenarios that contain an ethical dilemma. After reading a scenario, researchers ask participants to complete an assessment to measure ethical decision-making variables. These include ethical issue awareness, ethical or moral judgment, behavioral intentions regarding a particular ethical or moral issue, and actual behaviors. Researchers have measured other ethical decision-making dependent variables which include decision ethicality, forecasting quality, ethical recognition ability (Valentine & Hollingworth, 2012; Baghasarov, Thiel, Johnson, Connelly, Harkrider, &

Davenport, 2013), ethical or moral self-efficacy (Fischbach, 2014; May, Luth, &

Schwoerer, 2014), time to make an ethical decision (Gunia, Wang, Huang, Wang, &

Murnighan, 2012), and sense-making (Harkrider, Thiel, Bagdasarov, Mumford, Johnson,

Connelly, & Davenport, 2012). For this study, I compared the effects of an

entertainment-education video series with a traditional eLearning course on three ethical

decision-making outcomes: ethical issue awareness, ethical issue judgment, and

behavioral intention to speak up.

      Ethical issue awareness or recognition. The ability for someone to be aware of

an ethical issue when presented with an ethical dilemma may be dependent on the context

of the situation presented in a textual or video-based ethical dilemma. Some researchers

have suggested that ethical context presented in an ethical dilemma may influence ethical

issue recognition (Bagdasarov et al., 2013), while others have reported that perceived

ethical context of one's workplace may not correlate with ethical issue recognition

(Valentine, Nam, Hollingworth, and Hall, 2014). Bagdasarov et al. (2013) reported that

an autonomy-supportive context, one that provides more control to the employee, may

have a significant impact on the recognition of critical constraints. Harkrider, Thiel,

Bagdasarov, Mumford, Johnson, and Connelly (2012) found that adding references to a

code of ethics or adding forecasting content to an ethical dilemma, had a significant

effect on improving knowledge of the issue. When developing *The Workshop* video

series, we applied these research findings. We included references to a company code of

ethics and regulations when the character Kim argues with Todd to do the right thing in

the final episode. In this current investigation, great care was taken to ensure that the

context of the narratives used in *The Workshop* video series was relevant, realistic, and aligned to government regulations, a company code of ethics, and policies.

Individual attributes of the person viewing or reading an entertainment-education narrative may contribute to whether the viewer will demonstrate greater awareness or recognition of unethical issues. Batemen, Valentine, and Rittenburg, (2013) asked participants to read a text-based ethical dilemma, followed by completing a measure of ethical issue recognition and ethical intentions. They reported that moral absolutes (idealism and formalism), and social consensus, had a significant effect on ethical issue recognition. They also reported an unexpected finding that years of experience had an inverse relationship to issue recognition. Based on my review of the research, few studies exist on effects of individual characteristics such as age, education, existing attitudes, or prior knowledge on ethical issue recognition.

Ethical or moral judgment (improving judgment). Once someone is aware of a potentially unethical or immoral issue, they must make a judgment regarding the degree of ethicality. Mudrack and Mason (2013) defined ethical judgments as "individual determinations of the appropriateness of a course of action that could be interpreted as wrong" (p. 575). Researchers have identified several variables that have a significant effect on ethical judgment. Valentine and Hollingworth (2012) found that perceptions of issue importance and social consensus both had a significant effect on ethical judgments. Pan and Sparks (2012) tested fourteen hypotheses by conducting an analysis of findings from 65 studies on ethical judgments. They reported that gender, education, and income may have a significant effect on ethical judgments, while age and work experience were

not shown to be significant. They also found that the variables of idealism, relativism, Machiavellianism, ethical awareness, deontological evaluation, teleological evaluation, and moral intensity approached significance. Pan and Sparks (2012) recommended that researchers of ethical judgment should consider including age, work experience, locus of control, religiosity, or the ethical environment as control or independent variables. For this current study, I captured age, gender, and years of work experience, in the demographic questionnaire.

Increasing behavioral intention to speak up. Most ethical decision-making researchers present participants with a vignette or scenario and then ask them if they have intentions to act either ethically or unethically. Once someone has identified an ethical issue, the next step is to make a judgment on that issue. Once a judgment is made, the next step is to express an intention to act. Ability to make ethical judgments may predict behavioral intentions to act ethically (Pan & Sparks, 2012; Singhapakdi, Vitell, Lee, Nisius, & Yu, 2012; Valentine & Hollingworth, 2012). Depending on the context of the issue, the time to step through this process will vary.

Researchers have reported multiple predictors of behavioral intention to act ethically. Batemen, Valentine, and Rittenburg, (2013) indicated that level of idealism (doing the right thing for the good of others), formalism (meeting an obligation to comply with norms), and social consensus (meeting expectations of others), had no significant direct effect on behavioral intention. Also, they indicated that social-ethical consensus had a significant effect on behavioral intention. Singhapakdi, Vitell, Lee, Nisius, and Yu (2012) reported that both religiosity and love of money had a significant impact on

ethical intentions. Mecca et al. (2014) reported that 40% of the participants in their qualitative study felt that whistleblowing was a moral or professional obligation, while 40% felt that following the compliance policies to report should be the motivator to blow the whistle. The other 20% of the participants believed that either whistleblowing was inappropriate or could result in adverse outcomes. Both personal and environmental factors may influence behavioral intentions to speak up.

For this study, participants completed a survey to measure the behavioral intention to speak up if they identified an unethical, noncompliant, or illegal issue. Training may influence behavioral intentions to speak up. Mcmanus, Subramaniam, and James (2012) compared the effects of an eLearning course versus a traditional classroom program on behavioral intentions to whistle-blow. They found that the eLearning course was more effective than the classroom instruction. Sayre, Mcneese-Sith, Leach, and Phillips (2012) evaluated the effects of a nurse training program that included educational videos and group discussions and found a significant effect on speaking-up on behalf of patients. Entertainment-Education videos may also have an effect on behavioral intentions to speak up.

Summary and Conclusions

Researchers have studied ethical decision-making and moral judgment for several decades, accelerated by Rest's (1986) moral reasoning model and the development of instruments such as the Defining Issues Test (DIT) (Rest, Narvaez, Thoma, and Bebeau, 1999). Craft (2013) cited 387 findings from ethical decision-making and moral judgment studies spanning between 2004 and 2011. He reported only two findings related to the

effects of ethics training. Following a review of the literature, McClaren (2013) concluded that there is a need for additional research in ethics training. Lehnert, Park, and Singh (2015) evaluated 141 studies on ethical decision-making and reported that only one researcher evaluated the effects of corporate compliance and ethics training.

Despite everything we know regarding how to predict, manipulate, or measure ethical decision-making, we know little about how to improve it through education or training. The design and media format of an ethical dilemma may have an effect on ethical behavioral outcomes (Mudrack & Mason, 2013). For example, Fischbach (2014) demonstrated that an ethical dilemma presented in the form of a comic book had a more significant effect on improving ethical efficacy when compared to a text-only version of the same narrative. Researchers have found that various manipulations of the ethical dilemma narratives used in their ethical decision-making studies had significant effects. Variations in effects can be manipulated by adding references to a code of ethics (Hark Rider et al., 2012), or adding emotional content (Thiel et al., 2013). Changing the moral intensity in an ethical dilemma can have a significant effect on ethical issue recognition (Valentine & Hollingworth, 2012). While these findings contribute to our ability to predict unethical decision-making, they do not add to our knowledge regarding the effects of instructional interventions.

Social cognitive theory provides a framework to understand the relationship between vicarious modeling in an entertainment-education video and a viewer's change in attitude and behavior. Researchers who have measured the effects of entertainment-education programs and other forms of persuasive narratives have reported significant

impacts on improving cognitive awareness, changing attitudes, and increasing behavioral intentions. We know that entertainment-education programs, regardless of the medium, can affect behavioral intentions to change health-related attitudes or behaviors (Aronson, Plass, & Bania, 2012; Ayala et al., 2015; Frank et al., 2014; Harris, 2013; Hernandez & Organista, 2013; Jeong & Park, 2013), attitudes regarding religion (Igartua & Barrios, 2012), attitudes towards public breastfeeding (Foss & Blake, 2018), behaviors related to substance abuse (Leeuwen, Renes, Leeuwis, 2013; Moyer-Gusé, Jain, & Chung, 2012; Wasylkiw & Currie, 2012), and behaviors related to sexual activities (Lieberman, Berlin, Palen, & Ashley, 2011; Moyer-Gusé, Chung, & Jain, 2011; Moyer-Gusé, Mahood, & Brookes, 2011). We also know that the use of professionally developed films can improve engagement in an ethical education course (Biktimirov & Cyr, 2013; Searight & Allayer, 2014; Werner, 2013). What we lack is the empirical evidence that entertainment-education narratives can be used to affect ethical issue awareness, ethical judgments, or behavioral intentions to speak up in a business setting.

Researchers have reported conflicting results regarding eLearning to influence attitudes and behaviors. Elbe and Brand (2014) saw no significant increase in attitudes regarding drug use in athletes after completing an eLearning course on the topic. In contrast, McManus et al. (2012) reported significant improvements in ethical judgments and behavioral intentions to speak up after completing an eLearning course. Jibaja-Weiss et al. (2011) reported that an eLearning course with embedded videos had the opposite desired effect on behavioral intentions. These conflicting results suggest that further research is needed to determine whether an eLearning course could be used to increase

awareness of social issues, change attitudes, and behavioral intentions. Hernandez and Organista (2013) presented a persuasive narrative using only static photos and text in a well-established media format in the culture of Latin America, known as fotonovelas. Hernandez and Organista (2013) found significant results in attitudes and behaviors related to health behaviors. In some similar studies, researchers have reported a significant effect on knowledge improvements but not on behavioral intentions when comparing one group who read a fotonovela and another group who read a traditional educational brochure (Jagt et al., 2018). These findings may suggest that if an eLearning course uses a narrative format with static photos and on-screen text, that it may be as effective as a video equivalent. For this study, I compared an eLearning course using only static images and text with a five-part entertainment-education video series. In Chapter 3, I will outline the quantitative experimental design, design of the entertainment-education treatment, method for measuring the independent and dependent variables, and the method for data analysis.

Chapter 3: Research Method

The purpose of this quantitative experimental study was to compare the effectiveness of two compliance training program types, entertainment-education and eLearning, on ethical decision-making and behavioral intentions to speak up for pharmaceutical sales and marketing professionals. Although researchers have evaluated entertainment-education programs for their influence on health-related behaviors (Harris, 2013; Hernandez & Organista, 2013), based on my review of the literature, they have not evaluated the effects of entertainment-education on ethical decision-making in a business context. This study has the potential to contribute to the body of entertainment-education research and business ethics education research by evaluating a novel approach for teaching ethical decision-making and influencing behavioral intentions to speak up.

In this chapter, I provide an overview of the research design, including descriptions of the independent and dependent variables. The chapter also includes an explanation of the methodology for this research study which includes the rationale for the design of the experimental treatments. I also provide the rationale for selecting the target population within the pharmaceutical sales and marketing profession and the sampling technique. Information on how data were collected and analyzed is also included.

Research Design and Rationale

Following a thorough analysis of the empirical research in entertainment-education, narrative persuasion, and ethical decision-making, I concluded that there is sufficient evidence that viewing an entertainment-education video series can significantly

affect ethical issue awareness, ethical judgment, and behavioral intentions to speak up.

Neither entertainment-education nor ethical decision-making researchers have evaluated

the effects of entertainment-education on ethical awareness, ethical judgments, or

behavioral intentions to speak up, based on my review of the literature. Several

researchers have reported that reading or viewing an entertainment-education narrative,

regardless of the modality, can significantly affect issue awareness (Beach et al., 2016;

Castañeda et al., 2013; Flora et al., 2014; Hoffman et al., 2016; Wang & Singhal, 2016),

attitudes (Frank, Murphy Chatterjee, Moran, & Baezconde-Garbanati, 2014; Heide et al.,

2012; Igartua & Barrios, 2012; Igartua & Casanova, 2015; Moyer-Gusé, Jain, & Chung,

2012;), behavioral intentions (Jeong & Park, 2013; Leeuwan, Renes, & Leeuwis, 2013),

and behaviors (Harris, 2013). The abundance of empirical evidence has led me to

conclude that entertainment-education, as part of corporate ethics and compliance

training program, has the potential to affect ethical issue awareness, ethical judgments,

and behavioral intentions to speak up after identifying an unethical issue.

Independent Variables

The primary independent variable for this study was method of instruction, with

two values: (1) entertainment-education video and (0) narrative-style eLearning.

McManus et al. (2012) compared the effects of an eLearning course with a textbook

based course on ethical judgments and behavioral intentions to whistle blow. They

reported that the effects were significantly better using the eLearning course alone.

Hernandez and Organista (2013) indicated that reading a "fotonovela," in which photos

and text are presented in the form of a comic book, had a stronger effect on behavioral

intentions than an in-person group discussion. Consequently, using images and text alone in an eLearning course, may be all that is required to change behavioral intentions. Hernandez and Organista did not compare the "fotonovela" to a video version of the narrative. With this study, I built on both the Hernandez and Organista and the McManus et al. studies. I evaluated whether an entertainment-education video is significantly more effective than an eLearning version using the same narrative.

The secondary independent variables were narrative transportation and character identification. Researchers of entertainment-education and narrative persuasion have reported that when readers or viewers of a persuasive narrative are transported into a story and identifies with the characters, they may reduce their negative reactions and counter arguments regarding the embedded educational message (Brusse, Fransen, & Smit, 2016; Graaf et al., 2017; Green & Clark, 2012). Researchers have shown that narrative transportation (Green & Brock, 2000) and character identification (Cohen, 2001) may predict the effects of an entertainment-education program. Identification with different characters in a narrative can result in different effects (Frank et al., 2014; Igartua & Casanova, 2015). In contrast, Igartua and Casanova (2015) demonstrated that identification with a character might not reduce negative reactions to the message, referred to as counter-arguing. A better understanding of the effects of both narrative transportation and identification with different characters may contribute to story writing and character development guidelines for future entertainment-education program developers. As a result, I measured both narrative transportation and character

identification for the two primary characters in the story and evaluated the effects on ethical issue awareness, ethical judgment, and behavioral intention to speak up.

Dependent Variables

It is common for researchers of ethical decision-making to measure one or more of the four variables defined by Rest (1986). Rest defined ethical decision-making as a four-part construct which consists of the ability to identify an unethical issue, judge the ethicality of those issues, express behavioral intentions to act ethically, and, subsequently, behave ethically. Craft (2013) conducted a meta-analysis of the ethical decision-making research between 2004 and 2011 and identified 357 findings across each of the four Rest variables. Some researchers have only measured ethical issue recognition and ethical intentions (Bateman Valentine & Rittenburg 2013; Hollingworth & Valentine, 2015), while others have measured ethical judgment and behavioral intentions to speak up (Mcmanus et al., 2012). In addition, some researchers have measured recognition, judgment, intent, and behavior (Martinov-Bennie & Mladenovic, 2013). Building on previous ethical decision-making research, the dependent variables for this study were ethical issue awareness, ethical judgment, and behavioral intentions to speak up. Although some researchers have measured behaviors following the viewing of an entertainment-education video (Aronson, Plass, & Bania, 2012), for this study I did not attempt to measure the behavior of speaking-up.

Research Design

I conducted a quantitative experimental pretest-posttest control group design (Campbell & Stanley, 1963) with two randomized groups. This method was similar to

the method used by Hernandez and Organista (2013) to evaluate the effects of an entertainment-education "fotonovela" on self-efficacy and behavioral intentions to seek help regarding depression. In another study, Elbe and Brand (2014) compared the effects of an eLearning course containing ethical dilemmas with a traditional classroom course on ethical decision-making. For their study, one group completed the eLearning course, a second group completed the classroom course, and a third group served as a control group. Similar to my study, Elbe and Brand conducted their study entirely online. For this study, the first treatment group viewed a five-part entertainment-education video, while the second treatment group completed an eLearning course that included the same narrative presented in the entertainment-education video series. By using this method, I only manipulated media type. I asked both groups to complete a scenario-based ethical decision-making pretest and posttest to measure ethical awareness, ethical judgment, and behavioral intention to speak up. In addition, both groups completed a posttest to measure narrative transportation and character identification with the two primary characters, Kim and Todd.

Resource Constraints

Because the sample population for this study was located at various locations around the United States, I provided an online method to access the entertainment-education videos, the eLearning course, the questionnaire, and the assessments. Participants completed the informed consent on a separate website. Also, I verified that participants viewed the videos and completed the eLearning courses. One way to provide this type of access and tracking is by using a learning management system accessible

through a computer browser, mobile phone, or tablet (Hung, Lam, Wong, & Chan, 2015).

Through the CellCast® administration tool, I was able to determine whether the

participant completed the experiment on a mobile phone or a tablet device. Some

entertainment-education researchers have posted videos to an online website and directed

study participants to that website (Leeuwen et al., 2016; Schneider et al., 2016). The

technical details regarding how researchers posted these videos are absent from these

studies. Some researchers of narrative persuasion have directed study participants to

view videos found on YouTube (Chen, 2015), while others mailed DVDs to the

participants (Frank et al., 2014).

     For this study, I provided the two treatment groups with instructions on how to

download a mobile learning application, Cell-Cast®, to their mobile phone or tablet

which they used to access the assessments, the entertainment-education videos, and the

eLearning courses. OnPoint Digital, Inc. (n.d.) management provided permission for use

of the Cell-Cast® mobile learning application (see Appendix F). The application

prompted the study participants to complete an assessment of narrative transportation and

character identification after viewing all five videos or completing the five eLearning

modules. I asked both treatment groups to complete a pretest and posttest to measure

ethical issue awareness, ethical judgment, and behavioral intentions to speak up.

Methodology

Population

The population for this study consisted of pharmaceutical sales and marketing

professionals working in the United States. In 2012, there were an estimated 400,000

pharmaceutical sales representative jobs ("Best Jobs in America," 2012) in the United

States. To provide one control for my population, I narrowed the population to sales

representatives working for U.S. pharmaceutical companies who were signatories of the

Pharmaceutical Research and Manufacturers of America (PhRMA) Code on Interactions

with Health Care Professionals (2008). Pharmaceutical companies who are signatories

for this industry code of ethics will likely have similar policies and training regarding

interactions between sales representatives and healthcare professionals. While my

current employer is a signatory to the PhRMA Code, I excluded them from the sample, to

avoid any bias. Additionally, I have exposed the sales population in my company to *The

Workshop* video series, further disqualifying them for this study.

Sampling and Sampling Procedures

Entertainment-Education researchers target particular populations based on the

intended effect of the program. For example, Leeuwen, Putte, Renes, and Leeuwis

(2016) measured the effects of an entertainment-education video series on abusive

alcohol behaviors of college students. Consequently, it was appropriate to sample from a

group of university students. Hernandez and Organista (2013) measured the effects of a

"fotonovela" entertainment-education publication on depression healthcare behaviors

among female Latina immigrants. Frank, Murphy, Chatterjee, Moran, and Baezconde-

Garbanati (2014) measured the effects of an entertainment-education video, the *Tamale Lesson*, designed to influence human papillomavirus (HPV) health prevention behaviors among female Latina immigrants across all age groups. For this proposed study, the entertainment-education video, *The Workshop*, was specifically designed to portray ethical and unethical activities of pharmaceutical sales professionals working in the United States. Subsequently, the target population for this study was pharmaceutical sales representatives working in the United States.

I selected my sample for this study from a single U.S.-based pharmaceutical company. It is not uncommon for researchers of sales ethics to use a single company (Agnihotri & Krush, 2015) as their sample frame, or a group of business students from a single university (Donoho & Herche, 2013; Donoho & Heinze, 2014; Valentine & Bateman, 2011). Fishbach (2015) successfully sampled 132 sales personnel from multiple organizations located in different regions of the United States, but this sampling strategy is rare. Because of the legal and regulatory constraints placed on pharmaceutical companies, it was difficult to find more than one pharmaceutical company willing to participate in this study.

One pharmaceutical company located in the United States agreed to take part in the study. The participating firm had sales representatives located across the United States. The cooperating company representatives agreed to invite potential participants from the U.S. in the southern central region. Similar to other industries, U.S. pharmaceutical companies distribute sales representatives by territories or regions which may include multiple more cities or states (Albers, Raman, & Lee, 2015). This common

regional selling strategy provided me with diversity in my sample frame. While the participating company only sent invitations to sales representatives in one U.S. sales region, multiple states were part of that region. Due to high turnover rates in the pharmaceutical sales industry, it is likely that the sales representatives who participated in this study have worked at other pharmaceutical companies in their career ("2016 Med Rep", 2016). As a result, taking a sample from a single pharmaceutical company provided a diverse, widely distributed, and representative sample of U.S. pharmaceutical sales representatives.

For this study, a senior leader from the sponsoring pharmaceutical company invited 264 sales professionals to participate in the study. From those people invited, 105 enrolled in the study by completing an informed consent form. On average, sample sizes from entertainment-education studies with at least two groups, contain 140 participants (Borrayo, Rosales, & Gonzalez, 2016; Dill-Shackleford et al., 2015; Hernandez & Organista, 2013; Igartua & Barrios, 2012). In a pretest posttest entertainment-education study with three groups, Borrayo, Rosales, and Gonzalez (2016) determined that a sample size of 150 would allow for a significance of .05 with a power of .95. Using G*Power software, for a linear multiple regression, and F test, I calculated a minimum sample size of 120 people. I calculated this sample size based on an effect size f of .15, power $(1 - \beta$ err prob) of .95, two groups, with three predictor measures. While the goal was to enroll between 120 and 150 participants, I was able to successfully enroll 105 participants in this study. During data collection, 42 people dropped out leaving a final count of 64 study participants.

Procedures for Recruitment, Participation, and Data Collection

One mid-sized U.S. based pharmaceutical company signed a letter of cooperation, agreeing to participate in this study. The use of a single company with multiple operating locations is consistent with the strategy used by other ethical decision-making researchers (Hollingworth & Valentine, 2015; Valentine & Hollingworth, 2012). Some business ethics researchers have sampled from a group of various organizations (Fishbach, 2015). I asked the chief compliance officer or compliance training manager to provide e-mail addresses and sales regions for a set of their pharmaceutical sales representatives. A senior level manager emailed an invitation to 264 sales representatives located in the South-Central region of the U.S which included New Mexico, Texas, Oklahoma, Mississippi, Louisiana, Arkansas, Kansas, and Missouri. From the 264 invitations, 105 people voluntarily enrolled in the study by completing an online informed consent form. I created two randomized groups from the participant list using a random number generator (Allen, 2017) in Microsoft Excel to generate a list of random numbers between 0 and 1 assigned to either Group 1(Video) or Group 0 (eLearning). I then sorted the random list of numbers from highest to lowest. This created a randomized list of group assignments to each participant, while creating two equal size groups.

Data collection. I provided a set of instructions to all participants on how to download a mobile application which I used for all data collection. The name of the mobile application was Cell-Cast®, provided by OnPoint Digital, Inc. The company owner provided me permission (see Appendix F) to use a demonstration version of their application to administer the study assessments and provide a channel for watching the

video series *The Workshop* and completing a series of eLearning modules. The Cell-Cast® mobile application has an assessment tool which I used to deliver the pre-study questionnaire, and all assessments. OnPoint Digital Inc. agreed to delete all study data five years after the conclusion of the study. The Cell-Cast® application has an ability to trigger a survey or assessment at the conclusion of another activity such as viewing a video. Using this trigger functionality, I was able to ensure that participants did not view or attempt to complete the post-experiment assessments before viewing all of the episodes of *The Workshop* entertainment-education videos or completing the eLearning courses.

After each participant completed the posttest, character identification, and narrative transportation assessments, they received an email thanking them for their participation. Following the study, I provided access to *The Workshop* videos to the eLearning group. At the conclusion of the study, I sent participants a notification explaining that their account was de-activated and that all of their data would be deleted from the system five years after the study.

Interventions

Video Group 1. Participants in the entertainment-education video group viewed a five-part entertainment-education series entitled *The Workshop* developed by me, a team of experts in the pharmaceutical compliance profession, and a professional video production company in Chicago. My employer at the time of this study funded the production of the video series. The video production company purchased the legal rights to *The Workshop* videos used in this study. The president of the video production

company provided me with approval to use the entertainment-education video series for this study (see Appendix G).

I designed the five-part entertainment-education series using the Miguel Sabido entertainment-education framework (Singhal et al., 2004). The narrative depicts a story of a pharmaceutical sales representative, Kim, who violates several company policies and finds herself in an internal investigation for her actions. Kim's activities are not sufficiently egregious to warrant getting fired; however, she is asked to repeat her new-hire sales and compliance training. Also, Kim is asked to attend a workshop to learn more about the regulations that govern the pharmaceutical industry. I based the stories related in *The Workshop* on actual industry cases. In addition, I used findings from an analysis of research on the use of case studies and their effects on ethical decision-making in the design of *The Workshop* videos.

The Workshop is a fictional setting in which several pharmaceutical sales or marketing professionals and one medical doctor come together to share stories of their prior unethical or illegal activities. The workshop participants each explain how their activities led to dire consequences for themselves, their companies, or patients. During each episode, a member of the workshop relates a story which is presented either as a first-person narrative or in the form of a flashback event. Kim attends each workshop and learns something new with each story told in the workshop (see Figure 1). The film director instructed the actress who played Kim to portray a negative, dismissive attitude in Episodes 1 and 2. In Episode 3, Kim's attitude begins to change, and she begins to model the desired positive behaviors visually. This type of modeling is consistent with

Miguel Sabido's framework for creating a character who models behavioral

transformation (Singhal et al., 2004).

Figure 1. Kim is sitting in the workshop listening to case studies from people formerly

involved in unethical and illegal activities.

Throughout the video series, Kim, the transformative character, learns how to

make sense of unethical issues recounted in the workshop stories. Whittle and Mueller

(2011) explained that the purpose of storytelling is to help people make sense of their

version of the story. Also, Harkrider et al. (2012) reported that when they included

references to a code of ethics and long-term effects in their ethical dilemma cases,

participants increased significantly in ethical awareness and sense making. The story of

Jenny, a former sales training director, was based on the Merck Vioxx case (Lyon &

Mirivel, 2011). In that case, the sales representatives were allegedly trained to avoid

conversations regarding product safety risks. Jenny relates a story very similar to the

Merck Vioxx case, referring to the serious effects of the unethical conduct. We based

some of *The Workshop* stories on multiple case studies. For example, we based the first

story of David the workshop leader on two real-life case studies, including the story of

Marc Beers who received an FDA warning for misbranding one of his companies'

products on a U.S. national television program (Mangan, 2014). In one story, the

character Gina explains how her actions led to her loss of employment, a company fine

for millions of dollars, and her debarment from working in the pharmaceutical industry. I

adopted Gina's story from a case related to me by a U.S. District Attorney at a

pharmaceutical compliance conference. For privacy reasons, the U.S. District Attorney

did not cite the case. I provided relevant research findings to the writers during the script

writing process. Throughout the five videos, Kim listens to these stories and gradually

makes sense of the unethical or illegal actions taken by the characters in the stories.

Rather than place a summary epilogue message at the end of each video segment,

we developed a way to allow Kim to summarize what she had learned by modeling the

behavior of reflection and note-taking. Lane et al. (2013) reported that an epilogue

message was valuable in contributing to the acceptance of the instructional message.

Also, Moyer-Gusé, Jain, and Chung (2012) indicated that the placement of an explicit

epilogue at the end of the video contributed to a positive outcome by reducing attitudes

toward the undesirable behavior of drinking and driving. Hoeken and Fikkers (2014)

added to these findings by explaining that a message can be explicit when it is part of the

narrative or story. In their case-study research, Johnson, et al.(2013) found that note-

taking had an effect on ethical decision-making. Also, Gunia, Wang, Huang, Wang, and

Murnighan, (2012) reported that contemplation had a positive effect on moral decision-making. After reviewing the results of these studies, I developed an idea to have the key transformative character in the story, Kim, end each episode sitting at her computer modeling the behavior of contemplation and note-taking based on what she had learned that day (see Figure 2). As suggested by Hoeken and Fikkers (2014), the main character presents the instructional message while remaining in the story.

Figure 2. The character Kim is modeling reflection on what she has learned, recording it in the form of notes in an online journal.

Each episode of the video series is approximately seven to eight minutes in length, consistent with similar studies using a series of episodic videos (Cox, Cheon, Crooks, Lee, & Curtis, 2017). Participants used a mobile application to view the videos. While encouraged to use a tablet device (e.g. iPad), participants were allowed to use either their mobile phone or tablet device for this study. The researcher provided access to a new episode each day, over a five-day period. If a participant was unable to

complete one video per day, I allowed them to view multiple videos on subsequent days.
After watching all five episodes, participants completed an ethical decision-making
posttest, and two assessments to measure narrative transportation, and character
identification with Kim (the transformative character) and Todd (the key antagonist
character).

eLearning Group 0. I developed an eLearning course using the same content
from the entertainment-education videos. I used a simple slide-based design using screen
images from the video, and a narrative adapted from *The Workshop* script (see Figure 3).
I developed one eLearning module to correspond with each video episode. I made minor
changes to the on-screen narrative. For example, I changed some of the text from first
person to third person tense. I also removed some of the humorous lines which are
present in the video. Despite the minor changes in the narrative, Group 0 read the same
story which was viewed by Group 1 in the form of a video.

I adopted the eLearning design from "fotonovelas" (photo-based novels) used in
other entertainment-education studies (Hernadez & Organista, 2013; Grigsby et al.,
2016). Researchers have demonstrated that the use of a "fotonovela" could have a
significant effect on increasing knowledge, changing attitudes, and improving self-
efficacy to act when compared to an in-person discussion group (Hernadez & Organista,
2013). Developers of "fotonovelas" use screen images from a television program, and
text to tell a story. Additionally, Meader, Knight, and Coleman (2015) reported that
asking participants to view still images had a stronger effect on moral judgment scores
when compared with watching a video. Subsequently, I included still images taken from

The Workshop video in the eLearning course. I divided the eLearning course into five

modules to correspond with the five episodes of *The Workshop* video series. I asked

participants to complete one module a day for five days. If a participant was unable to

complete one module per day, I allowed them to complete multiple modules on

subsequent days.

Figure 3. Screen shot of *The Workshop* eLearning Module 1.

Instrumentation

Pre-study questionnaire. Before introducing the study participants to one of the

treatment interventions, they first completed a questionnaire to capture demographic

information and the control variables. I asked participants to provide information

regarding age, gender, years of experience working in pharmaceutical sales and/or

marketing, an estimate of how much time that spent in compliance training in the past year, and whether they had previously viewed compliance training that used entertaining or humorous videos. Leeuwen, Renes, and Leeuwis (2013) reported that age affected behavioral attentions after viewing an entertainment-education program, while others have reported no significant effects related to age (Brusse, Fransen, & Smit, 2015). Age can have a moderating effect on ethical decision-making measures; however, ethics training may reduce this moderating effect (McClaren, 2013). Other researchers have reported gender effects (Johnson, Harrison, & Quick, 2013). Gender has been shown to have a significant impact on attitudes and behavioral intentions in some entertainment-education studies (Marett, 2015). Donoho, Heinze, and Kondo (2012) indicated that while females rate unethical situations higher than males, and score higher on adopting an idealistic approach, the variations in scores on a personal selling ethics scale cannot be entirely explained by gender difference when controlling for scores of idealism versus relativism. Additionally, ethical judgment scores for both genders were low which may indicate a behavioral tendency to adopt unethical practices (Donoho, Heinze, & Kondo, 2012). In some studies, researchers have reported an effect from years in a profession on ethical decision-making (Bateman, Valentine, & Rittenburg, 2013;.Husser, Gautier, Andre, & Lespinet-Najib, 2014; Gunia et al., 2012). Prior exposure to compliance and ethics training or entertainment-education videos may have affected the outcomes of this study (Ruiz, Martinez, Rodrigo & Diaz, 2015; Warren et al., 2014). As a result, for demographics, I collected age, gender, and years working in the pharmaceutical sales or marketing profession, and prior exposure to pharmaceutical compliance training. While

these variables were not needed to test any of the null hypotheses in this study, I used

some of the variables in the data analysis and discussion of findings.

      Measurement of the predictor variables. Following the viewing of the

entertainment-education video series or completion of the narrative-style eLearning

course, participants completed an assessment to measure narrative transportation (Green

& Brock, 2000; Green & Clark, 2012) and character identification (Cohen, 2001). Brock

and Green's (2000) Transportation Scale included 11 general items and four items

specific to the narrative, rated using a seven-point scale beginning with "*very much*" and

ending with "*not at all*". When developing the online assessment in the CellCast®

survey instrument, I used a seven-point scale beginning with "*strongly agree*" and ending

with "*strongly disagree*". The instrument developed by Brock and Green had a

Cronbach's alpha score of .76. I used the original 11 items, changing the word "reading"

to "viewing." In addition, I created four items specific to each episode of *The Workshop*

entertainment-education series. Entertainment-Education researchers have used this

instrument in several studies, with high reliability and validity (Bilandzic, & Busselle,

2011; Graaf et al., 2012; Costabile & Terman, 2013). There was no need to gain

permission to use the narrative transportation scale because it was available to the public

through the "Measurement Instrument Database for the Social Sciences" (Green &

Brock, 2013).

      Participants also completed an assessment to measure character identification

which describes the connection that a viewer, listener, or reader has with the characters in

a drama or narrative. Cohen (2001) developed a scale to measure character

identification. An example of a character identification question could be, "I felt emotionally involved with Kim's feelings". Cohen, Tal-Or, and Mazor-Tregerman (2015) made minor modifications to the original instrument, reducing it from 13 items to 11 items, and found strong reliability with the instrument. Several entertainment-education researchers have used Cohen's (2001) instrument in their studies (Moyer-Gusé et al., 2011; Graaf et al., 2012; Green & Clark, 2012) with high Cronbach alpha scores. Moyer-Gusé, Chung, and Jain (2011) measured α=90 for one character and α=91 for another character. I received an email from Dr. Cohen providing me with permission to use his character identification scale (see Appendix A).

Measurement of the dependent variables (pretest and posttest). Following the model used by (Valentine, Nam, Hollingworth, & Hall, 2014), I measured (a) recognition or awareness of ethical issues, (b) ethical judgment, and (b) behavioral intention to speak up. Prior to and following the intervention, all participants read two scenarios containing pharmaceutical sales ethical dilemmas and then completed an assessment to measure the dependent variables of ethical issue awareness, ethical judgment, and behavioral intentions to speak up (see Appendix D). Participants of most ethical decision-making or ethical judgment studies first read a scenario, or a series of scenarios, that contains a potentially unethical issue (Harkrider et al., 2013; Hollingworth & Valentine, 2015; McManus et al., 2012; Mudrack & Mason, 2013; Thiel et al., 2012; Valentine et al., 2014). After reading a scenario and a potentially unethical action, participants were then asked to complete an assessment to measure one or more components of ethical decision-making. While not all ethical decision-making researchers use the same instrument for

measuring awareness, judgment, and behavioral intentions, the method is essentially the same. For example, Valentine, Nam, Hollingworth, and Hall (2014) asked participants to read a single ethical scenario. Participants then completed a single seven-point semantic differential scale to measure ethical issue recognition, and Reidenbach and Robin's (1990) moral equity scale to measure ethical judgment. For a different audience, Valentine and Hollingworth (2012) used two ethical scenarios relevant to the study population. Gao, Greenberg, and Wong-On-Wing (2014) asked participants to read a single ethical business dilemma prior to asking them the likelihood that the characters in the narrative would speak-up. Donoho and Heinze (2014) used the personal ethics selling (PSE-2) scale, which uses twenty sales related ethical scenarios, to measure ethical judgment. Consequently, there is no set rule for the number of scenarios used in ethical decision-making or ethical reasoning studies. As Mudrack and Mason (2013) pointed out, it is important that the participants find the scenarios relevant with sufficient number of details.

For this study, I modeled the scenarios from two scenarios used by Donoho, Herche, and Heinze (2013). In an email, I asked Dr. Donoho if it would be appropriate to modify the scenarios in his instrument to align with the context of pharmaceutical sales. In his email response, he agreed with the approach and cited an example when he and his colleagues modified the scenarios in the PSE-2 instrument to accommodate a population of Indonesian students prohibited to use alcohol for religious reasons (Donoho, 2016, May 14). To improve construct validity, I selected and modified two of the scenarios from the PSE-2 instrument to be more relevant to pharmaceutical sales professionals.

Mudrack and Mason (2013) defined different categories of ethical decision-making scenarios and explained how they should be written to ensure construct validity related to how participants interpret these scenarios. It is important that the scenarios have sufficient details to avoid readers drawing different types of conclusions which may cause variation in survey responses. I based the selection of the types of ethical dilemmas on common pharmaceutical sales issues (Outterson, 2012; Rodwin, 2013; Valverde, 2012) and the types of cases presented in *The Workshop* video. For this study, the dilemma types were (a) exaggerating the effectiveness of a drug (the product) while downplaying patient safety risks, and (b) use of unapproved off-label efficacy or safety claims to increase sales while potentially putting patients at risk. Each scenario highlights potential risks for patients, and an action to speak up after observing the unethical behaviors (see Appendix D).

To measure ethical issue awareness, I used a one-item measure. I asked participants if they believed the scenario contained an ethical issue (1=*strongly agree*, 7 = *strongly disagree*). To measure ethical issue judgment, I used a four-item "moral equity" scale taken from the Reidenbach and Robin's (1990) eight-item ethical judgment scale. While not all researchers of moral judgment use the same method of measurement, Reidenbach and Robin's (1990) multidimensional ethics scale is the most commonly used (Mudrack & Mason, 2013). The moral equity scale is a four-item semantic differential scale consisting of the following items: *fair/unfair*, *just/unjust*, *acceptable/unacceptable to my family*, and *morally/not morally right*. The four items were then averaged to create a single moral or ethical judgment score. To measure

behavioral intention, I used a four-item scale modified to address the behavioral intention to speak up (Valentine et al., 2014). Similarly, the four item scores were averaged to create a single score for intentions to speak up.

Data Analysis Plan

I analyzed the data for this study using IBM SPSS Statistics version 25 software for MacOS. The intent of the analysis was to evaluate the research questions and test the null hypotheses, outlined in Chapter 1 of this dissertation. I compared the effects of an entertainment-education video series with an eLearning course on the dependent variables of ethical issue awareness, ethical judgment, and behavioral intentions to speak up.

I concluded from the literature review on entertainment-education and narrative persuasion, that entertainment-education interventions may be more effective when the viewer or reader is fully engaged in the narrative, transported into the story, and has a strong identification with the protagonist characters in the storyline (Cohen, Tal-Or, & Mazor-Tregerman, 2015; Hoeken & Fikkers, 2014; Igartua & Casanova, 2015). As a result, to fully understand the effects of any entertainment-education program or persuasive narrative, I included the two variables, narrative transportation, and character identification in the linear regression analyses.

Research Questions and Hypotheses

While conducting my data analyses, I evaluated the following research questions and determined whether I could reject the associated null hypotheses.

Research Question 1: What effect will viewing an entertainment-education video series have on ethical issue awareness, compared to reading a narrative style eLearning course?

Hypothesis 1

$H_0$1: There is no difference in effect on ethical issue awareness, between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

In statistical terms, $H_0$1: $\mu_1 = \mu_2$

$H_1$1: The effect on ethical issue awareness is greater for the group viewing the entertainment-education video series when compared to the group reading the narrative style eLearning course.

In statistical terms, $H_1$1: $\mu_1 \geq \mu_2$

Research Question 2: What effect will viewing an entertainment-education video series have on ethical judgment, compared to reading a narrative style eLearning course?

Hypothesis 2

$H_0$2: There is no difference in effect on ethical judgment between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

In statistical terms, $H_0$2: $\mu_1 = \mu_2$

$H_1 2$: The effect on ethical judgment is greater for the group viewing the entertainment-education video series compared to the group reading the narrative style eLearning course.

In statistical terms, $H_1 2$: $\mu_1 \geq \mu_2$

Research Question 3: What effect will viewing an entertainment-education video series have on behavioral intention to speak up when compared to reading a narrative style eLearning course?

Hypothesis 3

$H_0 3$: There is no difference in effect on behavioral intention to speak up between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

In statistical terms, $H_0 3$: $\mu_1 = \mu_2$

$H_1 3$: The effect on behavioral intention to speak up is greater for the group viewing the entertainment-education video series compared to the group reading the narrative style eLearning course.

In statistical terms, $H_1 3$: $\mu_1 \geq \mu_2$

Research Question 4: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect ethical issue awareness?

Ethical Issue Awareness $= b_0 + b_1$Character Identification$_1 + b_2$Narrative Transportation$_2 + b_3$X$_3$ + Error; where X$_3$ is a categorical indicator with two conditions (1) watched video, or (0) completed eLearning

Hypothesis 4

$H_0$4: There is no effect of narrative transportation, character identification with the transformative character, or instructional method on ethical issue awareness.

In statistical terms, $H_0$4: $\beta_1 = \beta_2 = \beta_3 = 0$;

$H_1$4: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on ethical issue awareness.

In statistical terms, $H_1$4: $\beta i \neq 0$, for at least one i=1,2,3

Research Question 5: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect ethical judgment?

Ethical Judgment$_i = b_0 + b_1$Character Identification$_1 + b_2$Narrative Transportation$_2 + b_3$X$_3$ + Error; where X$_3$ is a categorical indicator with two conditions (1) watched video, or (0) completed eLearning

Hypothesis 5

$H_0$5: There is no effect of narrative transportation, character identification with the transformative character, or instructional method on ethical judgment.

In statistical terms, H_05: $\beta_1 = \beta_2 = \beta_3 = 0$;

H_15: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on ethical judgment.

In statistical terms, H_15: $\beta i \neq 0$, for at least one i=1,2,3

Research Question 6: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect behavioral intention to speak up?

Intentions to speak up$_i$ = b_0 + b_1Character Identification$_1$ + b_2Narrative Transportation$_2$ + b_3X$_{3i}$ + Error; where X$_{3i}$ is a categorical indicator with two conditions (1) watched video, or (0) completed eLearning

Hypothesis 6

H_06: There is no effect of narrative transportation, character identification with the transformative character, or instructional method on behavioral intention to speak up.

In statistical terms, H_06: $\beta_1 = \beta_2 = \beta_3 = 0$;

H_16: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on behavioral intention to speak up.

In statistical terms, H_16: $\beta i \neq 0$, for at least one i=1,2,3

Statistical Tests

For this study, I measured ethical decision-making as a construct of three separate variables. The expected behavioral changes were: (a) an improved ability to identify an unethical issue, (b) judge potentially unethical issues, and (c) increase one's intention to speak up. Also, I concluded from the entertainment-education and narrative persuasion literature review that the two measures of narrative transportation and character identification may contribute to explaining the variance in the three outcomes (Cohen et al., 2015; Hoeken & Fikkers, 2014; Igartua & Casanova, 2015). The degree of identification with either the primary transformative character Kim or the antagonist character Todd may have influenced the effects of the posttest results. Because some researchers have found that identification with the antagonist character can have a negative outcome (Moyer-Guse et al., 2011), I included an assessment to measure identification with the character Todd. Additionally, the degree of narrative transportation or engagement in the video or eLearning course may have influenced the treatment effects. Some people may have enjoyed the story, and became immersed or transported into the story, while another person may not have. Consequently, it was important to evaluate the possible effects of both character identification and narrative transportation.

Effects of an entertainment-education video versus eLearning. To evaluate research questions R1, R2, and R3, I conducted paired samples *t* tests in SPSS to compare the effects of both treatments on the three dependent variables of ethical issue awareness, ethical judgment, and behavioral intention to speak up. A similar method was used by

Fishbach (2015) to compare the effects of a graphic novel to a text-only case study, on

ethical self-efficacy and also by May, Luth and Schwoerer (2014) to measure the effects

of a business ethics education program on moral efficacy, moral meaningfulness, and

moral courage. I conducted a separate paired t test for each of the three dependent

variables, to evaluate whether there was a significant difference between the pretest and

posttest results. Because there were two scenarios, I conducted six paired t tests.

Effects of narrative transportation and character identification. I evaluated

the predictive effects of character identification and narrative transportation on the

dependent variables of ethical issue awareness, ethical judgment, and behavioral intention

to speak up. I evaluated research question R4, R5, and R6 using three multiple regression

models, each with three continuous variables and one categorical indicator. I evaluated

these models using the character identification scores for the characters Kim

(transformative) and Todd (antagonist). The values for the categorical indicator are (1)

viewed entertainment-education video or (0) completed eLearning course. I conducted

these analyses for each of the two ethical scenarios.

- Ethical Issue Awareness$_i$ = b_0 + b_1Character Identification$_1$ + b_2Narrative Transportation$_2$ + b_3X$_{3i}$ + Error

- Ethical Judgment$_i$ = b_0 + b_1Character Identification$_1$ + b_2Narrative Transportation$_2$ + b_3X$_{3i}$ + Error

- Intentions to Speak Up$_i$ = b_0 + b_1Character Identification$_1$ + b_2Narrative Transportation$_2$ + b_3X$_{3i}$ + Error

X_{3i} is the categorical indicator with two conditions (i=1) watched entertainment-education video, or (i=0) completed eLearning course

Threats to Validity

External Validity

While I attempted to select a sample from a multi-company population to strengthen external validity, I was only able to sample from a single company. I collected data regarding the number of years the participants have worked in the pharmaceutical sales and marketing profession. The sponsor company provided a sample distributed across multiple states, in the south-central region of the United States. Information regarding participant background will help contribute to my ability to generalize findings across the population of all pharmaceutical sales and marketing professionals.

Internal Validity

In this study, I compared the effects of two treatments on ethical issue awareness, ethical judgment, and behavioral intentions to speak up. I took several steps to improve the internal validity of the results of this study. To control for history, I asked participants if they had recently completed compliance training at their respective company in the past twelve months. This was only a one-week study, so there was no concern with maturation. Because this was a pretest-posttest experimental study, there was a risk that posttest scores would be affected by the pretest. To mitigate this risk, I separated the pretest and posttest by six days. One day after receiving the pretest, the participants began to receive the treatment which was presented over a five-day period.

Participants completed the posttest one to three days after the treatment. The pretest and

the posttest were the same to improve instrument validity. I did not expect a selection

problem because the participants were all from the same industry, profession, and the

same company. Finally, I further established internal validity by randomizing the sample

into two groups.

Content Validity

Experts in pharmaceutical ethics and compliance reviewed the scenarios

presented in the treatment and those presented in the ethical decision-making assessment

to ensure content validity of the instrument. Mudrack and Mason (2014) pointed out the

importance to include sufficient details in ethical dilemmas used in ethical judgment

scales. Consequently, I ensured that the ethical dilemmas had sufficient details to also

ensure construct validity of the instrument (see Appendix E).

Construct Validity

A poor design of the ethical dilemmas used in the pretest and posttest could have

influenced construct validity. I decided not to use an instrument that takes an average

score from multiple ethical decision-making scenarios. Rather, I decided to use two

ethical dilemmas. Mudrack and Mason (2012) developed two categories of ethical

dilemma vignettes and referred to them as "Dilemma" and "Classic." They questioned

the methods of all prior ethical judgment research, calling into question the construct

validity of their instruments recognizing that in some vignettes there exists more than one

unethical behavior; however, researchers measured only one. Mudrack and Mason

(2012) were able to identify six categories of ethical dilemmas, each with a different

structure. In instruments like the DIT (Rest, Narvaez, Thoma, & Bebeau, 1999) and the

PSE-2 (Donoho & Heinze, 2014) participants are asked to read a series of ethical

dilemmas and complete an ethical decision-making or an ethical judgment measure for

each dilemma. The scores are then averaged to create a single score. Mudrack and

Mason (2012) have pointed out that this method may diminish the construct validity of

the instrument. Curzer, Sattler, Dupree, and Smith-Genthos (2014) also recommended

that scores for multiple ethical scenarios should not be averaged to improve the internal

validity of the findings. Lohfeld et al. (2012), evaluated the validity and reliability of a

multi-scenario ethical judgment scale, referred to as the Ethics in Health Care Instrument

and reported that the test-retest reliability score was moderate, and the generalizability

reliability scores between the different vignettes were practically zero. This may be due

to what Mudrack and Mason (2014) have suggested, that each vignette in an ethical

judgment instrument must be measured alone or designed to have a similar structure.

Consequently, for this study, I used two ethical dilemmas with a similar structure and

measured each separately.

Ethical Procedures

The Walden University Institutional Review Board (IRB) reviewed and approved

my application to conduct a quantitative experimental study with 120 to 150 sales

representatives from one or more pharmaceutical companies who sign an agreement to

cooperate letter. The IRB approved my application on February 2, 2017. The IRB

approval number is 02-02-17-0157346, "conditional upon the approval of the research

partner, as documented in the partner's signed letter of cooperation."

- I received a signed letter of cooperation from the partner company provided it to the Walden University IRB on December, 2, 2017. See Appendix H, to review an unsigned version of the cooperation letter.

- On December 4, 2017, Walden University IRB emailed the researcher with an approval to begin conducting research in partnership with the cooperating company.

- On February 2, 2017, the researcher received an approval to extend data collection activities until February 1, 2019.

I took steps in this research study to protect the safety, privacy, and security of the study participants. I first asked participants to complete an informed consent form (ICF) which complied with the requirements of the Walden University IRB. The ICF included an explanation of the procedures, examples of some of the assessment questions, an explanation of the voluntary nature of the study, the risks and benefits, how privacy would be maintained, and a method to digitally sign the consent form.

I explained in the privacy section of the informed consent form that, the identities of the participants would not be shared, that personal information (e.g. email address) will not be used outside of the study, and that participant data will be stored in a secure-encrypted application. The software used to collect the data is hosted in a facility with multiple security certifications.

To mitigate any risks that participants may have felt obligated to participate in the study, the invitation email made it clear that participation was voluntary. This was emphasized twice in the invitation email. By reading the informed consent form,

participants were informed again that participation was voluntary and that they could choose to exit the study at any time. Approximately 40 people did choose to exit the study during the week-long experiment. In addition, I informed participants that there were no financial incentives for participating in this study.

The study data submitted by the participants through the CellCast® software application was not manipulated by the researcher or the system administrators, after the participants submitted their responses to the questionnaire and the assessments. Prior to data analysis, I carefully transferred the participant data from the CellCast® software application to SPSS. I validated the data to ensure that it was properly transferred and not manipulated in anyway.

I designed the videos to improve awareness of potential violations of U.S. FDA regulations and guidelines. I used the PhRMA Code on Interactions with Healthcare Professionals (2008) as an ethical framework for this project. By applying the Miguel Sabido entertainment-education model to develop the videos used in this study, I provided viewers with a balanced message of positive, negative, and transformative role models (Reinermann, Lubjuhn, Bouman,& Singhal, 2014). By using the Sabido model, I demonstrated respect to the viewer or reader by providing a balanced view of the issues. We included a healthcare professional character in *The Workshop* scenes to provide balance to the messaging. The character, Dr. Filmore, provided fair balance to arguments including the legal right for physicians to prescribe off-label, while pharmaceutical sales representatives are prohibited to promote outside the approved FDA product label.

Summary

In summary, for this was a pretest-posttest quantitative experimental study I compared the effects of a novel instructional approach, entertainment-education, with a traditional approach, eLearning, on pharmaceutical sales ethics and compliance behaviors. Specifically, I measured ethical issue awareness, ethical judgment, and behavioral intentions to speak up after participants read through two pharmaceutical sales ethical dilemmas. I divided the study participants into two randomized groups.

One group viewed a five-part entertainment-education video series depicting ethical and unethical behaviors of pharmaceutical sales and marketing professionals. I designed the videos to improve awareness of unethical sales and marketing practices, and the consequences of unethical activities. Also, I designed the videos to improve self-efficacy to speak up, which may have impacted behavioral intentions to speak up (Bandura, 1986; Sayre et al., 2012; Warren et al., 2014). A second group read the same content in a narrative-style eLearning course, using only text and still images taken from the videos.

Participants completed a pretest and a posttest which included reading two pharmaceutical sales ethical dilemmas, followed by completing a measure of ethical issue awareness, ethical judgment, and behavioral intentions to speak up. Also, participants were asked to complete two additional assessments to measure narrative transportation and character identification, which researchers have reported to have an effect on knowledge, attitudes, and behaviors after reading or viewing an entertainment-education or persuasive narrative (Cohen et al., 2015). I evaluated the null hypotheses to determine

whether there was a significantly different effect between the two treatment groups on ethical awareness, judgment, and speaking-up intentions. I also evaluated the effects of narrative transportation and character identification in three multiple regression models to provide greater depth in the findings and conclusions, which I present in Chapters 4 and 5.

Chapter 4: Results

Introduction

The purpose of this quantitative experimental study was to evaluate the effectiveness of an entertainment-education approach to business ethics and compliance training on ethical issue awareness, ethical judgment, and behavioral intentions to speak up in the pharmaceutical sales profession. I compared two formats for the entertainment-education narrative used in this study, which included a professionally developed video and a text and image only eLearning course modeled after fotonovelas (Grigsby et al., 2016). Researchers and practitioners may use findings from this study to determine whether a high-cost professionally developed video is significantly more effective than a simple eLearning course using static images and on-screen text to influence ethical issue awareness, ethical judgments, and behavioral intentions to speak up. Based on research in narrative transportation (Laer et al., 2014) and character identification (Igartua & Casanova, 2015), I also evaluated whether narrative transportation and character identification could predict the three dependent variables of ethical issue awareness, ethical judgment, and intentions to speak up.

Research Questions and Hypotheses

Research Question 1: What effect will viewing an entertainment-education video series have on ethical issue awareness, compared to reading a narrative style eLearning course?

$H_0$1: There is no difference in effect on ethical issue awareness, between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

$H_1$1: The effect on ethical issue awareness is greater for the group viewing the entertainment-education video series when compared to the group reading the narrative style eLearning course.

Research Question 2: What effect will viewing an entertainment-education video series have on ethical judgment, compared to reading a narrative style eLearning course?

$H_0$2: There is no difference in effect on ethical judgment between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

$H_1$2: The effect on ethical judgment is greater for the group viewing the entertainment-education video series compared to the group reading the narrative style eLearning course.

Research Question 3: What effect will viewing an entertainment-education video series have on behavioral intention to speak up when compared to reading a narrative style eLearning course?

$H_0$3: There is no difference in effect on behavioral intention to speak up between the group viewing the entertainment-education video series and the group reading the narrative style eLearning course.

$H_1$3: The effect on behavioral intention to speak up is greater for the group viewing the entertainment-education video series compared to the group reading the narrative style eLearning course.

Research Question 4: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect ethical issue awareness?

$H_0$4: There is no effect of narrative transportation, character identification with the transformative character, or instructional method on ethical issue awareness.

$H_1$4: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on ethical issue awareness.

Research Question 5: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect ethical judgment?

$H_0$5: There is no effect of narrative transportation, character identification with the transformative character, or instructional method on ethical judgment.

$H_1$5: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on ethical judgment.

Research Question 6: To what extent will narrative transportation, character identification with the transformative character, or instructional method affect behavioral intention to speak up?

$H_0$6: There is no effect of narrative transportation, character identification with the transformative character, or instructional method on behavioral intention to speak up.

$H_1$6: There is an effect of narrative transportation, character identification with the transformative character, and method of instruction on behavioral intention to speak up.

Organization of Chapter 4

In Chapter 4, I first review the data collection process. Following a description of this process, I review the administration of the entertainment-education and the eLearning treatments. In doing so, I discuss any challenges encountered during the data collection process and the administration of the treatments. I then present the study results which include the descriptive statistics for the sample and statistical analyses organized by research question and hypothesis.

<p align="center">**Data Collection**</p>

I collected my data over a period of 4 weeks from January through February 2018. I received approval to begin collecting data from the Walden University Institutional Review Board (IRB) on February 1, 2017, pending approval of a research partner (Walden IRB approval no. 02-02-17-0157346). After 9 months, in which I invited multiple pharmaceutical companies to participate in the study, a single pharmaceutical company located in the northeastern region of the United States agreed to participate in the study by signing a letter of cooperation which I submitted to the Walden University IRB on December 2, 2017. Before sending recruitment e-mails to the potential participants, I obtained approvals from the heads of the ethics and compliance, legal affairs, and information technology departments of the participating pharmaceutical company. Also, the vice president of the sales organization approved the e-mail invitations to sales representatives in her respective region. I worked with the ethics and

compliance organization and the sales vice president to develop the e-mail invitation. I ensured that the e-mail clearly indicated that participation in the study was voluntary prior to beginning the process to recruit participants.

Sample Recruitment

In collaboration with the partner research company, I took steps to obtain the desired sample size of 120 to150 participants for the study. At my request, the sales vice president sent the first e-mail invitation to 264 pharmaceutical sales professionals working in the south-central region of the United States specializing in diabetes treatments. The sales vice president sent the invitation e-mail with a link to the online informed consent form. After 1 week, the same vice president sent a follow-up e-mail which resulted in a second set of informed consent forms. I received 105 signed informed consents from the south-central sales region which included Texas, Arkansas, Oklahoma, and Kansas. I then sent instructions to the participants to download a mobile learning application and begin the experiment. Of the 105 participants who completed an informed consent form, only 86 began the study and 64 fully completed the week-long study requirements, however. Two participants did not complete the second part of the posttest. Despite my goal to obtain a minimum of 120 participants, I obtained a final sample size of 64 participants for Ethical Dilemma 1 and 62 participants for Ethical Dilemma 2.

Two aspects of the population for this study may have contributed to the smaller than expected sample size. First, based on eight years of personal experience, I have observed that pharmaceutical sales representatives tend to be slow adopters of new

technology. After enrolling in the study, many of the participants reported to the ethics

and compliance group of the sponsor company that the procedure to download the mobile

learning application was too complicated. As a result, nearly 30 enrolled participants

never began the study. While the mobile application was an excellent data-collection

tool, researchers should consider the obstacles to adoption of new technologies for field

sales representatives (Sinisalo, Karjaluoto, & Saraniemi, 2015). Second, sales

representatives tend to be motivated by financial incentives (Zoltners, Sinha, & Lorimer,

2012). Although some researchers have provided modest gift cards for participation in

similar studies (Gigsby et al., 2016; Hoffman et al., 2016), I did not offer a monetary

award to study participants. I would recommend that future researchers consider offering

a small gift card for participation in a sales ethics research study similar to other studies.

When compared to results from a medreps.com survey (2017), the sample in this

study may be representative of the pharmaceutical sales representatives in the United

States. A total of 666 U.S. pharmaceutical representatives responded to a demographics

survey on the website medreps.com (2017). Twenty percent of the respondents reported

an age range of 31 to 40, 41% (41-50), and 20% (51 to 60). The results from the

medreps.com survey are consistent with the sample used in this study. For this study, the

final sample consisted of 30 male participants and 32 female participants. The ages of

the participants ranged from 30 to 60 years of age, with 53% of the participants between

the ages of 40 and 49. I concluded, based on the demographics of the participants, that

my sample was representative of the U.S. pharmaceutical sales population.

Discrepancies in Data Collection

I unintentionally reversed the scoring of the ethical issue-awareness scale from the original proposed design. In my proposal, I used an instrument by (Valentine & Hollingsworth, 2012) who used the scale (1) completely disagree to (7) completely agree such that the higher score represented a higher degree of awareness. When I developed the actual instrument in the CellCast® application, I built it as (1) strongly agree to (7) strongly disagree such that the higher score represents a lower degree of awareness. As a result, I subtracted the posttest scores from the pretest scores to determine whether the change was positive. For example, if a participant scored (5) disagree in the pretest, and then a (3) agree in the posttest, I subtracted the pretest from the posttest score to measure a positive change in score of 2.

When building the moral equity scale, I was unable to present the scale visually to the end users in the same manner as the original paper-based instrument which was a technical limitation of the mobile learning application. When recreating the items of the moral equity scale in the CellCast® application, I was constrained to display the scale vertically with item one at the top and item seven at the bottom (see Figure 4). In the original paper-based moral equity scale, Robin, Reidenbach, and Forrest (1996) presented the scale items horizontally and asked participants to mark an 'X' between the two opposite ends of the scale. Ethical decision-making researchers normally present the moral equity scale instrument items on paper in a horizontal format with no numbers and ask participants to mark an X on a specific point on the scale (McManus et al., 2012).

How would you judge the action of the sales representative? Would you judge this as morally right or not morally right?

ENTER AN ANSWER

1. Morally Right

2. 2

3. 3

4. 4

5. 5

6. 6

7. Not Morally Right

Figure 4. Screenshot from CellCast® application, showing item 3 in the moral equity scale (Robin, Reindenbach, & Forrest, 1996). The scale is normally displayed on paper in this format: (Morally Right __:__:__:__:__:__:__ Not Morally Right)

While I was constrained to present the moral equity scale in a vertical visual presentation, this design should not have affected how people recorded their scores. Researchers have not found that vertical versus horizontal orientation has a significant effect on scoring (Bruijne, & Wijnant, 2014; Maloshonok, & Terentev, 2016). In an attempt to overcome the limitations of the mobile application, I provided instructions on the prior screen explaining to the participant how the scale should be scored (see Figure 5). I intentionally used an example scale of happy to sad which had no relationship to the questions in the actual instrument to avoid introducing a biasing effect from the instructions.
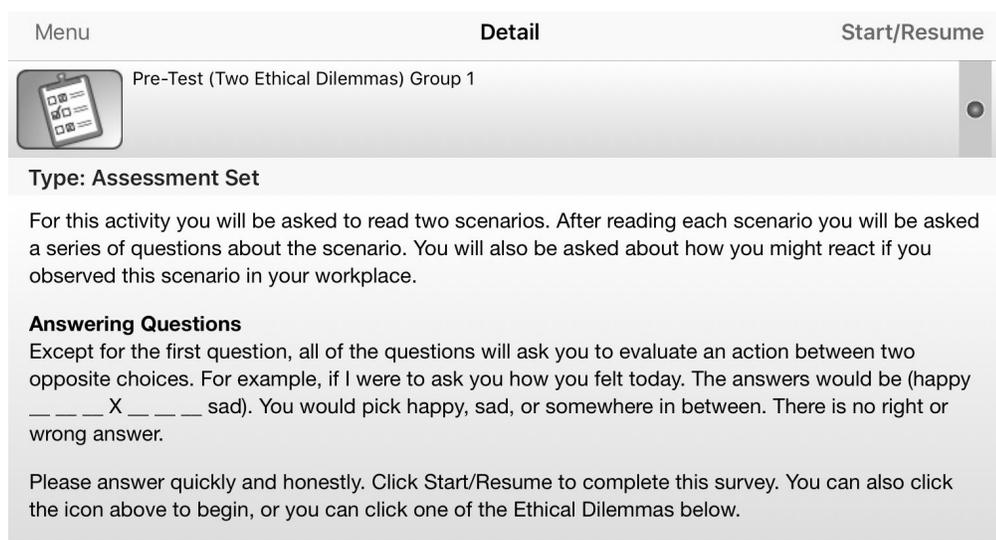
Figure 5. Screen shot from CellCast® application, showing the instructions for the

ethical decision-making instruments for ethical judgment and speaking-up intentions.

Treatment and/or Intervention Fidelity

I administered the treatments as planned, using the CellCast ® mobile learning

application on either the participant's mobile phone or tablet device. I gave participants

the option to use either their mobile phone or their tablet device. Participants first

completed an online informed consent form located on the Survey Monkey ® website.

As I proposed in Chapter 3, the informed consents were electronically signed using an

email address. Once I had a signed informed consent, I emailed participants the

instructions for downloading and registering the CellCast ® mobile learning application.

I allowed participants several days to download the application, register it, and complete

the demographics questionnaire. Participants were also provided with access to complete

the pretest. As proposed in Chapter 3 of this dissertation, I instructed the participants to

complete the pretest on the first day of the study, and then to view one video or eLearning

lesson per day for the following 5 days. On day six of the study, I administered the ethical decision-making, character identification, and narrative transportation posttests. I used the CellCast ® administrative tool to monitor completion of the demographic questionnaire and pretest. Each day of the study, I sent an email to all participants providing them with instructions to complete the task for that day and thanked them for their work on the prior day. In the same email, I encouraged anyone who was unable to complete the assignment for the prior day, to complete it on the day of the email communication. As a result, all participants received a daily email reminder to complete their assignments.

Pharmaceutical sales representatives have busy work schedules which include significant traveling during the day to interact with physicians (Fickweiler, Fickweiler, & Urbach, 2017) and completing administrative work or facilitating promotional dinner programs in the evening (Essi, 2015). As a result of these constraints, some participants deviated from the procedure and viewed multiple videos or eLearning courses in the middle or end of the study week. Some participants waited until day six of the study to complete all of the materials in a day. A few participants who completed some or all of the treatment before completing the pretest were removed from the data analysis. In total, 64 participants for Dilemma 1 and 62 participants for Dilemma 2 followed the procedure to complete the pretest first, then view a series of videos or eLearning lessons, followed by completion of the posttest. Participants did not report any adverse events from participating in the study.

Study Results

Sample Descriptive Statistics

I randomly assigned the 105 enrolled participants to either the video treatment group (1) or the eLearning treatment group (0). While 85 participants completed the pretest phase of the study, only 64 completed the entire experiment for Ethical Dilemma 1 and 62 for Ethical Dilemma 2. Of the final participant sample, I assigned 31 people to the video group, and 34 people to the eLearning group. I removed one participant from the data analysis due to a technical error that allowed the participant to view two videos before taking the pretest. Fifty two percent of the participants in the study were female (n = 34). Eighty percent of the participants were over the age of 40 with an average of 15 years of work experience (see Table 3). In a similar ethics education study targeting sales representatives, Fishbach (2015) found that sales experience significantly moderated ethical efficacy. Because of their experience level, participants in my study may have had a high level of confidence in their awareness and ability to judge ethical issues which may have had an effect on their scores. In contrast, some researchers of business ethics have found no significant effects related to either age or work experience (Pan & Sparks, 2012). Despite the findings of Pan and Sparks (2012), this group demonstrated a high level of ethical issue awareness and ethical judgment suggesting little need to provide an instructional intervention to correct for these variables.

Table 3

Sample Demographics for South-Central U.S. Sales Region Group

	Total	Percent	$\bar{X}$	SD
Gender				
Male	31	47.7		
Female	34	52.3		
Age ranges				
20 to 29	0	0		
30 to 39	11	17.7		
40 to 49	33	53.2		
50 to 59	17	27.4		
60 to 69	1	1.6		
Experience (years)			14.85	6.28
Annual training				
1 to 2 hours	9	14.8		
2 to 4 hours	26	42.6		
> 4 hours	26	42.6		

Note. For experience *N*= 61 with 17 people reporting 20 to 30 years of experience. The

participants were pharmaceutical sales representatives specializing in diabetes products

who were located in the south-central region of the United States.
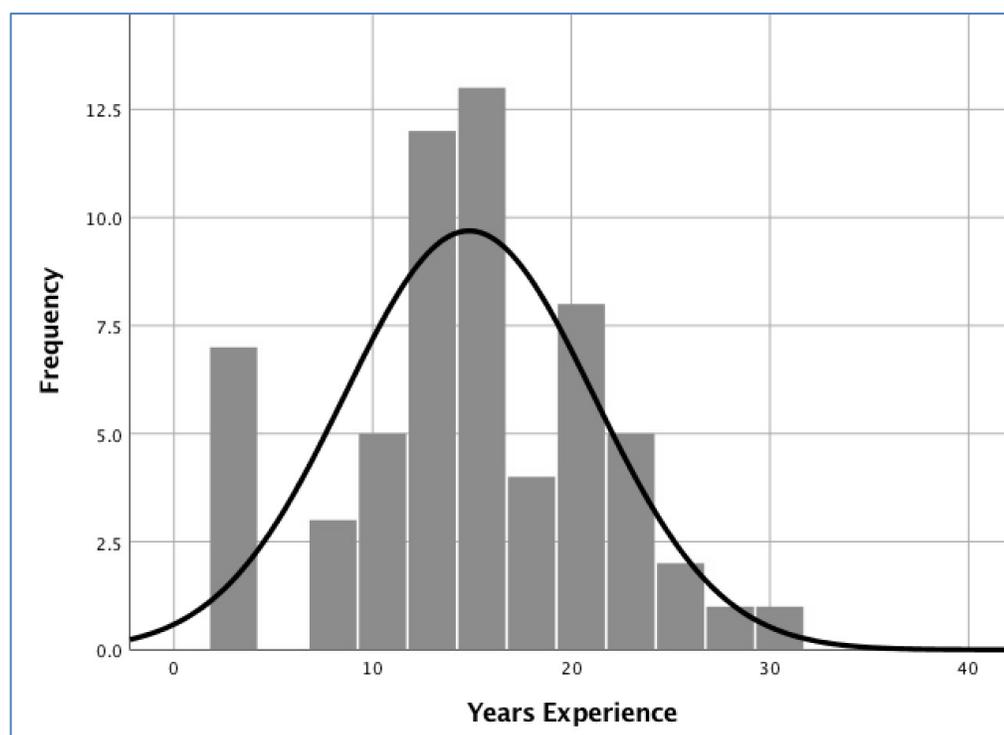
Figure 6. Histogram showing distribution of years of experience in the pharmaceutical

sales and marketing professions for the sample. $N = 61$, $\bar{X} = 14.85$

Table 4

Randomized Assignment to Treatment Groups

	Ethical Dilemma 1		Ethical Dilemma 2	
	N	Percent	N	Percent
Video	30	46.9	30	48.4
eLearning	34	53.1	32	51.6
Total	64	100.0	62	100.0

Note. While the groups were initially randomized equally between the two treatment

groups, because of participant drop-outs, the final assignments were not equal. For

ethical dilemma two, two participants in the eLearning group did not complete the

posttest.

Reliability Testing

I made minor modifications to the ethical judgment and speaking-up intentions

scales used in this study which prompted a need to conduct reliability testing on the

instruments. When making the minor modifications, I followed the directions for the

instrument or from the author of the instrument. I designed the ethical scenarios based on

the original instruments (Donoho & Heinze, 2014; Robin et al., 1996) and examples from

similar ethical decision-making studies (Valentine & Hollingworth, 2012; Valentine et

al., 2014). I modified the scales to provide context for the study population of

pharmaceutical sales representatives working in the U.S. As a result of these

modifications, I tested the ethical judgment and speaking-up intentions scales for

reliability.

Ethical judgment scale. For the ethical judgment scale Scenario 1 pretest, I

obtained 85 valid cases. The ethical judgment scale had four items (see Appendix E).

Valentine et al. (2014) reported $\alpha = .95$ as the scale coefficient. For this study, I

calculated a coefficient of $\alpha = .857$ for the same four-item scale. Item 4 in the scale had

the lowest Cronbach score of $\alpha = .583$. If I had removed item 4 from the scale, the

overall Cronbach score would be $\alpha = .863$. Item 4 was a sensitive question asking if the

unethical action in the scenario would have been acceptable to one's family or not. The

item associated with the highest Cronbach score $\alpha = .872$ asked whether the action was

just or unjust. For the ethical judgment scale Scenario 2 pretest, I collected data for 82

valid cases. The ethical judgment scale includes 4 items. Cronbach's alpha for the scale

was α = .888. Item one (fair or unfair) in the scale had the lowest Cronbach score of α =

.678. If I had removed item one from the scale, the overall Cronbach score would have

been α = .911. The item with highest Cronbach score of α = .876 asked whether the

action was just or unjust, which was also the highest α value recorded for Scenario 1.

Based on the Cronbach scores, I determined that the ethical judgment scale was a reliable

instrument.

    Speaking-Up intentions scale. I adopted the speaking-up intentions scale from

Valentine and Hollingworth (2012) who reported α = .93 for their scenario one and α =

.95 for their scenario two used in their ethical decision-making study. For this study, I

recorded 85 valid cases for the speaking-up intentions scale pretest. The speaking-up

intentions scale included four items (see Appendix E). Cronbach's alpha for the scale

was α = .933 which validated the finding from Valentine and Hollingworth (2012). Item

three in the scale had the lowest Cronbach score of α = .652. If I had removed item three

from the scale, the overall Cronbach score would have been α = .968. There was nothing

unique about item three which asked if speaking-up would be possible or impossible.

Maybe the extreme nature of the term "impossible" affected scoring. The highest

Cronbach score of α = .932 for item two asked whether intentions to speak up would be

probable or improbable. For the speaking-up intentions scale scenario two pretest, I

collected 81 valid cases. The speaking-up intentions scale included four items.

Cronbach's alpha for the scale was $\alpha = .919$. Similar to Scenario 1, item three in the scale had the lowest Cronbach score $\alpha = .643$. If I had removed item three from the scale, the overall Cronbach score would have been $\alpha = .948$. Consistent with Scenario 1, the highest Cronbach score was item two, $\alpha = .887$ which asked whether intentions to speak up would be probable or improbable. Based on the Cronbach scores, I determined that the speak-up intentions scale was a reliable instrument

Tests of Assumptions

Due to the types of testing that I conducted in this study, I determined that there was a need to test for assumptions of normality, homogeneity of variance, and linearity. For this study, I evaluated the first three research questions using paired and independent *t* tests. I used linear regression testing to evaluate research questions four through six. For the parametric *t* tests, I compared the means of the pretest scores conducted on day one of the study with the posttest scores conducted on day seven of the study. For pretest posttest experimental studies, Field (2013) recommends testing for the assumption of normality for the differences between the two scores.

Assumption of normality. In all instances, the data collected for the dependent variables of ethical issue awareness, ethical judgment, and speaking-up intentions significantly deviated from normality and therefore did not pass the assumption for normality (see Table 6). I used the Kolmogorov-Smirnov test to evaluate normality of the dependent variables. For all three dependent variables, across both scenarios the assumption of normality failed based on $p < .001$ in all cases. In addition to the Kolmogorov-Smirnov tests, I also evaluated skewness and kurtosis. Field (2013)

suggested that both the skewness and kurtosis values should be between -1 and 1. Using both the data (see Table 6), and the histograms (see Figures 6-11) I concluded that the results were significantly skewed. One of the possible reasons for the skewness of the outcomes was due to a large percentage of participants selecting the maximum scores for the pretest measures, and then marking the same score for the posttest. The result, observable in the histograms, is a significant number of zero values for the change between pretest and posttest (see Figures 6-11). One of two things may have occurred to contribute to the skewness of the outcomes. First, the participants who remained in the study had an average of 15 years of experience which may have contributed to high ethical awareness and ethical judgment scores (Fishbach, 2015). I may have observed self-report or social desirability bias (Donaldson & Grant-Vallone, 2002) common in business ethics research. Some ethical decision-making researchers have measured and controlled for (Valentine et al., 2014) social desirability bias. Researchers have associated social desirability bias with sales ethics research (Bellizi & Bristol, 2005). Unfortunately, I did not measure and control for social desirability in this study, which I noted as a study limitation and a recommendation for future research. To mitigate this failed assumption of normality for the outcome variables, I bootstrapped both the *t* tests and regression tests in my SPSS data analyses with 10,000 samples.

The independent variable scores for the video group for narrative transportation $D(29) = .092$, $p = .200$, identification with Kim $D(29) = .107$, $p = .200$, and identification with Todd $D(29) = .085$, $p = .200$ met the assumption of normality. For the eLearning

group, only identification with Kim D(32) = .153, *p* = .054 met the assumption of

normality (see Table 6).

Table 5

Testing for Assumption of Normality – Dependent Variables

Variable			Kolmogorov-Smirnov		
	Skewness	Kurtosis	Statistic	df	Sig.
Scenario 1					
Video Group (N=30)					
Ethical Issue Awareness	-2.36	8.02	.452	30	.000
Ethical Judgment	-.883	4.15	.293	30	.000
Speaking-Up Intentions	1.25	.917	.232	30	.000
eLearning Group (N=34)					
Ethical Issue Awareness	-2.44	8.54	.415	34	.000
Ethical Judgment	-1.64	1.55	.343	34	.000
Speaking-Up Intentions	.928	.716	.289	34	.000
Scenario 2					
Video Group (N=30)					
Ethical Issue Awareness	.733	2.16	.346	30	.000
Ethical Judgment	2.03	8.73	.367	30	.000
Speaking-Up Intentions	1.66	2.07	.289	30	.000
eLearning Group (N=32)					
Ethical Issue Awareness	2.92	12.63	.389	32	.000
Ethical Judgment	-.51	5.84	.241	32	.000
Speaking-Up Intentions	.638	2.09	.312	32	.000

Note. Tested assumption of normality for the calculated value of (posttest – pretest

scores) for ethical issue awareness (EIA), ethical judgment (EJ), and speak-up intentions

(SUI). The values of skewness and kurtosis should be between -1 and 1 (Field, 2013).

The KS significance value should not be significant (*p* < .05).

Table 6

Testing for Assumption of Normality – Predictors

Variable			Kolmogorov-Smirnov		
	Skewness	Kurtosis	Statistic	df	Sig.
Video					
Narrative Transportation	-.501	.102	.092*	29	.200
Identification with Kim	-.350	.081	.107*	29	.200
Identification with Todd	-.108	.671	.085*	29	.200
eLearning					
Narrative Transportation	-1.16	3.44	.183	32	.008
Identification with Kim	-1.87	7.23	.153*	32	.054
Identification with Todd	-1.19	1.69	.167	32	.024

Note. Tested assumption of normality for the independent variables.

Histograms with normal curves. A large percentage of respondents recorded the same values for the pretest and posttest scores, resulting in zero change for all three dependent variables of ethical issue awareness, ethical judgment, and speak-up intentions. The pretest-posttest effects for all three dependent variables are not normally distributed.
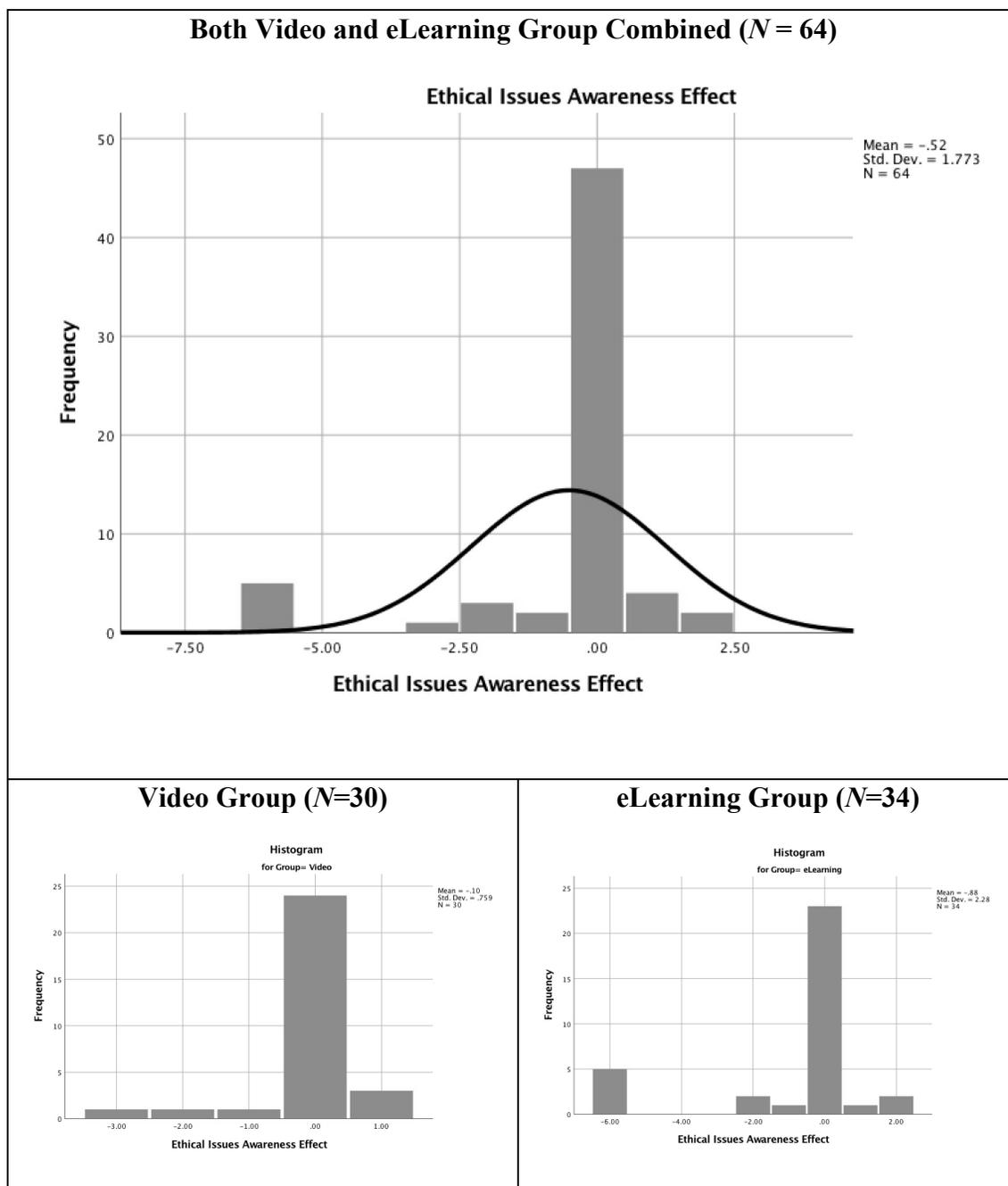
Figure 7. Histogram of ethical issue awareness using the differences between the pretest and posttest scores for ethical dilemma 1.
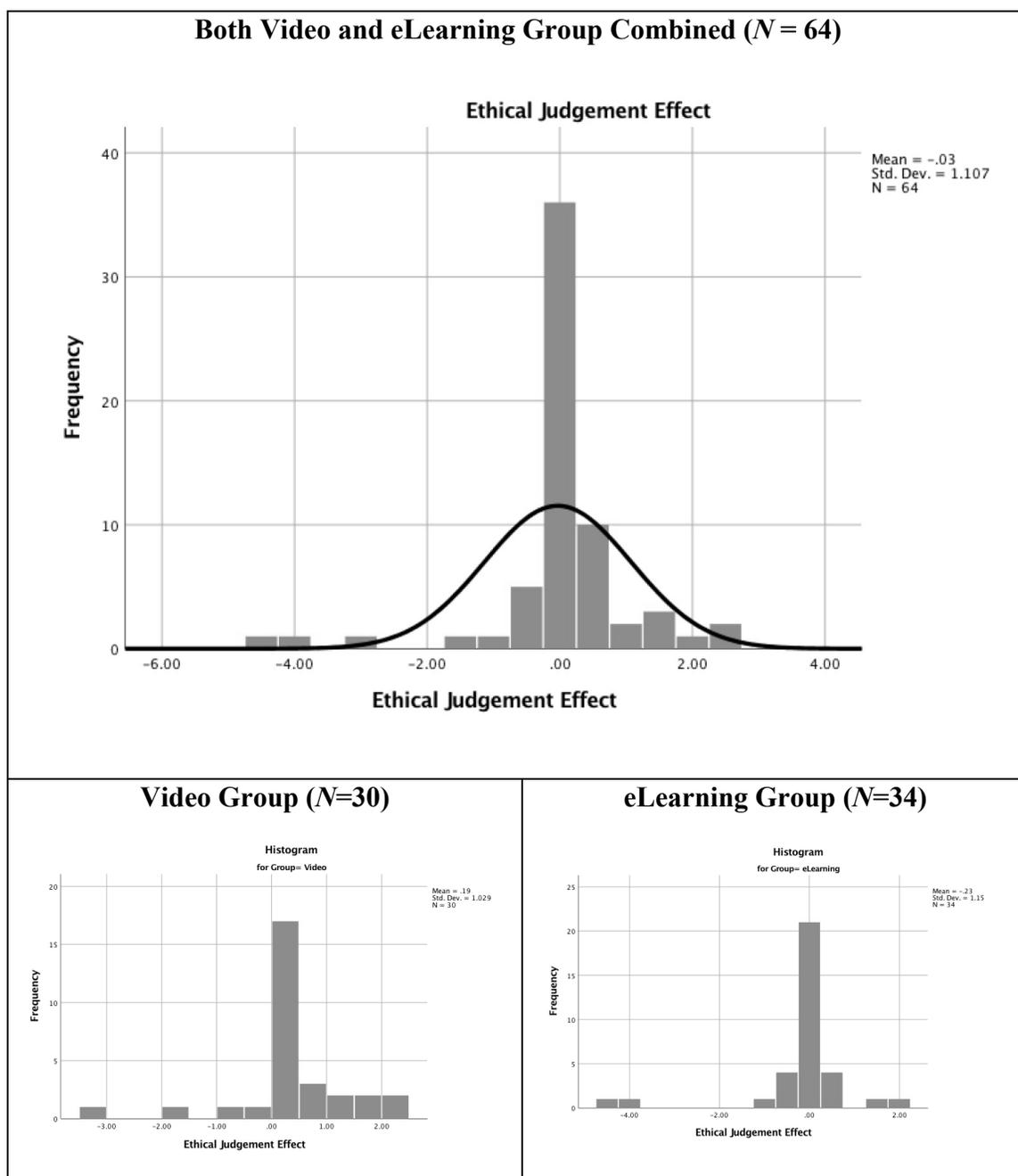
Figure 8. Histogram of ethical judgment using the differences between the pretest and

posttest scores for ethical dilemma 1.
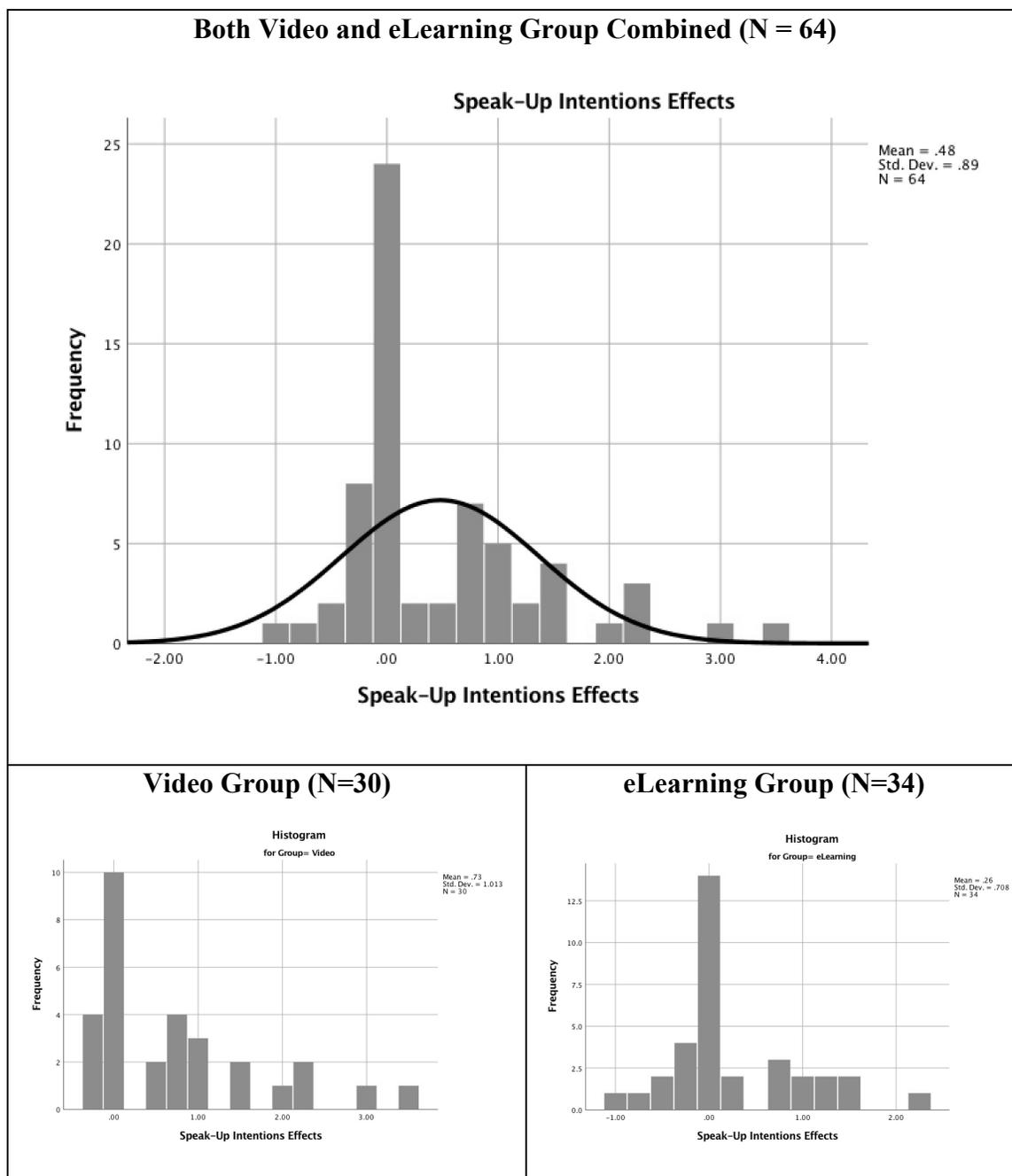
Figure 9. Histogram of speak-up intentions using the differences between the pretest and posttest scores for ethical dilemma 1.
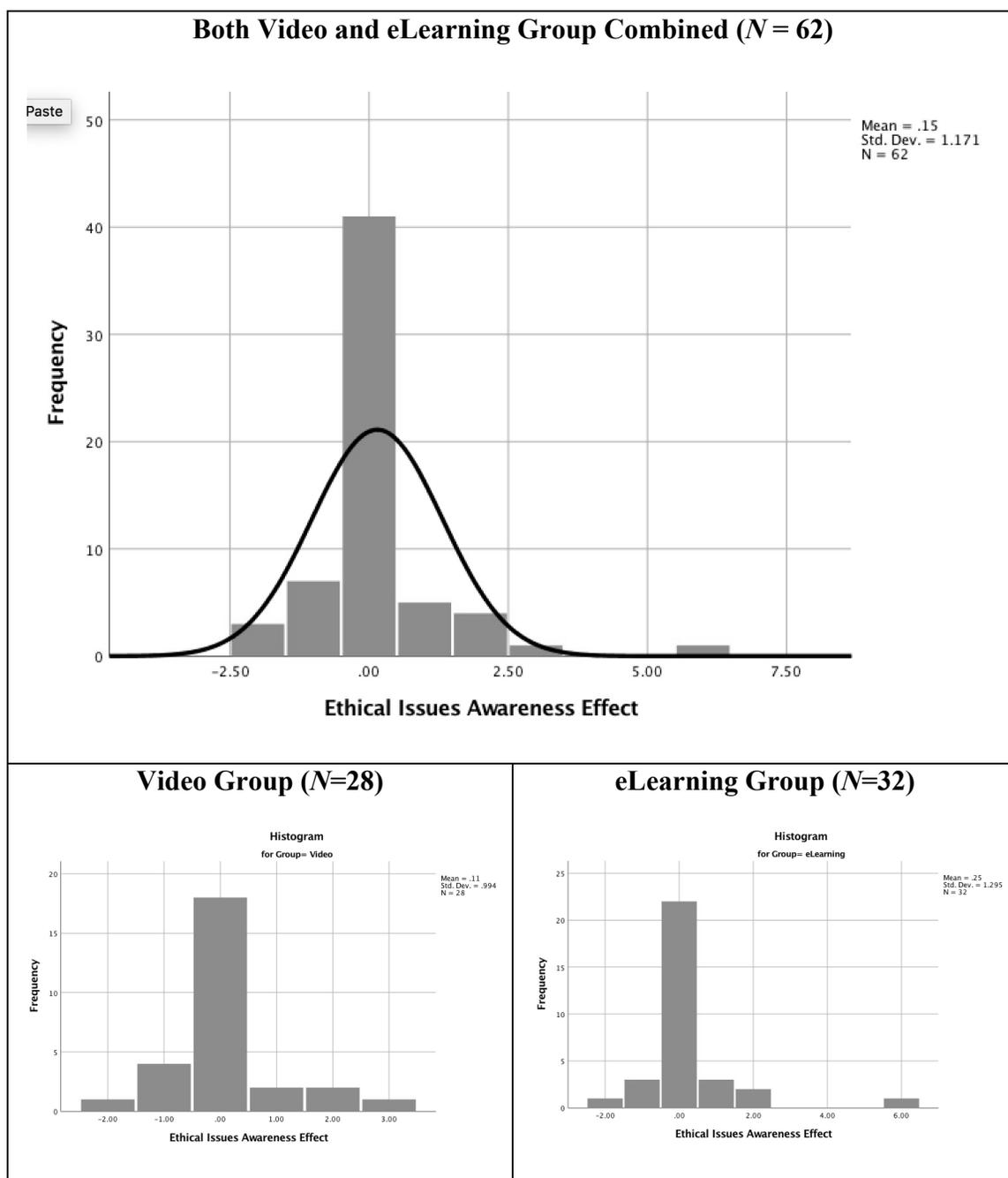
Figure 10. Histogram of ethical issue awareness using the differences between the pretest

and posttest scores for ethical dilemma 2.
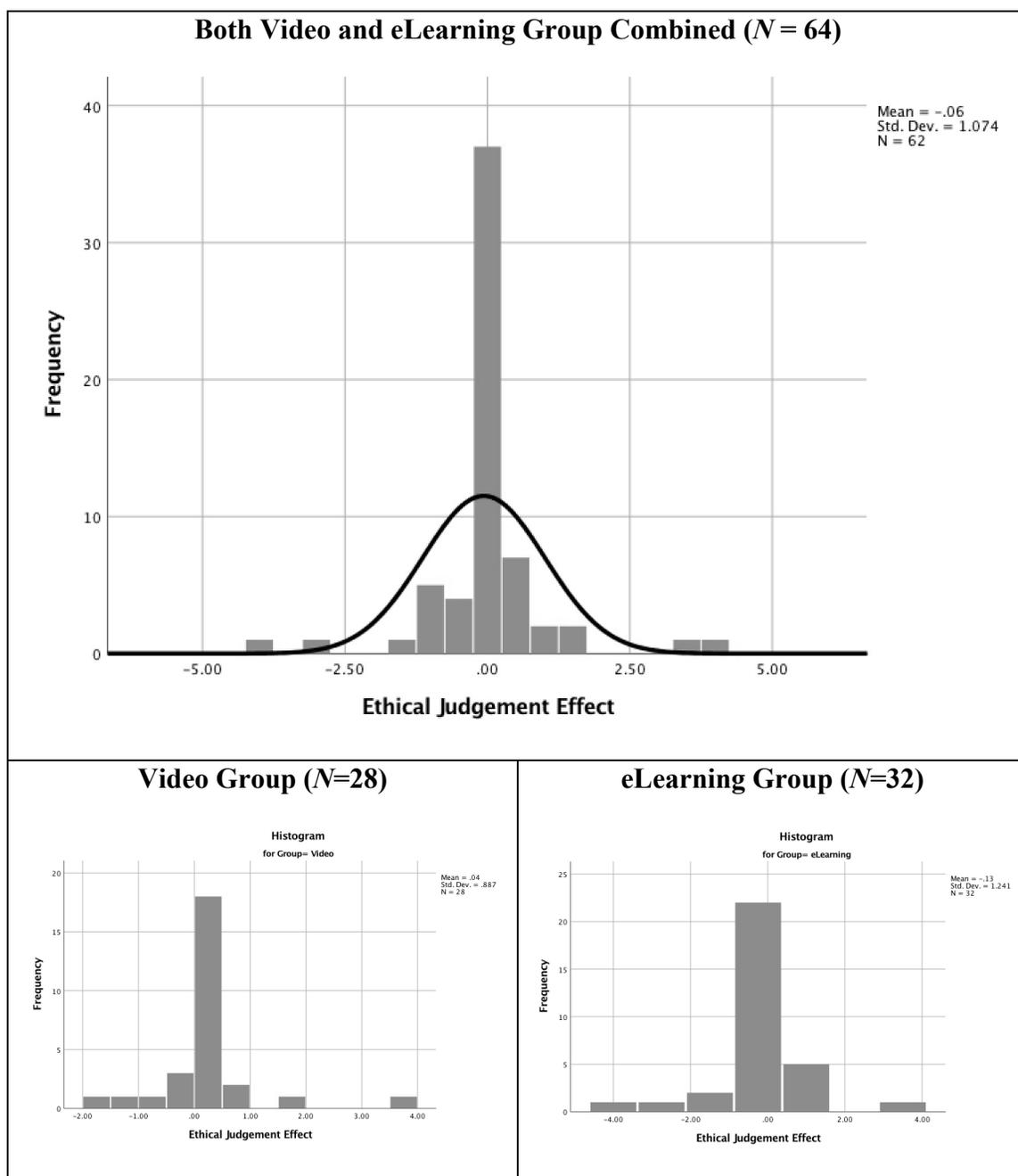
Figure 11. Histogram of ethical judgment using the differences between the pretest and posttest scores for ethical dilemma 2.
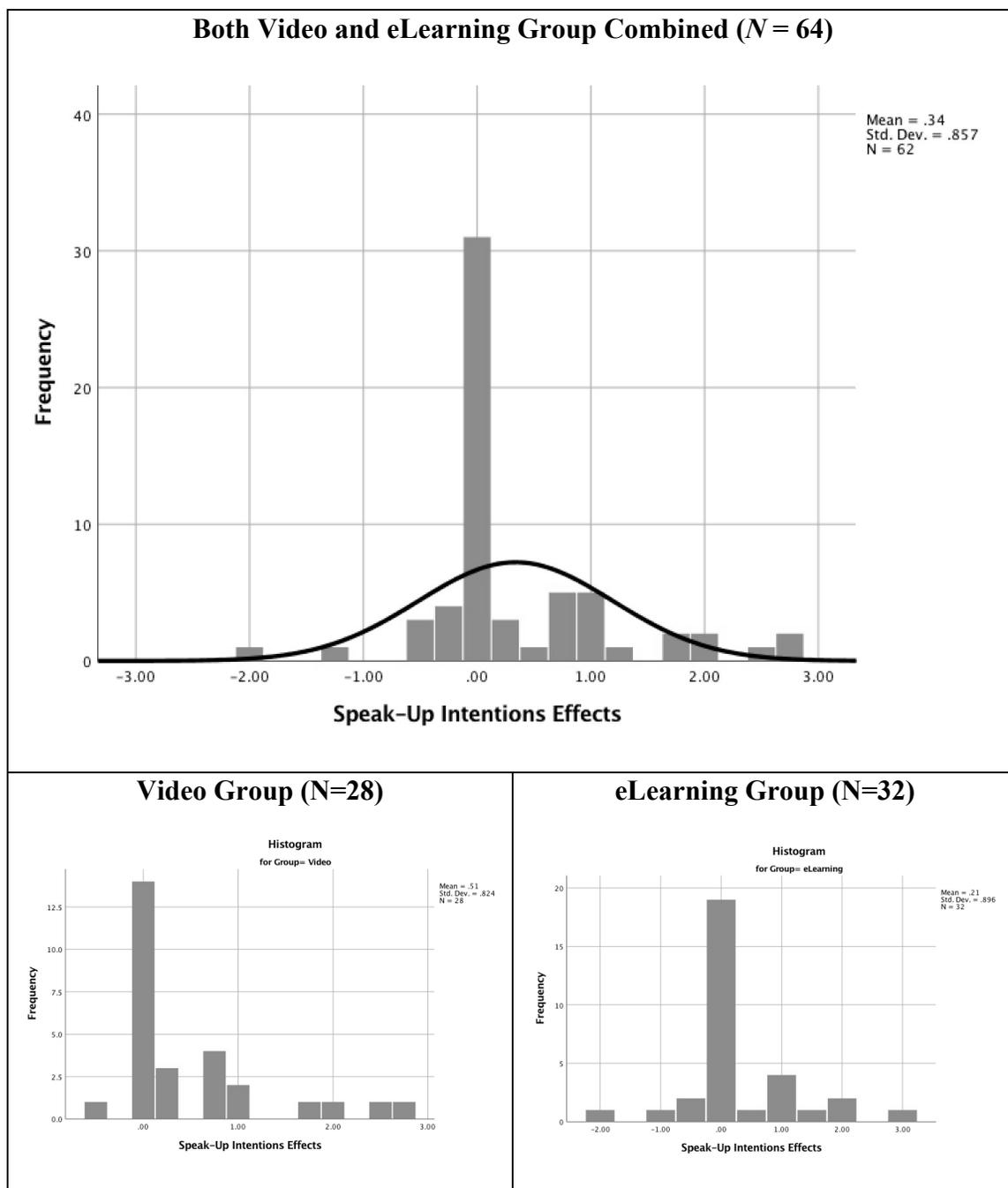
Figure 12. Histogram of speaking-up intentions using the differences between the pretest

and posttest scores for ethical dilemma 2.

Independent Variables or Predictors
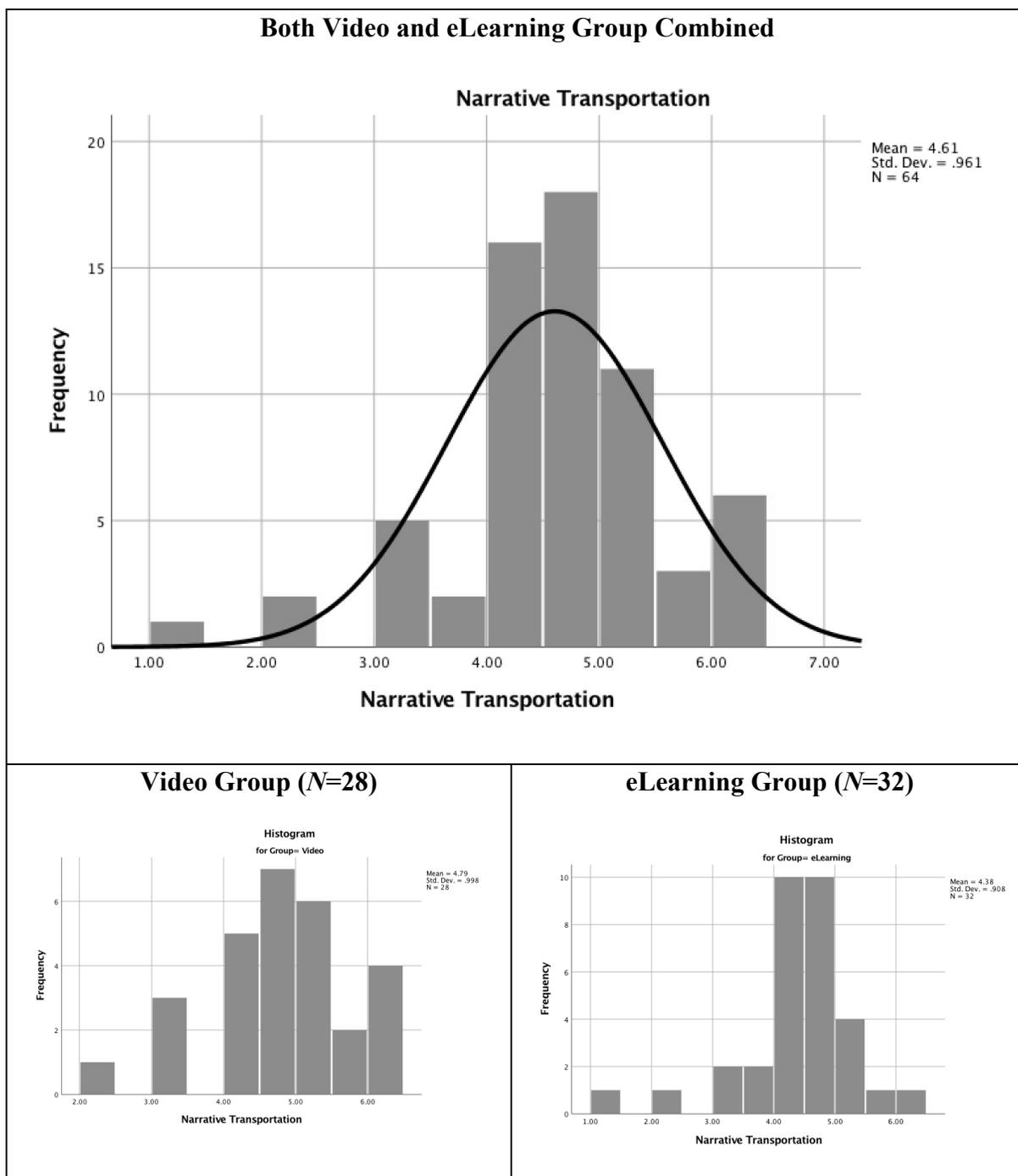
Figure 13. Histogram of narrative transportation scores.
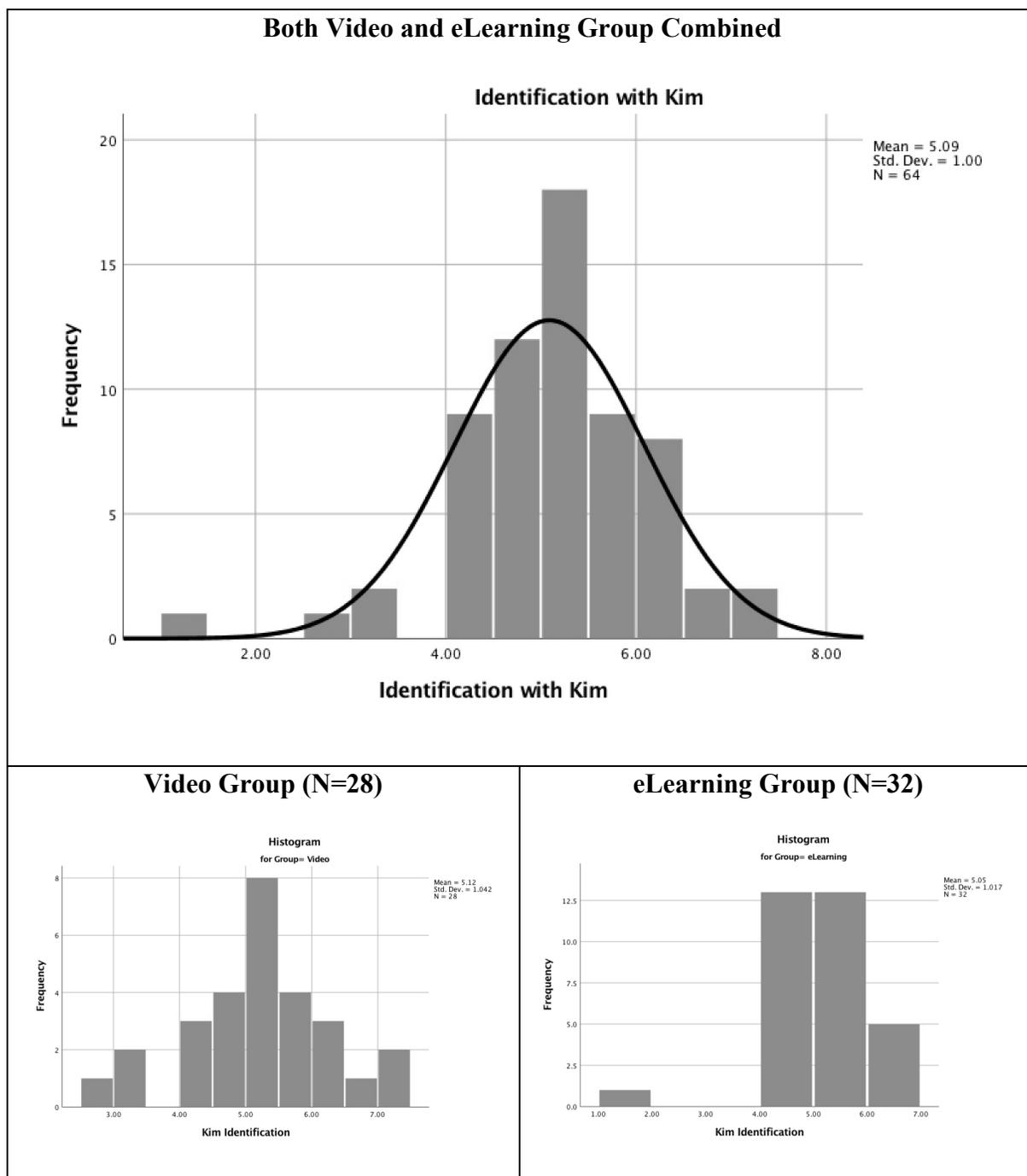
Figure 14. Histogram of character identification scores for Kim.
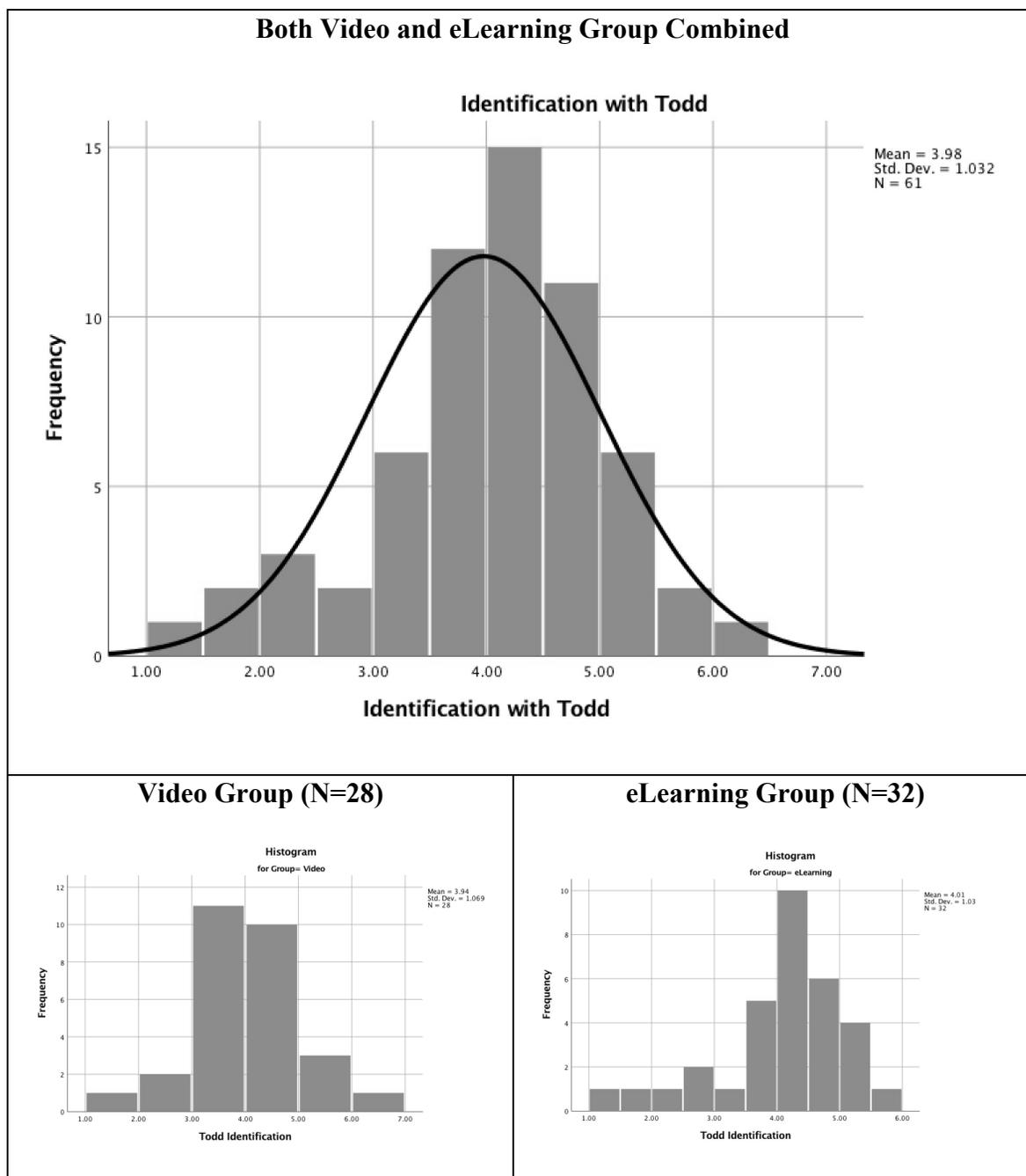
Figure 15. Histogram of character identification scores for Todd.

Assumption of homogeneity of variance. I tested the assumption of homogeneity

of variance for both the dependent variables (outcomes) and the independent variables

(predictors). By comparing the variances between the two groups, I observed that there was a large difference between the eLearning and video groups for ethical issue awareness, which did fail Levene's test (see Tables 7 & 8). Testing for homogeneity of variance using Levene's test, I observed significance for ethical issue awareness for scenario one. All other outcome variables passed Levene's test (see Table 8).

Table 7

Comparing the Means and Variances

Variable	eLearning (N=32)		Video (N=30)	
	$\bar{X}$	Variance	$\bar{X}$	Variance
Scenario 1				
Ethical Issue Awareness	-.882	5.20	-.100	.576
Ethical Judgment	-.228	1.32	.192	1.06
Speaking-Up Intentions	.257	.502	.733	1.026
Scenario 2				
Ethical Issue Awareness	.250	1.68	.033	1.068
Ethical Judgment	-.125	1.54	.000	.772
Speaking-Up Intentions	.211	.803	.475	.648

Note. Compared means ($\bar{X}$) and variances between the two experimental groups.

Table 8

Testing for Homogeneity of Variance (based on the mean)

Dependent Variable	Levene Statistic	df2	Sig.	
Scenario 1				
Ethical Issue Awareness	17.14	62	.000	failed
Ethical Judgment	.006	62	.941	passed
Speaking-Up Intentions	2.93	62	.092	passed
Scenario 2				
Ethical Issue Awareness	.280	60	.599	passed
Ethical Judgment	1.37	60	.247	passed
Speaking-Up Intentions	.010	60	.920	passed

Note. Tested assumption of homogeneity using change in test scores (posttest – pretest)

for ethical issue awareness (EIA), ethical judgment (EJ), and speak-up intentions (SUI)

Assumption of linearity. For research questions four through six, I hypothesized

that there would be a linear relationship between narrative transportation, character

identification and the three outcome variables measured in this study. Using a pretest

posttest experimental design, I measured the change of three outcome variables: ethical

issue awareness, ethical judgment, and speaking-up intentions after the study participants

read each of the two ethical dilemma scenarios. I also measured three independent

variables or predictors which included: narrative transportation, identification with the

transformative character Kim, and identification with the protagonist character Todd.

Because I assigned the sample to two experimental groups, I had one categorical

indicator in my study coded as video =1 and eLearning = 0. Using the data reported in

Table 9, I concluded that the assumption for linearity failed for all three predictors, across

all three outcome variables. For scenario 2, the regression approaches significance for

ethical judgment and identification with the character Kim, $F(62) = 3.99$, $p = .051$. From the scatter plot (see Figure 12) we can see that while there are linear relationships between the predictors, we do not see a linear model between the predictors and ethical judgment. From the scatter plots for scenario two, I observed a linear relationship between narrative transportation and identification with Kim, which I expected because Kim is the main character in all five episodes of *The Workshop* narrative series. As a viewer or reader is more engaged in the narrative, they reported a higher level of identification with the primary character Kim which was an expected result. While I did not include gender in the research questions, I evaluated gender for possible effects on the outcomes (see Table 10). Gender may be a stronger predictor of intentions to speak up $F(62) = 7.64$, $p = .008$ compared to the method of delivery of the entertainment-education intervention $F(62) = 4.84$, $p = .032$.

Based on the data in Table 9, the only two variables that approach significance for linearity are narrative transportation and ethical judgment (posttest pretest change). I concluded from the visual scatter plot that while the relationship may approach linearity, the relationship is nearly a flat line with outliers, and the line crosses zero. Based on this analysis, I chose to fail the assumption of linearity between the independent variables of narrative transportation and character identification with the dependent variables of ethical issue awareness, ethical judgment, and intentions to speak up.

Table 9

Linear Regression Model Summaries (Testing for Linearity)

	Predictors in Linear Models					
	Narrative Transportation		Identification with Kim		Identification with Todd	
Outcomes	ΔF	Sig.	ΔF	Sig.	ΔF	Sig
Scenario 1						
Ethical Issue Awareness	.839	.363	2.10	.153	.194	.662
Ethical Judgment	.030	.862	.193	.662	1.70	.198
Speaking-Up Intentions	.016	.325	.006	.937	.692	.409
Scenario 2						
Ethical Issue Awareness	.281	.598	.333	.566	.000	.999
Ethical Judgment	2.95	.091	3.99	.051	.000	.994
Speaking-Up Intentions	3.20	.079	.593	.444	.454	.503

Note. Used *F*-test to determine model fit with only one predictor in each of the six

potential models to evaluate research questions (4-6). The outcomes represent the posttest

– pretest scores, or the change in scores after administration of the treatments.

Table 10

Linear Regression Model Summaries with Categorical Predictor Only

	Categorical Predictors					
	Group			Gender		
Outcomes	ΔF	Sig.	R^2	ΔF	Sig.	R^2
Scenario 1						
Ethical Issue Awareness	3.21	.078		3.49	.067	
Ethical Judgment	2.34	.131		2,54	.116	
Speaking-Up Intentions	4.84	.032	.072*	7.64	.008	.110*
Scenario 2						
Ethical Issue Awareness	.526	.471		.228	.635	
Ethical Judgment	.207	.651		.312	.578	
Speaking-Up Intentions	1.48	.228		4.83	.032	.075*

Note. Group was coded as video (1) or eLearning (0). * $p < .05$
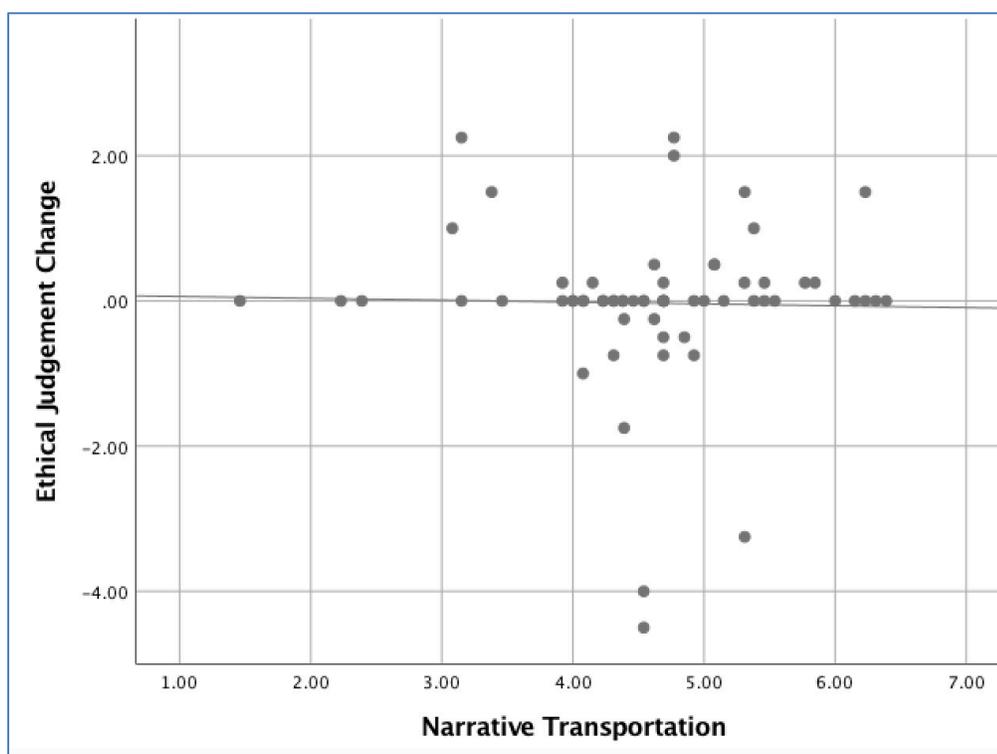
Figure 16. Scenario 1: Narrative Transportation vs Ethical Judgment change.

I did observe a linear relationship between narrative transportation and identification with the transformative character Kim (see Figure 13) whose character was designed to provide the primary model for transforming attitudes and behaviors of the viewers or readers of the narrative. Based on extensive research on narrative persuasion, this linear relationship would be expected (Laer et al., 2014). As a viewer or reader becomes more immersed in a story, they also develop a greater affinity with the characters in the narrative, consistent with the conclusion of Laer et al. (2014) following their meta-analysis of narrative transportation research. I also observed a linear relationship between narrative transportation and identification with the protagonist character Todd with greater variance (see Figure 14). Todd appears in only two of the five episodes of *The Workshop* narrative.
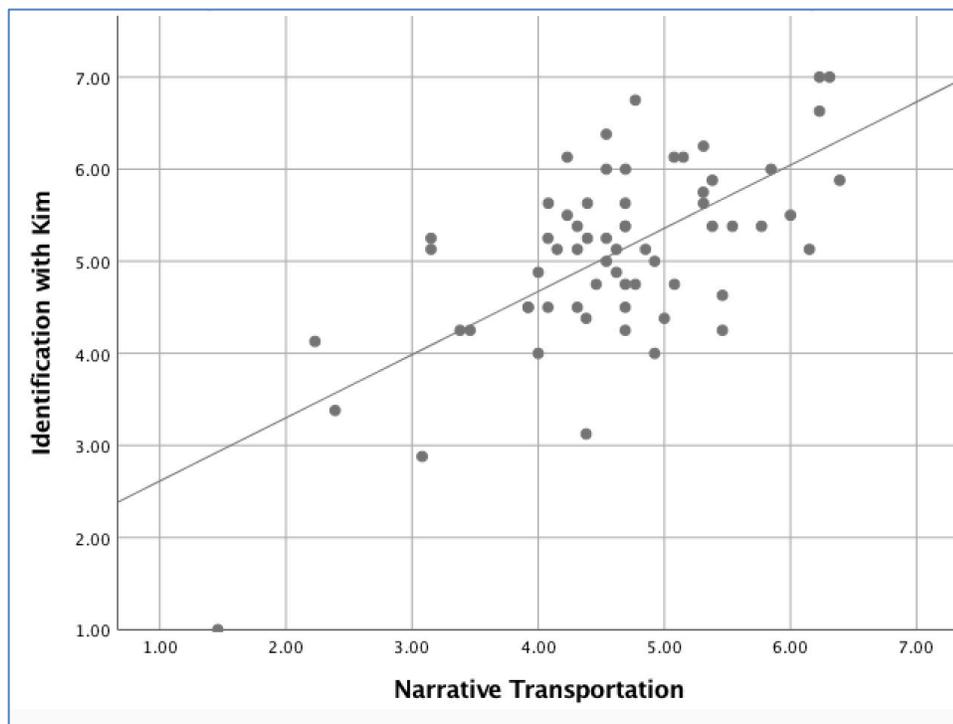
Figure 17. Scatter plot showing linear relationship between Narrative Transportation and Character Identification with the transformative character Kim. $R^2 = 0.435$
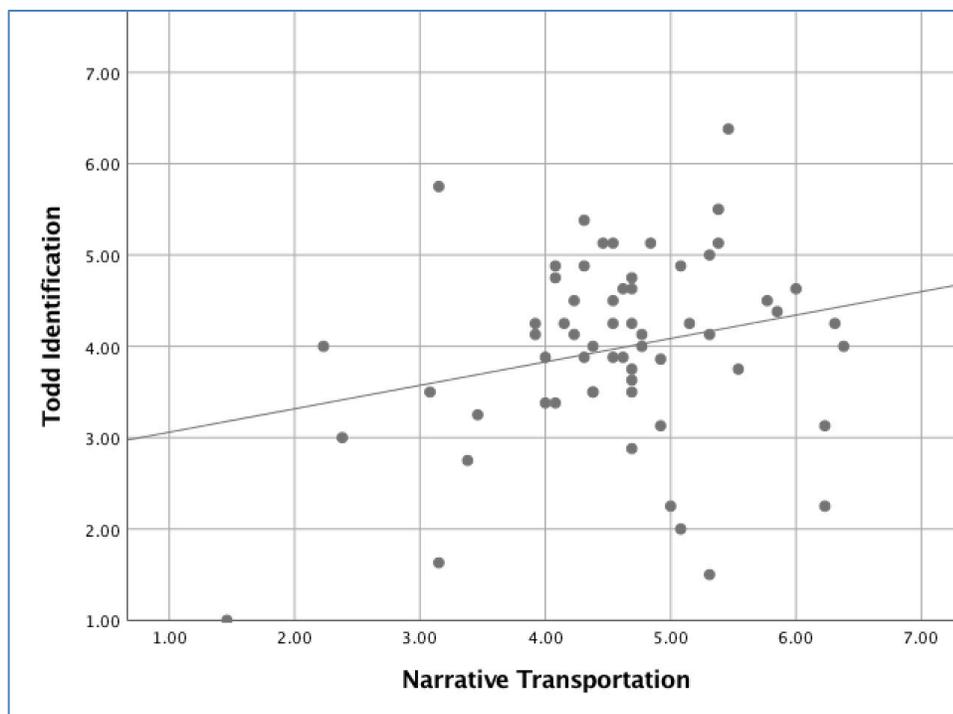
Figure 18. Scatter plot showing linear relationship between Narrative Transportation and Character Identification with antagonist character Todd. $R^2 = 0.057$

Analysis of Research Questions 1-3

For research questions one through three, I compared the effects of viewing either an entertainment-education video series or reading an online eLearning course on three dependent variables. The null hypothesis for each of these research questions states that there is no difference in effect between the two treatment groups, on (1) ethical issue awareness, (2) ethical judgment, or (3) speaking-up intentions. Prior to comparing the results between the two groups, I first conducted an analysis to determine if there was a significant effect between the pretest and posttest within each group for each dependent

variable. I evaluated whether there was a significant effect on the dependent variables after watching the videos and reading the same narrative in an eLearning version (see Tables 11 and 12).

In this study, the participants first read two ethical dilemmas to prime their responses to three ethical decision-making measures. Researchers have used the method of priming participants with one or more ethical dilemmas in other ethical decision-making studies (McManus et al., 2012; Valentine & Bateman, 2011; Valentine, Nam, Hollingworth, & Hall, 2014). Participants may have had a higher perceived importance of the issue or moral intensity (Valentine & Hollingworth, 2012) for ethical dilemma one, because it was related to the safety of patients, while the second ethical dilemma was related to sharing unapproved product information. Each group completed three measurements after reading each of the ethical dilemmas. The same ethical dilemmas and measurements were used for both the pretest and the posttest. For the pretest results, I did not observe a significant difference between dilemma one or dilemma two for either ethical issue awareness or ethical judgment scores. For behavioral intentions to speak up, the differences between dilemmas, .165, BCa 95% CI [-.004, .335] approached significance $t(61) = 1.95$, $p = .056$. The mean likelihood to speak up for scenario one pretest score ($\bar{X} = 2.03$) was lower than the likelihood for scenario two pretest score ($\bar{X} = 1.87$) on a scale of 1 to 7, with 1 representing the highest likelihood to speak up. The pretest speak-up intentions scores were unexpected and alarming because ethical dilemma one represented an issue more serious regarding patient safety.

Preliminary Analysis of Ethical Dilemma 1

The entertainment-education narrative had a stronger effect on the study participant scoring for ethical dilemma one when compared to the scoring for ethical dilemma two, which may have been moderated by the criticality of the issues in the dilemmas. The topic of the first ethical dilemma was exaggeration of product effectiveness, while avoiding a discussion of the product safety data by a pharmaceutical sales representative (see Appendix E). I based this ethical dilemma on item 13 (withholding information about a product) from Donoho and Heinze's (2014) PSE-2 ethical scenarios and modified it for pharmaceutical sales interactions with healthcare professionals. A common dilemma faced by pharmaceutical sales representatives is the decision on whether to share both the benefits and the safety risks of the products they promote. In a prospective study of pharmaceutical sales representatives' practices, Mintzes et al. (2013) reported that when visiting physicians, sales representatives omitted product safety information more than 90% of time. Omission of product safety data may put the lives of patients at risk if physicians are making decisions without the full information regarding the product. In one scene of Episode 4 of *The Workshop*, the character Jenny presents an emotional case where many patients died as a result of a serious side effect which physicians may not have been aware. In the following analysis, I will discuss the potential relationship between the content presented *The Workshop* narrative and the observations associated with participants reading ethical dilemma one.

Prior to evaluating the effects between groups, I first conducted within group paired t tests as an analysis of the effects of the two treatments on the change from pretest

to posttest scores. While this was not one of the research questions, I wanted to first analyze whether there were significant effects between pretest and posttest scores, within the groups. While, some of the study participants scored differently between pretest and posttest scores for ethical issue awareness, ethical judgment, and intentions to speak up, I only observed a significant change for intentions to speak up.

Video group. For the video group, I neither observed a significant effect on either ethical issue awareness $t(30) = -.722, p = .476$ nor on ethical judgment $t(29) = -1.02, p = .316$ (see Table 12). On average, participants who watched the video increased their intentions to speak up ($M = .69$) after reading ethical dilemma one, which represented the largest change from pretest to posttest. I observed a highly significant effect $t(29) = 3.97, p = .000$ on changes in speak-up intention scores for the video group.

eLearning group. For the eLearning group, the change in ethical issue awareness was moderately significant $t(33) = -2.26, p = .031$ in the negative direction. This was an unexpected result, suggesting that reading the narrative may have had a negative effect on ethical issue awareness. Similar to the video group, I did not observe a significant change in ethical judgment $t(33) = 1.16, p = .256$ scores for the eLearning group for ethical dilemma one. The interquartile range for ethical issue awareness was centered around zero with several extreme outliers. As noted in the limitations, the scores for both ethical issue awareness and ethical judgment may have been influenced by social desirability bias (Hollingworth & Valentine, 2015) which is visible in the box plot diagrams (see Figures 15 and 16). Changes in speak-up intentions for the eLearning

group were moderately significant $t(33) = 2.12$, $p = .042$, which is consistent with expectations that the video would have a stronger effect on behavioral intentions.

Outliers in the Data. By comparing the data in side by side box plots (see Figures 15, 16 and 17). I observed that the distribution of the scores for the video group are more skewed and the interquartile range is wider than the eLearning group scores. For the eLearning group, the two outliers (cases 27 and 52) for ethical issue awareness may be errors which resulted in the observation that the awareness went down (see Figure 15). For speak-up intentions, the video group had two outlier cases (see Figure 17). For case 17, the speak-up intentions score was 4.75 which was much higher than other scores, suggesting that this person expressed a low likelihood to speak up prior to watching the video series. The posttest score for case 17 was 1.25 which resulted in the outlier change of 3.5 suggesting a large change in behavioral intentions after watching the video series. There is nothing about this outlier that would lead me to believe that the participant made a mistake; therefore, I decided to keep the outlier case in the data set.

Table 10

Ethical Dilemma 1 – Comparison of the Means

Variable	Pretest Score			Posttest Score			ΔM
	M	*(SD)*	$\sigma\bar{\chi}$	*M*	*(SD)*	$\sigma\bar{\chi}$	
Video Group (N=30)							
Ethical Issue Awareness	1.23	.560	.10	1.33	.802	.15	-.10
Ethical Judgment	6.38	.863	.15	6.57	.841	.15	.19
Speak-Up Intentions	2.19	1.39		1.50	.780		.69**
eLearning Group (N=34)							

Ethical Issue Awareness	1.21	.592	.10	2.09	2.15	.15	-.88*
Ethical Judgment	6.79	.515	.09	6.56	1.04	.18	-.23
Speak-Up Intentions	1.83	1.30		1.57	1.26		.26

Note. * $p < .05$, ** $p < .001$. Ethical Issue Awareness was measured on a 7-point scale where 1 = *Strongly Agree*, and 7 = *Strongly Disagree*; Ethical Judgment was measured using a 4-item, 7-point scale where 1 = *judged as morally right* and 7 = *judged as not morally right*; and Speak-Up Intentions was measured as a 4-item, 7-point scale where 1 = *likely to speak up* and 7 = *unlikely to speak up*.
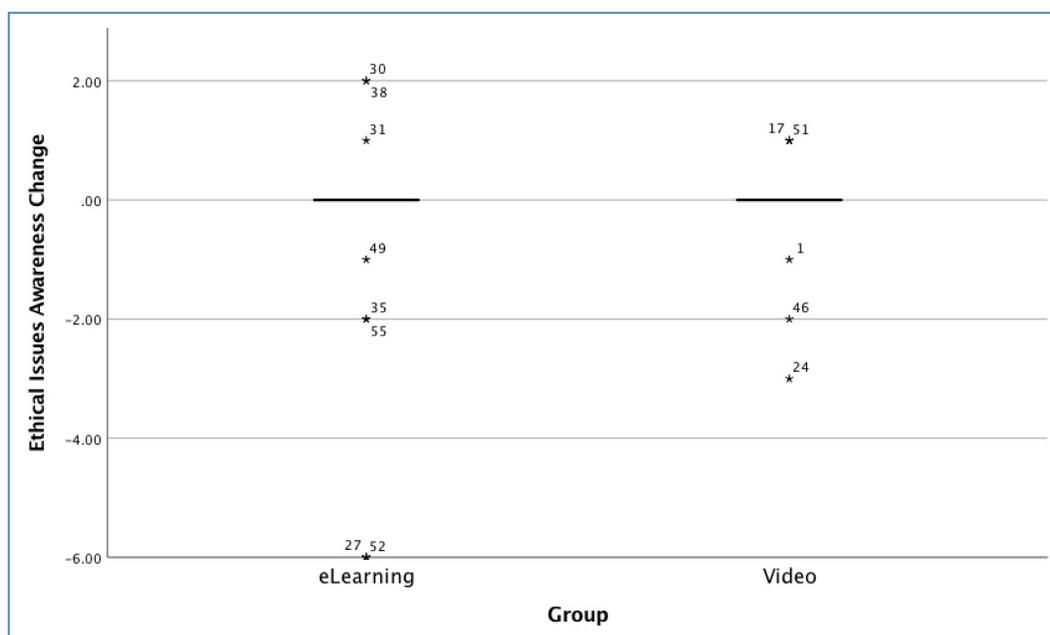
Figure 19. Comparing the means for ethical issue awareness change (posttest – pretest) between the two treatment groups. The outlier cases 27 and 52 may have been errors because the participants scored (1) *strongly agree* in the pretest, and (7) *strongly disagree* in the posttest which resulted in a score of (-6), for Ethical Dilemma Scenario 1.
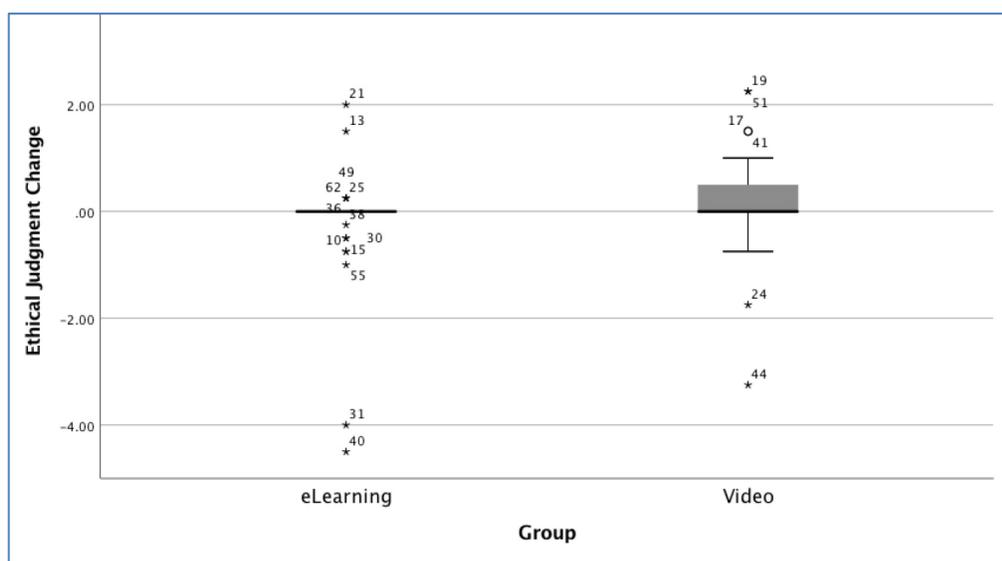
Figure 20. Comparing the means for ethical judgment change (posttest – pretest) between

the two treatment groups, for Ethical Dilemma Scenario 1.
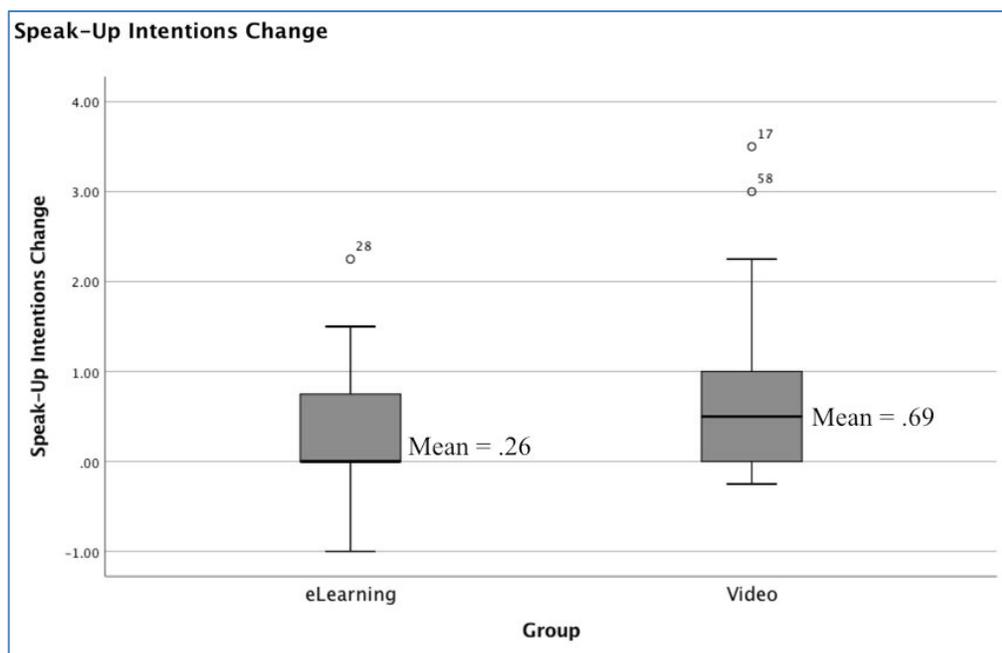
Figure 21. Side by side box plots comparing changes from pretest to posttest for speak-

up intentions between groups (eLearning vs Video), for Ethical Dilemma Scenario 1.

Table 12

Ethical Dilemma 1 – Paired T Tests Within Group

Variable	t	df	Sig.	95% CI	
				LL	UL
Video Group (N=30)					
Ethical Issue Awareness	-.722	29	.476	-.383	.183
Ethical Judgment	-1.02	29	.316	-.576	.193
Speak-Up Intentions	3.97**	29	.000	.355	1.11
eLearning Group (N=34)					
Ethical Issue Awareness	-2.26*	33	.031	-1.68	-0.09
Ethical Judgment	1.16	33	.256	-.173	.629
Speak-Up Intentions	2.12*	33	.042	.010	.505

Note. The intentions to speak up score for both the video group and the eLearning group were significantly increased from pretest to posttest. As expected, the video group effect was highly significant, while the eLearning effect was moderately significant. The eLearning had a moderate effect on ethical issue awareness. ** $p < .001$, * $p < .05$

Results by Hypothesis for Ethical Dilemma Scenario 1

Hypothesis 1, effects on ethical issue awareness. On average, participants in the video group reported a smaller change in test scores ($M = -.10$, $SE = 0.14$) than those who read the same narrative in the eLearning group ($M = -.88$, $SE = .39$). This difference, .78, BCa 95% CI [-.09. 1.65], was not significant $t(62) = 1.79$, $p = .078$. Because Levene's test was significant $p < .001$, the assumption of homogeneity of variance was violated. Based on these results, I cannot reject the null hypothesis that there is no difference in effect on ethical issue awareness between the two groups.

Hypothesis 2, effects on ethical judgment. On average, participants in the video group reported a positive change in test scores ($M = .19$, $SE = .19$), while those who read the same narrative in the eLearning group reduced their scores ($M = -.23$, $SE = .20$). This difference, .42, BCa 95% CI [-.129. .968], was not significant $t(62) = 1.53$, $p = .131$. Because Levene's test was non-significant $p > .5$, the assumption of homogeneity of variance was not violated. Based on these results, I cannot reject the null hypothesis that there is no difference in effect on ethical judgment between the two groups.

Hypothesis 3, effects on intentions to speak up. On average, participants in the video group reported a larger positive change in test scores ($M = .733$, $SE = .19$), than those who read the same narrative in the eLearning group ($M = .257$, $SE = .12$). This difference, .48, 95% CI [.043. .908], was moderately significant $t(62) = 2.20$, $p = .032$. Because Levene's test was non-significant $p > .05$, the assumption of homogeneity of variance was not violated. Based on these results, I can reject the null hypothesis that there is no difference in effect on speak-up intentions between the two groups.

Table 11

Group Statistics for Speak-Up Intentions for Dilemma 1

Group	N	Δ M	SD	SE
Video	30	.733	1.01	. 184
eLearning	34	.257	.708	.121

Note. ΔM represents the mean of the pretest posttest differences.

Table 12

Independent Samples T-Test Results for Speak-Up Intentions for Dilemma 1

	t	df	Sig.	95% CI
Equal variances assumed	2.20	62	.032	[.043, .908]

Note: Levene's test for equality of variances was non-significant, $F(62) = 2.93$, $p = .092$, passing the assumption of homogeneity of variances.

Results for Ethical Dilemma 2

While I did not measure perception of severity of the issue (Valentine & Hollingworth, 2012) in Ethical Dilemma 2, participants may not have perceived that improper use of information was a critical ethical issue when compared to the patient safety issue in ethical dilemma one. The topic of the second ethical dilemma was use of unapproved or unsubstantiated claims about a product to increase sales of a pharmaceutical product (see Appendix E). I based Ethical Dilemma 2 on item 12 (indiscreet use of information leaks) from Donoho and Heinze's (2014) PSE-2 ethical scenarios and modified it for the pharmaceutical sales profession. In scenario 2, the sales representative used research information not approved by the government, to promote a product. I did not suggest in the scenario that the information was untruthful or misleading. If the participants interpreted the action as presenting truthful information, they may not have perceived that this was a critical unethical issue.

Preliminary analysis of Ethical Dilemma Scenario 2. Prior to evaluating the effects between groups, I first conducted paired *t* tests, pairing pretest and posttest scores for the three dependent variables: ethical issue awareness, ethical judgment, and speak-up

intentions. Consistent with the results from Ethical Dilemma 1, the video had a significant effect on speak-up intentions. I expected these results because the intent of *The Workshop* narrative was to increase intentions to speak up by having the transformative character Kim model the behavior of speaking up after becoming aware of several unethical issues in her company.

Video group. For the video group, I observed no significant change in score for either ethical issue awareness $t(29) = .177$, $p = .861$ or ethical judgment $t(29) = .000$, $p = 1.00$ for Dilemma 2, consistent with Dilemma 1 results. For the video group, I did observe a highly significant change $t(29) = 3.23$, $p = .003$ in the speak-up intentions scores, consistent with the results for Dilemma 1 (see Table 13).

eLearning group. For the eLearning group, I did not observe significant change in either ethical issue awareness $t(30) = 1.09$, $p = .284$, nor ethical judgment $t(30) = .570$, $p = .573$ scores. Unlike the Dilemma 1 results, I did not observe a significant change in speak-up intentions scores for the eLearning group $t(30) = 1.33$, $p = .193$ (see Table 13).

Table 13

Ethical Dilemma 2 – Pretest and Posttest Scores

Variable	Pretest Score		Posttest Score		ΔM
	M	*SD*	*M*	*SD*	
Video Group (N=30)					
Ethical Issue Awareness	1.47	1.07	1.43	.73	.04
Ethical Judgment	6.48	1.11	6.48	.89	0
Speak-Up Intentions	1.94	1.20	1.47	.96	.47*
eLearning Group (N=31)					
Ethical Issue Awareness	1.45	1.18	1.19	.48	.26
Ethical Judgment	6.55	.80	6.42	1.06	.13
Speak-Up Intentions	1.83	1.31	1.60	1.27	.23

Note. * *p* < .005
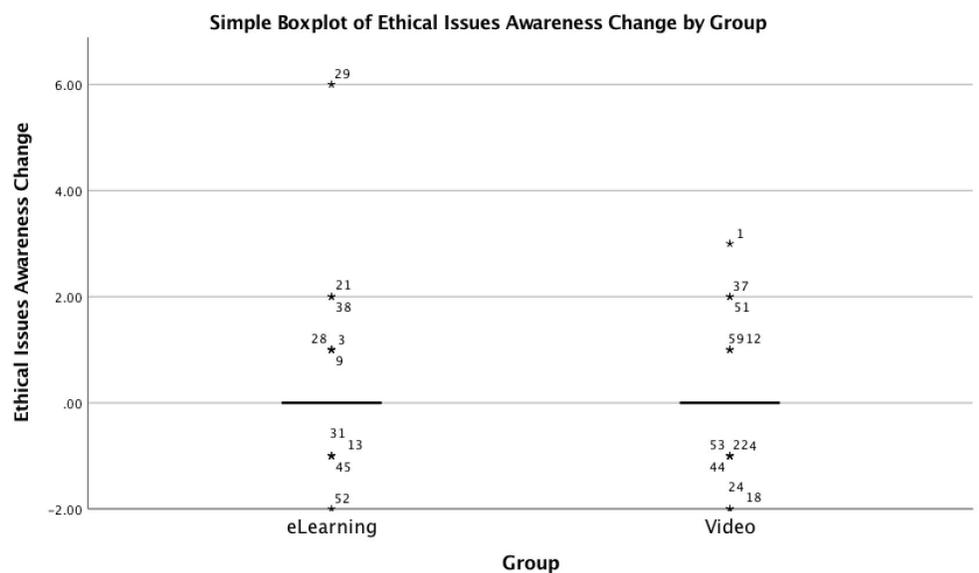
Figure 22. Comparison of the means between groups for the dependent variable ethical issue awareness, for Ethical Dilemma Scenario 2.
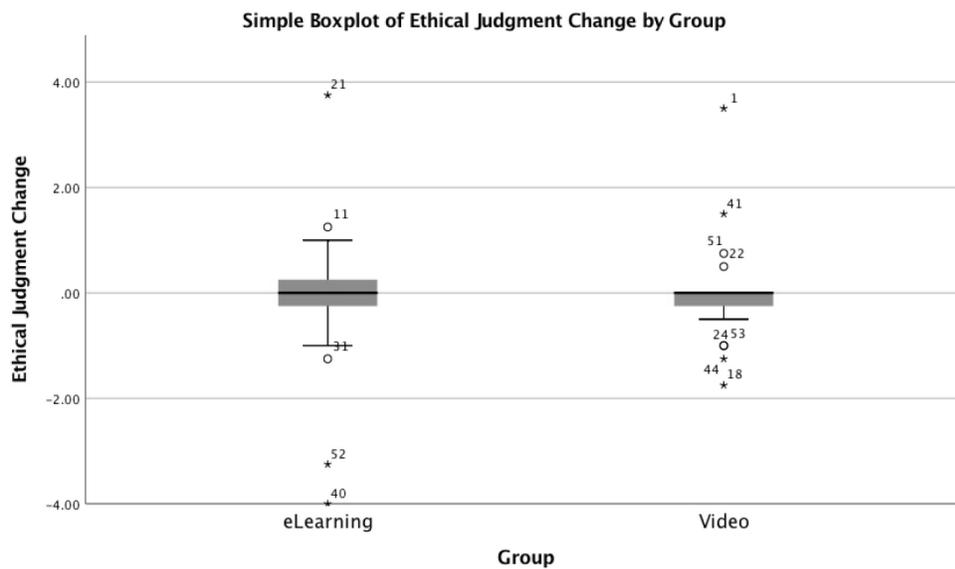
Figure 23. Comparison of the means between groups for the dependent variable ethical

judgment, for Ethical Dilemma Scenario 2.
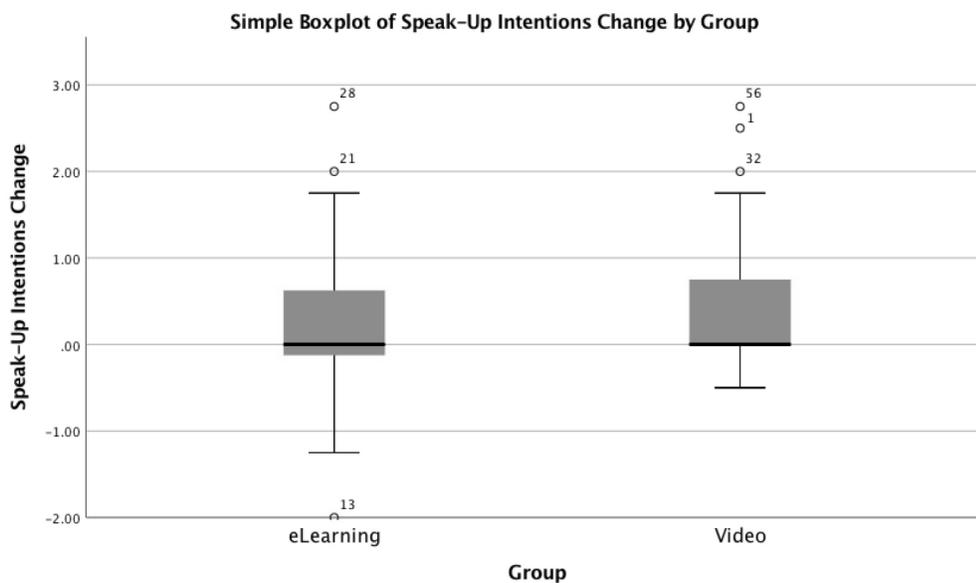
Figure 24. Comparison of the means between groups for the dependent variables

speaking-up intentions, for Ethical Dilemma Scenario 2.

Table 14

Scenario 2 - Evaluating Effect of Treatments (Paired T Tests)

Variable	t	df	Sig.	95% CI	
				LL	*UL*
Video Group (N=30)					
Ethical Issue Awareness	.177	29	.861	-.353	.419
Ethical Judgment	.000	29	1.00	-.328	.328
Speak-Up Intentions	3.23*	29	.003	.174	.776
eLearning Group (N=31)					
Ethical Issue Awareness	1.092	30	.284	-.225	.741
Ethical Judgment	.570	30	.573	-.333	.592
Speak-Up Intentions	1.33	30	.193	-.116	.552

Note. The intentions to speak up score for the video group ($p < .005$) was significantly increased from pretest to posttest. For Ethical Dilemma 2, speak-up intentions test scores were not significantly affected by the eLearning treatment.

Results by Hypotheses for Ethical Dilemma Scenario 2

Hypothesis 1, effects on ethical issue awareness. On average, participants in the video group reported a smaller change in test scores ($M = .033$, $SE = 0.19$) than those who read the same narrative in the eLearning group ($M = .250$, $SE = 0.23$). This difference, -.217, BCa 95% CI [-.814. .381], was not significant $t(60) = -.725$, $p = .471$. Based on these results, I could not reject the null hypothesis that there is no difference in effect on ethical issue awareness between the two groups.

Table 15

Group Statistics for Ethical Issue Awareness – Scenario 2

Group	*N*	Δ *M*	*SD*	*SEM*
Video	30	.033	1.033	.189
eLearning	32	.250	1.30	.229

Note. Δ M represents the mean of the pretest posttest differences.

Table 16

Independent Sample Tests for Ethical Issue Awareness – Scenario 2

	t	df	Sig.	95% CI	
				LL	*UL*
Equal variances assumed	-.725	60	.471	-.814	.381

Note. CI = confidence interval.

Hypothesis 2, effects on ethical judgment. On average, participants in the video group reported a smaller change in test scores (*M* = .00, SE = 0.16) than those who read the same narrative in the eLearning group (*M* = -.125, SE = 0.22). This difference, .125, BCa 95% CI [-.425. .675], was not significant *t*(60) = .455, *p* = .651. Based on these results, I could not reject the null hypothesis that there is no difference in effect on ethical judgment between the two groups.

Table 17

Group Statistics for Ethical Judgment – Scenario 2

Group	*N*	Δ *M*	*SD*	*SEM*
Video	30	.000	.878	.160
eLearning	32	-.125	1.24	.219

Note. Mean represents the mean of the pretest posttest differences.

Table 18

Independent Sample Tests for Ethical Judgment – Scenario 2

	t	df	Sig.	95% CI	
				LL	*UL*
Equal variances assumed	.455	60	.651	-.425	.675

Note. CI = confidence interval.

Hypothesis 3, effects on intentions to speak up. On average, participants in the video group reported a larger change in test scores (M = .475, SE = .147) than those who read the same narrative in the eLearning group (M = .211, SE = .158). This difference, .264, BCa 95% CI [-.170. .698], was not significant $t(60)$ = 1.22, p = .228. Based on these results, I could not reject the null hypothesis that there is no difference in effect on speak-up intentions between the two groups. This finding conflicts with the finding for ethical dilemma one. I discuss the implications of this difference in Chapter 5.

Table 19

Group Statistics for Speak-Up Intentions – Scenario 2

Group	N	ΔM	*SD*	*SEM*
Video	30	.475	.805	.147
eLearning	32	.211	.96	.158

Note. Mean represents the mean of the pretest posttest differences.

Table 20

Independent Sample Tests for Speak-Up Intentions – Scenario 2

	t	df	Sig.	95% CI	
				LL	*UL*
Equal variances assumed	1.22	60	.228	-.170	.698

Note. CI = confidence interval.

Analysis of Research Questions 4-6

For research questions four through six, based on the literature review of entertainment-education and narrative persuasion research, I expected narrative transportation or identification with two characters in *The Workshop* storyline to significantly predict the effects of the treatments on the three dependent variables of ethical issue awareness, ethical judgment, and speak-up intentions. I evaluated research questions four through six using a linear regression analysis to determine whether the independent variables could be used to develop predictive models. While some entertainment-education researchers have reported effects of narrative persuasion (Laer et al., 2014) and character identification of the protagonist character (Hoeken & Fikkers, 2014) on knowledge, attitudes, and behavioral intentions, I did not observe a significant effect of these two predictors on any of the outcomes of this study. I will discuss these findings in the context of the research in Chapter 5.

Preliminary Analysis of Narrative Persuasion and Character Identification

Prior to conducting the regression testing, I conducted an independent samples *t* test to evaluate whether there were significant differences in effects on the independent variables between the video and eLearning groups. I concluded that there was no

significant difference between groups on either narrative transportation or character

identification (see Table 21). This was an unexpected result, and a significant

contribution to the study of narrative persuasion. I expected viewers of the video to be

significantly more engaged with the narrative and have a stronger connection with the

characters in the video version. There was no significant difference in effect on either

narrative transportation, nor character identification between groups (see Table 21). In

Chapter 5, I discuss how these results may impact decision-making for compliance

training managers.

Table 21

Independent Samples T Test Comparing Effects of Treatments on Narrative Transportation and Character Identification Between Groups

				95% CI	
Dependent Variable	*t*	df	Sig.	*LL*	*UL*
Narrative Transportation	1.41	61	.165	-.142	.821
Identification with Kim	.509	62	.613	-.375	.632
Identification with Todd	-.307	59	.760	-.616	.452

Note. CI = confidence interval.

Results by Hypothesis

Hypothesis 4 – Ethical Issue Awareness as the outcome. Hypothesis 4 can be

expressed statistically using the following formula: Ethical Issue Awareness$_i$ = b_0 +

b_1Group1$_i$ + b_2Narrative Transportation$_2$ + b_3Character Identification Kim$_3$ + b_4Character

Identification Todd$_4$ + Error. I evaluated four models using forced entry of all four

predictor variables in SPSS v25. While model one can significantly predict ethical issue

awareness for dilemma one, the model is not a good fit for dilemma two. In Chapter 5, I

explain the implications of these conflicting findings. When I added narrative

transportation or character identification to the model, I observed no significance in the

reliability for the independent variables to predict the outcome. As a result, I could not

reject the null hypothesis.

Table 22

Linear Regression Coefficients for Ethical Dilemma 1 – Ethical Issue Awareness (outcome)

					95% CI	
Independent Variables	*B*	SE B	*β*	*ρ*	*LL*	*UL*
Model 1						
Group	.937	.445	.264*	.039	.047	1.83
Model 2						
Group	.900	.459	.254	.055	-.019	1.82
Narrative Transportation	.093	.242	.050	.701	-.390	.577
Model 3						
Group	1.00	.457	.283	.032	.087	1.92
Narrative Transportation	-.288	.334	-.154	-.862	-.956	.381
Character Identification Kim	.500	.307	.285	.109	-.115	1.11
Model 4						
Group	1.01	.462	.284	.034	.081	1.93
Narrative Transportation	-.290	.337	-.156	.393	-.966	.385
Character Identification Kim	.491	.315	.280	.125	-.141	1.12
Character Identification Todd	.033	.229	.019	.885	-.426	.493

Note. R^2 = .070 for Model 1 with $F(59)$ = 4.435, *p* =.039

Table 23

Linear Regression Coefficients for Ethical Dilemma 2 – Ethical Issue Awareness (outcome)

Independent Variables	B	SE B	β	ρ	95% CI LL	UL
Model 1						
Group	-.143	.301	-.062	.637	-.746	.460
Model 2						
Group	-1.83	.310	-.080	.558	-.804	.438
Narrative Transportation	.098	.162	.082	.547	-.226	.422
Model 3						
Group	-.168	.317	-.073	.599	-.802	.467
Narrative Transportation	.049	.230	.041	.831	-.412	.511
Character Identification Kim	.064	.213	.056	.766	-.412	.511
Model 4						
Group	-.172	.320	-.075	.593	-.814	.469
Narrative Transportation	.052	.233	.043	.825	-.414	.518
Character Identification Kim	.074	.219	.065	.737	-.365	.513
Character Identification Todd	-.037	.157	-.033	.814	-.352	.278

Note. R^2 = .004 for Model 1 with $F(58)$ = .225, p=.637

Hypothesis 5 – Ethical Judgment as the outcome. Hypothesis 5 can be expressed statistically using the following formula: Ethical Judgment$_i$ = b0 + b1Group1i + b2Narrative Transportation2 + b3Character Identification Kim3 + b4Character Identification Todd4 + Error. I evaluated four models using forced entry of all four predictor variables for both ethical dilemma one and two in SPSS. I concluded that neither group, ethical issue awareness, narrative transportation, character identification with Kim, nor character identification with Todd can be used in a linear model to predict the outcome of ethical judgment. As a result, I could not reject the null hypothesis.

Table 24

Linear Regression Coefficients for Ethical Dilemma 1 – Ethical Judgment (outcome)

| | | | | | 95% CI | |
Independent Variables	B	SE B	β	ρ	LL	UL
Model 1						
Group	.509	.280	.230	.074	-.051	1.07
Model 2						
Group	.549	.288	.249	.061	-.027	1.13
Narrative Transportation	-.100	.151	-.086	.512	-.403	.203
Model 3						
Group	.548	.293	.248	.067	-.039	1.13
Narrative Transportation	-.095	.214	-.082	.658	-.524	.333
Character Identification Kim	-.006	.197	-.006	.975	-.400	-1.11
Model 4						
Group	.525	.293	.238	.079	-.062	1.11
Narrative Transportation	-.083	.214	-.071	.699	-.511	.345
Character Identification Kim	-037	.200	.034	.852	-.363	.438
Character Identification Todd	-.163	.145	-.151	.267	-.454	.128

Note. R^2 = .053 for Model 1 with $F(59)$ = 3.31, p = .074

Table 25

Linear Regression Coefficients for Ethical Dilemma 2 – Ethical Judgment (outcome)

| | | | | | 95% CI | |
	B	SE B	β	ρ	LL	UL
Model 1						
Group	.170	.282	.079	.550	-.395	.735
Model 2						
Group	.073	.285	.034	.798	-.498	.644
Narrative Transportation	.235	.149	.209	.119	-.062	.533
Model 3						
Group	.128	.288	.059	.658	-.449	.705
Narrative Transportation	.060	.209	.053	.777	-.360	.479
Character Identification Kim	.230	.194	.216	.240	-.158	.618

(*table continues*)

	B	SE B	β	ρ	95% CI	
					LL	UL
Model 4						
Group	.117	.290	.054	.688	-.464	.699
Narrative Transportation	.065	.211	.058	.757	-.357	.488
Character Identification Kim	.255	.199	.240	.204	-.143	.653
Character Identification Todd	-.090	.142	-.086	.531	-.375	.196

Note. R^2 = .006 for Model 1 with $F(58)$ = .361, p =.550

Hypothesis 6 – Speaking-Up Intentions as the outcome. Hypothesis 6 can be expressed statistically using the following formula: Speaking-Up Intentions$_i$ = b_0 + b_1Group1$_i$ + b_2Narrative Transportation$_2$ + b_3Character Identification Kim$_3$ + b_4Character Identification Todd$_4$ + Error. I evaluated four models using forced entry of all four predictor variables. While group participation can be used to predict the outcome of speaking-up intentions, I concluded that neither narrative transportation, character identification with Kim, nor character identification with Todd can be used in a linear model to predict the outcome of speaking-up intentions. As a result, I could not reject the null hypothesis.

Table 26

Linear Regression Coefficients for Ethical Dilemma 1 – Speaking-Up as the Outcome

	B	SE B	β	ρ	95% CI LL	95% CI UL
Model 1						
Group	.485	.225	.270	.035	.034	.936
Model 2						
Group	.448	.232	.249	.058	-.016	.911
Narrative Transportation	.092	.122	.098	.452	-.152	.336
Model 3						
Group	.420	.234	.234	.078	-.049	.890
Narrative Transportation	.194	.171	.205	.262	-.149	.537
Character Identification Kim	-.133	.157	-.150	.400	-.448	.182
Model 4						
Group	.407	.236	.226	.090	-.065	.878
Narrative Transportation	.201	.172	.213	.247	-.143	.546
Character Identification Kim	-.107	.161	-.120	.508	-.429	.215
Character Identification Todd	-.098	.117	-.112	.404	-.333	.136

Note. R^2 = .053 for Model 1 with $F(59)$ = 3.31, p = .035

Table 27

Linear Regression Coefficients for Ethical Dilemma 2 – Speaking-Up as the Outcome

	B	SE B	β	ρ	95% CI LL	95% CI UL
Model 1						
Group	.298	.223	.173	.187	-.149	.745
Model 2						
Group	.225	.226	.130	.324	-.288	.678
Narrative Transportation	.178	.118	.198	.136	-.058	.414
Model 3						
Group	.208	.231	.120	.371	-.254	.670
Narrative Transportation	.233	.168	.259	.171	-.103	.569
Character Identification Kim	-.071	.155	-.084	.647	-.382	.239

(*table continues*)

	B	SE B	β	ρ	95% CI LL	UL
Model 4						
Group	.214	.233	.124	.361	-.252	.681
Narrative Transportation	.229	.169	.255	.181	-.110	.568
Character Identification Kim	-.086	.159	-.101	.591	-.406	.233
Character Identification Todd	.053	.114	.064	.644	-.176	.282

Note. $R^2 = .030$ for Model 1 with $F(58) = 1.78$, $p = .187$

Summary

In this study, I evaluated the potential effects between a professionally developed entertainment-education video series and a fotonovela style eLearning course on ethical decision-making and intentions to speak up in the pharmaceutical sales profession. Common in ethical decision-making research, I compared the effects on three dependent variables which included ethical issue awareness, ethical judgment, and behavioral intentions to speak up after observing an unethical action (Hollingworth & Valentine, 2015; Pan & Sparks, 2012). Also common in ethical decision-making research, I measured the dependent variables using more than one unethical scenario (Fischbach, 2015; McManus et al., 2012; Valentine & Hollingworth, 2012).

Based on my analysis, I have concluded that there was no significant difference between the video and eLearning groups for either ethical issue awareness or ethical judgment. I did find a moderately significant different effect between groups for speaking-up intentions $t(62) = 2.20$, $p = .032$, for the ethical dilemma related to patient safety but not for the ethical dilemma related to use of unapproved information $t(60) = 1.22$, $p = .228$. As a result, I was unable to reject the null hypotheses for research

questions one and two, and I partially rejected the hypothesis for research question three. In Chapter 5, I will discuss the differences between the two ethical scenarios and the possible implications for future research.

Based on research on narrative persuasion, summarized in Chapter 2 of this dissertation, I evaluated whether narrative transportation or character identification with two of the characters in the story could be used to predict the effects on the dependent variables in a linear model. In one critical finding, I observed no significant difference between the video and eLearning group on either narrative transportation or character identification. I reported the analysis of variance coefficients for all conditions of the possible linear models and concluded that neither narrative transportation nor character identification could be used to predict the outcomes of this study. I will discuss these findings in Chapter 5.

I encountered several obstacles while identifying a company to sponsor this study and while recruiting participants from the sponsor company. Following my IRB approval in February of 2017, I received multiple rejections from companies who I invited to participate in the study. Following a conference presentation, that I gave in October of 2017, I was able to identify a company willing to participate in the study. The challenge with this type of study was that I needed cooperation from multiple management functions within the company including the heads of compliance, legal, sales, and the information technology group. Based on eight years of personal experience, pharmaceutical sales representatives tend to be fearful of completing any surveys or assessments that could potentially implicate them for a policy or legal infraction. This

was supported by the sponsor company representatives who reported to me that some of

the sales representatives invited to participate, verbally expressed a fear that the study

was a method to trap them. As a result of these participant recruitment challenges, I

obtained a smaller than expected sample size of 64 participants. Fortunately, I did have a

near even distribution between males ($n = 31$) and females ($n=34$) in the study. I also

encountered challenges during data collection including a significant drop out rate, and

data that may have been influenced by either social desirability, volunteer bias, or the fact

that the sample was a highly experienced group. I will discuss these challenges and

provide recommendations for future pharmaceutical sales ethics research in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

The purpose of this quantitative experimental study was to compare the effects of two pharmaceutical sales ethics training approaches on three ethical decision-making outcomes which included (a) ethical issue awareness, (b) ethical judgment, and (c) behavioral intentions to speak up. Although researchers have evaluated the persuasive effects of narratives to increase awareness, change attitudes, and influence behavioral intentions in various populations for decades (Braddock & Dillard, 2016), this study was the first to evaluate the effects of entertainment-education narratives on business ethics behaviors in the pharmaceutical sales profession, based on my review of the literature. I compared a professionally developed entertainment-education video series to a text and image eLearning course using the same narrative, which was a unique method in the entertainment-education research literature. By conducting this study, I have contributed to the body of research in business and sales ethics training (Craft, 2013; McClaren, 2013). The target audience for this study was pharmaceutical sales representatives working within the United States. One U.S.-based company agreed to participate in the study. In total, 105 sales professionals from the participating company signed informed consent forms to participate in this study; of these, 85 began the study, and 64 people completed the study.

Although I did find differences between the two treatment groups on ethical issue awareness, ethical judgment, and intentions to speak up, in only one instance was the mean difference between the two groups statistically significant. As summarized in Chapter 2 of this dissertation, researchers of entertainment education and narrative

persuasion have found significant effects on awareness, attitudes, and behavioral intentions related to decision-making on health (Hoffman et al., 2017), social (Dill-Shackleford et al., 2015), environmental (Reinermann et al., 2014), and business ethics (Fischbach, 2015; McManus et al., 2012) issues. For the ethical scenario related to a patient safety issue, the video group did report a moderately significant higher effect on behavioral intentions to speak up when compared to the group that read the same narrative in an eLearning course using a fotonovela design approach.

Interpretation of Findings

Ethical Issue Awareness and Ethical Judgment

I found no significant difference between the pretest and posttest scores for either ethical issue awareness or ethical judgment for both scenarios, suggesting that either (a) pharmaceutical sales representatives in this sample had a high ethical awareness, and a strong ability to judge ethical issues, or (b) the scores were in some way biased. In the pretest results, participants in this study demonstrated a strong ability to identify and judge unethical issues related to the promotion of pharmaceutical products, which would suggest that the sample group may not have needed training on ethical issue awareness and judgment. Acknowledging findings from previous ethical decision-making research (Hollingworth & Valentine, 2015; McClaren, 2013; Valentine, Fleischman, & Godkin, 2015), I concluded that social desirability bias may have influenced the results of this study. In the pretest, for the product safety issue in Scenario 1, 100% of the participants agreed that the issue in the scenario was unethical, with 86% strongly agreeing. For the use of unapproved product information, also referred to as off-label promotion, 92% of

the participants agreed that the issue was unethical with 79% strongly agreeing. The

ethical judgment scores were also high, with 60 to 65% of the participants defaulting to

the highest score for both scenarios. Based on my observation that a high percentage of

the participants defaulted to the highest scores on both the ethical issue awareness and

ethical judgment scales and results from prior ethical decision-making research studies, I

suggest that social desirability bias may have influenced participant scoring.

Based on the ethical issue awareness pretest scores, participants in this study may

not have required an instructional intervention to improve ethical issue awareness.

Participants in this study scored high on the ethical issue awareness pretest with a mean

score of 1.22 for Scenario 1 and 1.48 for Scenario 2, based on a scale of 1 to 7 with 1

being the highest level of awareness. In a 2002 guidance document (Duke, 2003), and in

Corporate Integrity Agreements issued between 2002 and 2018, the U.S. Office of

Inspector General provided multiple pharmaceutical companies with recommendations to

train their sales representatives at least annually on U.S. Federal health care regulations

(U.S. Department of Health and Human Services, 2018) which include the two topics

presented in the ethical scenarios used in this study. In the demographic questionnaire

for this study, 86% of the participants self-reported receiving two to four or more than

four hours of ethics and compliance training in the year before this study. Given the

amount of training previously received and an assumption that participants answered

honestly, I concluded that participants in this study had a high awareness of the ethical

issues in both scenarios, which would explain the minimal change in the pretest to

posttest scores.

Behavioral Intentions to Speak Up

Although pharmaceutical sales representatives in this study were highly aware of

unethical issues based on their survey responses, they were not as willing to speak up if

they were to observe the same unethical actions. The mean pretest scores of 2.00 with

$SD = 1.35$ for Scenario 1 and 1.87 with $SD = 1.24$ for Scenario 2 for intentions to speak

up suggest that some pharmaceutical sales representatives are unsure about speaking up.

For speak-up intentions, a score of 1 represented the highest intentions to speak up on a

scale from 1 to 7. When participants responded to the question, "if you became aware of

a similar situation, would you speak-up," only 44% of the participants expressed that they

had strong intentions (scoring 2 or less on a scale of 1 to 7) to speak up if they observed a

coworker omitting patient safety data. These results emphasize the need for the

educational intervention to address behavioral intentions to speak up. The effects of the

entertainment-education interventions had the strongest effect on speak-up intentions,

compared to the effects on ethical issue awareness and ethical judgment. After watching

the video or reading the story of Kim, 43% changed their behavioral intentions to speak

up in the positive direction for the scenario with implications for patient safety. Given

the significant effect observed in this study of the entertainment-education narrative on

behavioral intentions to speak up, compliance training managers may choose to use an

entertainment-education training intervention to address low behavioral intentions to

speak up.

Experience and Previous Training

Study participants may have responded to the study pretest and posttest based on what they have been told for years by their managers and compliance trainers regarding the issues presented in the two ethical dilemmas, rather than offer their personal opinions. The sample represented an experienced group of pharmaceutical sales professionals, which would suggest many years of messaging from their respective companies that the issues they read in the two scenarios were either unethical or illegal. Given these findings, ethics and compliance managers may consider tailoring the type of communications and training provided to those with significant experience in pharmaceutical sales and marketing.

Ethical Dilemmas Types and Their Potential Effects

I observed a difference in results between the two ethical dilemma scenarios, which supports findings from Mudrack and Mason (2013) that the design of the ethical dilemmas used in this type of research may affect outcomes. Consistent with observations of Mudrack and Mason (2013), I did observe a significant difference in effect on speak-up intentions between the first and second ethical dilemma which may have been a result of a difference in perception of importance of the issue, or the perceived moral intensity of the issue (Robin et al., 1996; Valentine & Bateman, 2011; Valentine & Hollingworth, 2012). The first ethical dilemma was a more serious issue because it suggested that the sales representative in the scenario intentionally put patients at risk by omitting important product safety information (see Appendix E). The issue in

Ethical Dilemma 1 was unethical, illegal, and could result in harm to patients (Reynolds et al., 2018).

I did not measure the variable "perceived importance of the ethical issue" (PIE) from the Robin, Reindenbach, and Forrest (1996) ethical decision-making instrument to reduce the risk of survey fatigue by the study participants. While the difference between the scenarios was not significant, $t(64) = 1.18$, $p=074$, the ethical issue awareness mean score was higher for Ethical Dilemma 1 ($\overline{X} = 1.22$) when compared to ethical dilemma two ($\overline{X} = 1.48$). For speak-up intentions for both Ethical Dilemma 1 and 2, the mean change from pretest to posttest was higher for the video group as expected. The changes in scores for ethical dilemma 1, were moderately significant for the video group when compared to the eLearning group $t(62) = 2.20$, $p = .032$. For the second ethical scenario the independent t-test results did not reach significance $t(60) = 1.22$, $p = .228$. An analysis of these results suggests that the content in the ethical dilemma scenarios may have affected the outcomes of the dependent measures.

A belief that sales representatives have a right to present truthful representation of clinical study data, even when it is not on the FDA approved product label, may have influenced scoring for the second ethical dilemma. Not only was the second ethical dilemma less serious, but some may have perceived it as acceptable behavior based on recent U.S. legal cases. At the time of this study, the participants may have been aware of companies who had recently won court cases permitting them to present off-label information as long as it was truthful and not misleading (Orentlicher, 2016). While I did not measure the perceived importance of the ethical issues (Robin et al., 1996) for the

two scenarios, researchers have found a significant correlation between perceptions of importance or magnitude of consequences on ethical judgments (Barnett & Valentine, 2004; Valentine & Hollingworth, 2012.) I would recommend that researchers, planning to conduct similar research, measure and control for perceived importance or magnitude of consequences of the issues presented, as part of their data collection method.

While pharmaceutical sales representatives are highly aware of the ethicality of the issue of omitting patient safety data in their communications, they may not be willing to speak up about the issue if they observe it. The primary role of a pharmaceutical sales representative is to increase sales of their companies' products indirectly, by directly educating or detailing physicians regarding the product's approved prescribing information (Brax et al., 2017). The FDA, in accordance with the Food, Drug, and Cosmetic Act of 1938 (2016), mandates that pharmaceutical sales communications to physicians include both the clinical research efficacy data and the product safety information. In other words, a sales representative must present a fair and balanced message to physicians, sharing both the product benefits and risks. Researchers have reported that pharmaceutical sales representatives frequently omit patient safety information in their sales presentations (Reynolds et al., 2018). For the pretest results in this study, less than 70% of the participants moderately or strongly agreed that they would be willing to speak up if they observed the issue described in Ethical Dilemma 1. This finding validates the importance of including the topic of patient safety in pharmaceutical compliance and ethics programs.

Episode 4 of *The Workshop* addressed the issue of reporting patient safety data, more commonly referred to as drug side effects. The episode opens with a training class where the trainers are teaching sales representatives to "avoid unpleasant conversation and dance away from the uncomfortable issue of harmful product safety information and toward a discussion about your product's efficacy." The depiction of the issue was meant to be humorous and sarcastic. The main character Kim, while sitting in the class, recognized the fallacy of the messaging and summarized the problem in the final scene of episode 5 when she records in her journal, "and now I realize that what they were teaching me in the training course was way over the line. You can't train reps to avoid talking about safety risks. That's just plain wrong." In agreement with Banduras'(1986) vicarious modeling principles, Kim modeled the right behavior by recognizing the ethical issue of not reporting patient safety data and then speaking-up about it.

While I was unable to isolate effects from each episode, researchers should consider further investigation to determine whether the content found in episode 4 affected the change in behavioral intentions to speak up when made aware of someone intentionally omitting product safety data to a physician. Episode 4 of *The Workshop* was based on the Merck Vioxx case (Lyon, 2007). I designed episode 4 to strongly emphasize the principle that omission of patient safety data can lead to deaths. Some researchers have concluded, from a qualitative analysis of Merck communications (Lyon, 2007) that Merck employees "systematically distorted communications" to influence physicians to prescribe Vioxx while omitting serious product safety risks. In a more recent study conducted in Canada and California, researchers reported that when a

product had serious patient safety risks (e.g., high risk of heart attack), pharmaceutical representatives did not refer to the serious risks in most cases. In episode 4 of *The Workshop,* the character Jenny tells a story that resembles the Merck Vioxx case. In the video, the character Jenny was emotional as she discussed the deaths associated with the use of her company's' product. In the story, Jenny stated, "after the product got approved, the reports of heart attacks started coming in, like loads of them, embarrassing amounts, but my company still denied a link to the product." Future researchers of entertainment-education should consider isolating the topic of product safety information omission when evaluating effects on pharmaceutical sales and marketing professionals.

This study contributes to the conclusion of other researchers that entertainment-education narratives can be delivered in multiple formats and have similar effects. While I did observe significant effects between pretest and posttest scores on behavioral intentions to speak up for scenario one, there was only a moderate difference between the video and eLearning groups which contributes to findings from other researchers who have observed that the medium of an entertainment-education narrative may not be important (Braddock & Dillard, 2016). While entertainment-education researchers frequently evaluate films or television programs (Riley et al., 2017; Schenide et al., 2015; Wang & Singhal, 2016), several researchers have also found significant positive effects from entertainment education narratives presented as text and still images only (Fischbach, 2015; Hernandez & Organista, 2013; Jagt et al., 2017; Meander, Knight, Coleman, & Wilkins, 2015), live theatre (Dill-Shackleford et al., 2015; Lieberman, Berlin, Palen, & Ashley, 2011), audio podcasting (Frazier & Massingale & Bowen &

Kohler, 2012), and interactive games (Sangalang, Johnson, and Ciancio, 2013).

Pharmaceutical sales representatives are frequently in their cars driving to visit

physicians. Future research could evaluate the effectiveness of entertainment education

audio pod-casts delivered to pharmaceutical sales representatives in their cars. In

addition, pharmaceutical sales representatives could quietly read a short story while

sitting in a physician's waiting area which may be more convenient for the sales

representative, and more cost-effective for the compliance training manager.

Limitations of the Study

One of the limitations of this study was the small sample size ($n = 62$) and the fact

that I obtained the sample from a single U.S. company which may impact generalizability

of the findings. In Chapter 3, I proposed to have a minimum of 120 participants. As

noted in Chapter 3, for similar studies, researchers have recruited an average sample size

of 120 to 160 participants (Fishbach, 2015; Sangalang, Johnson, & Ciancio, 2013).

While I was able to draw some conclusions from the data collected, the power of those

results was low due to the small sample size. The small sample size may have also

contributed to the failed assumptions of normality and linearity of the dependent

variables, which I outlined in Chapter 4. I spoke with representatives from the company

that sponsored this study, and they mentioned that some of the participants expressed to

them verbally that they felt that the study was a way to trap them. This perception may

have contributed to less than 50% of those invited to complete the informed consent

($n=105$ from 264 invitations), and approximately 40 people dropping out of the study

after consenting to participate. The informed consent made it clear that participants had

the right drop out of the study if they felt uncomfortable in any way. While I was unable

to determine the reason for the high dropout rates, the feedback provided by the company

sponsor representatives may suggest that the participants felt at risk answering questions

related to unethical practices in their profession and as a result decided to drop out of the

study.

A second limitation of the study was the fact that I did not include a control group

typically used in entertainment-education studies (Beach et al., 2015; Hernandez &

Organista, 2013; Hoffman et al., 2017; Moyer-Gusé, Mahood, & Brookes, 2011). For

this study, I randomly assigned 64 people to two groups. I exposed each group to the

same entertainment-education narrative. The variable manipulated between the two

groups was the modality of the narrative. One group watched a professionally produced

five-part video series, while the second group read the same narrative in the form of an

online eLearning course which I designed using a fotonovela approach. A fotonovela

uses images from an episodic television series and includes selections from the script

(Hernandez & Organista, 2013). Without a control group, I was unable to conclude

whether the entertainment-education narrative had a significant effect when compared to

no treatment or a non-narrative treatment also used in similar studies (Murphy, Frank,

Chatterjee & Baezconde-Garbanati, 2013).

A third limitation was my lack of data to control for social desirability bias.

Participant scoring of ethical issue awareness, ethical judgment, and intentions to speak

up was highly skewed which may have been influenced by a social desirability bias. I

chose not to measure social desirability, which researchers of ethical decision-making

have frequently included in their studies (Bellizi & Bristol; 2005Valentine & Bateman, 2011; Hollingworth & Valentine, 2015; Valentine & Hollingworth, 2012). As a result, I was unable to evaluate whether social desirability bias influenced participant scoring.

A fourth limitation of this study was the fact that I did not measure the perceived importance or moral intensity of the ethical issues in the two scenarios read by the participants. Researchers have reported strong correlations between the perception of how serious an issue is and other ethical decision-making measures (Valentine & Bateman, 2011; Valentine & Hollingworth, 2012). The first ethical dilemma used in the ethical decision-making instrument referred to the avoidance of product safety information, while the second dilemma referred to speaking to claims that had been substantiated through research but not approved by regulatory authorities. The participants should have perceived a higher level of importance for Ethical Dilemma 1 as compared to Ethical Dilemma 2. I did not include a measure of the perceived importance of the ethical issue which was a limitation for the data analyses. Based on prior ethical decision-making research, the conflicting results between the two dilemmas may have been due to a difference in moral intensity perceptions of the issues presented.

Because I only measured ethical awareness, judgment, and intentions to speak up regarding two types of ethical dilemmas, I was unable to isolate the potential effects from topics covered in the individual episodes of the entertainment-education series. The story that the participants either watched as a video or read in the form of an online fotonovela was broken up into five episodes. Each episode addressed one or more ethical dilemmas faced by pharmaceutical sales and marketing professionals (see Table 28). The writers of

episode 4 directly targeted the ethical dilemma faced by pharmaceutical sales and marketing professionals to place more emphasis on the product's benefits and avoid the safety information that would include the potentially harmful side effects. Episode 1 introduced the main character Kim and her lack of interest in following procedures. The first episode focused on the negative consequences for people who violate pharmaceutical promotional regulations. In Episode 1, the character Dave relates a story about presenting false and misleading product information. In Episode 2, Gina presents the ethical dilemma that she faced in promoting a product with unapproved off-label information. In Episode 3, Jack discusses a story related to giving kickbacks to physicians in the form of gifts to increase prescription writing. Finally, in Episode 5, Todd violates patient privacy laws and abuses the patient assistance programs in his company. Speaking up about an observed unethical or illegal issue was the implied message in *The Workshop* story. While I measured behavioral intentions to speak up, I was unable to report on whether the episode on patient safety influenced the effect, or whether Kim's action to speak up had a stronger effect.

I was unable to enforce participants to complete each episode of *The Workshop* videos or eLearning modules in the manner prescribed in the study design. I designed the study to introduce a dosing effect where each participant viewed or read a daily episode over a five-day period. However, this was not practical for many of the participants. Some of the participants followed the study design and viewed or read an episode each day. Others completed two in a day, while some viewed or read all of the episodes on day five of the study, one day prior to the administration of the posttest. This variation in

dosing across the sample and the time between treatment and posttest may have affected participant scoring. While not in scope for this research study, an analysis of variations in viewing, dosing over time or binge consumption could be a method for future research.

Recommendations

When researching the effects of entertainment-education narratives researchers should consider limiting the messaging to one or two ethical topics and then match the ethical decision-making measures to those two topics. If the entertainment-education narrative addresses more than two business ethics issues, I recommend that researchers measure effects for each issue. Researchers should consider first measuring issue severity in a pilot study and then use that measure as a control for their findings. Similar to this study, researchers should consider using one scenario with a high perception of importance, and another with a low perception of importance. In the writing of *The Workshop* narrative, the writers introduced multiple ethical issues and new characters in each of the episodes. Because of the experimental method that I chose, I was unable to measure any effects between the episodes. I measured identification with only two characters in the series (Kim and Todd), while each episode introduced a new character. I was unable to measure any potential effects from other key characters in the narrative. I would recommend that researchers either create a measure for each ethical issue presented in their entertainment education narrative or limit the treatment to a one or two ethical dilemmas or topics.

I recommend developing a two by two repeated-measure MANOVA design, similar to the study conducted by Fischbach (2014) where she randomized her sample

into four groups. Fischbach assigned only one ethical scenario and one instructional treatment to one of two randomized groups. The challenge with a study design with four randomized groups is that researchers need a larger sample size. Fischbach (2014) conducted her experiment with 132 sales representatives from a variety of organizations. She then randomly assigned the sample to four groups, each with approximately 30 to 35 people per group. Fischbach exposed each group to one narrative style instructional treatment, and only one relevant business ethics scenario. Based on my experience with this research project, I would recommend a similar two by two design with two entertainment-education narratives, and two ethical dilemmas to match the narratives. For example, I could have taken two episodes from *The Workshop* video series, each focused on a particular issue, and only presented those as the experimental treatment. I included one scenario based on Episode 4 of *The Workshop* and one scenario based on episode 2 of the series. There were several other pharmaceutical sales ethics topics covered throughout the narrative, not included in the ethical decision-making assessment (see Table 28). I could have used only Episodes 2 and 4, paired with the existing ethical dilemmas. A two by two design would have also reduced the amount of time required by participants to complete the experiment. I would have needed a sample size closer to 160 participants to have four smaller randomized groups of 40 participants each.

Table 28

The Workshop Episode Topics and How They Were Aligned to the Ethical Dilemmas in the Pretest and Posttest Measures

Workshop Episode Topics	Pretest and Posttest Ethical Dilemmas	
	Ethical Dilemma 1; exaggeration of efficacy data and avoidance of product safety data	Ethical Dilemma 2; using unapproved study data to promote a product to an unapproved population
Episode 1: Dave mispresented a product by making false and misleading statements about a product	*Not covered*	
Episode 2: (1) The marketing team considering using misleading and false statements related to product efficacy; (2) Gina used off-label information in promotional presentations		Use of off-label information to promote a product
Episode 3: (1) Todd used free product samples as incentives to prescribe; he was rewarded for his bad behavior (2) Jack skimmed money and used that money to give gifts to physicians as incentives to prescribe;	*Not covered*	
Episode 4: (1) Two sales trainers send the wrong message that sales reps should avoid talking about safety information (2) Jenny explains how her company tried to cover up product safety risks which resulted in a significant number of patient deaths	Disregarding Safety Information in Promotional Communications	
Episode 5: (1) Todd violates patient privacy laws and uses patient assistance plans to contribute to off-label prescribing. Todd suggest that he is doing this for altruistic reasons	*Not covered*	

Researchers in the entertainment-education field have used one or more episodes of a television series (Moyer-Gusé, Mahood, & Brookes, 2011; Moyer-Gusé, Chung, & Jain, 2011), to measure the effects of a few topics only. For example, Igartua and Cassanova (2015) selected three episodes from an entertainment-education series referred to as *Soul City*. Each episode focused on a different social issue. The researchers randomly assigned participants to one of the three episodes, a method similar to the Fischbach (2014) experimental design. By using this experimental method, researchers were able to isolate any effects between the episode topics and characters. I would recommend considering this approach for future research studies designed to evaluate the effects of entertainment-education narratives on business ethics behaviors.

If researchers choose to dose their entertainment-education narrative episodes over multiple days, they should consider a second group permitted to view or read the narrative in a single day. I recommend comparing the effects for dosing over multiple days with someone viewing the entire series in one day commonly referred to as marathon or binge viewing of a television series (Tukachinsky & Eyal, 2018). Only consider dosing, if the experiment is specifically designed to evaluate dosing over time versus one-time consumption of an episodic series.

I would recommend that researchers include a measure to control for social desirability bias. Without this measure, I was unable to control for this common effect in ethical decision-making research studies. Other researchers of ethical decision-making

have found a correlation between social desirability ethical judgment (Hollingworth & Valentine, 2015).

For future research studies, designed to evaluate entertainment-education narratives on ethical behaviors, I would not recommend measuring either narrative transportation nor character identification unless the study is specifically designed to measure narrative transportation and character identification. In this study, I found no correlation between these variables and the dependent variables. Consider measuring appreciation or enjoyment after viewing or reading an entertainment-education narrative, which researchers have found to be a good predictor for changes in behavioral intentions (Schneider et al., 2015).

Implications

My conclusions from this study align with findings from other entertainment education researchers and contribute to the literature in narrative persuasion research. In Chapter 2 of this dissertation, I concluded that the mechanism of entertainment education and the application of research findings in narrative persuasion could potentially be used to influence ethical decision-making or behavioral intentions in a sales ethics education context. I have concluded that entertainment-education narratives can be an effective alternative to increase intentions to speak up when the ethical issue is related to patient health and safety.

Of particular interest to compliance managers and compliance training managers, is the finding that the difference between the high-cost video version of the narrative and the low-cost eLearning version of the same narrative was only moderately significant. At

ethics and compliance training conferences, I commonly hear the concern that training budgets are very limited. Compliance training managers may use the findings from this study as evidence that they can use narrative style instruction in a low-cost eLearning design with very little loss of instructional effects. I would caution compliance training managers that this study did not compare two types of narratives to evaluate the quality of writing. A professional comedy scriptwriter wrote the narrative used in this study. I also used photos of professional actors trained in the art of creating compelling facial expressions. While not measured in this study, the effects that I observed on intentions to speak-up, may have been a direct correlation to the quality of the narrative and the quality of the actors' facial expressions (Wang, Lucas, Khooshabeh, Melo, & Gratch, 2015).

Conclusions

One of the intents of this study was to address the social issue related to pharmaceutical sales representatives not speaking up when they become aware of an issue that could negatively influence the clinical decision-making of physicians and put patient safety at risk. While the entertainment-education narrative was designed both to increase ethical issue awareness and influence behavioral intentions to speak up, I have concluded that the intervention only had a significant effect on behavioral intentions to speak up. Based on the results of this study, I would recommend that pharmaceutical ethics and compliance managers consider the use of entertainment-education narratives to influence behavioral intentions to speak up regarding issues related to patient safety. To raise awareness of issues not perceived as a critical safety risk, compliance managers may

want to investigate instructional strategies focused on raising awareness of how off-label promotion could lead to patient harm

While the expectation of this study was that a professional video version of an entertainment-education narrative would have a stronger effect on narrative transportation and character identification which would then moderate the effects on ethical decision-making and behavioral intentions to speak up after identifying an unethical issue, I found that the text-based eLearning version was nearly as effective as the video. The fact that the video was only moderately more effective at improving behavioral intentions to speak up when compared to the text and image eLearning version is significant to compliance managers with limited training budgets. Entertainment education is a viable solution to add to a compliance managers' training strategy and using a low-cost text and image-based version may be as effective as developing a high-cost custom video series.

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Appendix A: Permissions to Character Identification Instrument

Dr. Johnathan Cohen approved the use of his Character Identification instrument

(Cohen, 2001) in this e-mail, dated May 11, 2016.

From: **Jonathan Cohen** █████████████
Subject: Re: Requesting permission to use your Character Identification Instrument
Date: May 11, 2016 at 12:25 AM
To: Brian █████████████

Please feel free to do so. Good luck.

On May 11, 2016 4:45 AM, Brian <briangmiller@verizon.net> wrote:

Dr. Cohen,

I am conducted entertainment-education research as part of my dissertation. I am comparing the effects of narratives in videos versus eLearning using text and static images, on ethical decision-making and behavioral intentions to speak-up.

I am seeking permission to use your Character Identification instrument cited in your 2001 paper.

Reference

Cohen, J. (2001). Defining identification: A theoretical look at the identification of audiences with media characters. *Mass Communication and Society, 4*(3), 245-264. doi:10.1207/s15327825mcs0403_01

Thank you,
Brian Miller

Appendix B: Character Identification Instrument

I adapted Cohen's (2001) Character Identification Scale for use in the study.

For each item, participants selected from a 7-point scale, 1 representing "not at all" and 7 representing "very much". The instrument was modified to include the title of the video series, and the names of the characters. For the group completing the eLearning course, the phrase "viewing *The Workshop* video series" was replaced with "completing the eLearning course".

Kim

1. I was able to understand the events in *The Workshop* video series in a manner similar to that in which Kim understood them.

2. I think I have a good understanding of Kim.

3. I tend to understand the reasons why Kim does what she does.

4. While viewing the show I could feel the emotions Kim portrayed.

5. During viewing, I felt I could really get inside Kim's head.

6. At key moments in the show, I felt I knew exactly what Kim was going through.

7. While viewing the program, I wanted Kim to succeed in achieving her goals.

8. When Kim succeeded I felt joy, but when she failed, I was sad.

Todd

1. I was able to understand the events in The Workshop video series in a manner similar to that in which Todd understood them.

2. I think I have a good understanding of Todd.

3. I tend to understand the reasons why Todd does what he does.

4. While viewing the show I could feel the emotions Todd portrayed.

5. During viewing, I felt I could really get inside Todd's head.

6. At key moments in the show, I felt I knew exactly what Todd was going

through.

7. While viewing the program, I wanted Todd to succeed in achieving his goals.

8. When Todd succeeded I felt joy, but when he failed, I was sad.

Appendix C: Narrative Transportation Instrument

My survey instrument also included questions from Green and Brock's (2013) Narrative Questionnaire.

Circle the number under each question that best represents your opinion about the narrative you just read or video you just watched.

1. While I was reading the narrative (or viewing the video), I could easily picture the events in it taking place.

strongly agree 1 2 3 4 5 6 7 strongly disagree

2. While I was reading the narrative (or viewing the video), activity going on in the room around me was on my mind.

strongly disagree 1 2 3 4 5 6 7 strongly agree

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

not at all 1 2 3 4 5 6 7 very much

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

strongly disagree 1 2 3 4 5 6 7 strongly agree

5. After the narrative/video ended, I found it easy to put it out of my mind.

strongly disagree 1 2 3 4 5 6 7 strongly agree

6. I wanted to learn how the narrative ended.

strongly disagree 1 2 3 4 5 6 7 strongly agree

7. The narrative affected me emotionally.

strongly disagree 1 2 3 4 5 6 7 strongly agree

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

strongly disagree 1 2 3 4 5 6 7 strongly agree

9. I found my mind wandering while reading/viewing the narrative/video.

strongly disagree 1 2 3 4 5 6 7 strongly agree

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

strongly disagree 1 2 3 4 5 6 7 strongly agree

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

strongly disagree 1 2 3 4 5 6 7 strongly agree
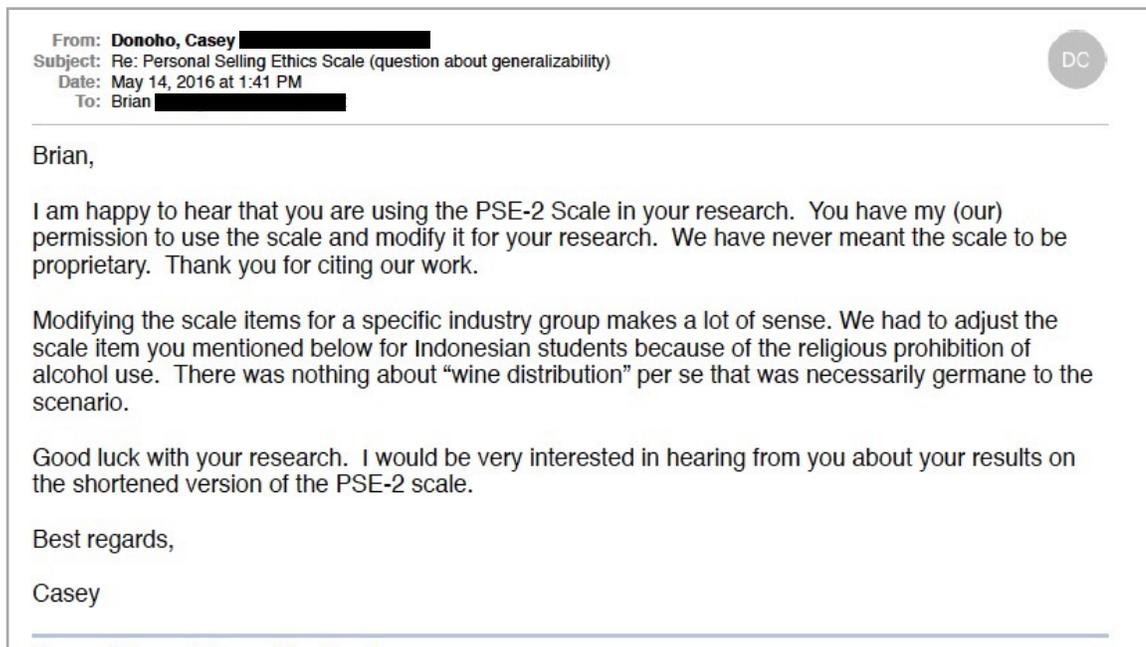
12. I had a vivid mental image of [character name].

strongly disagree 1 2 3 4 5 6 7 strongly agree

Notes: Items 2, 5, and 9 are reverse-scored.

Item 12 can be repeated for the number of main characters in the story, substituting a different character name for each item.

Appendix D: Permission to Use the PSE-2 Instrument

Dr. Casey Donoho approved the use of his Personal Selling Ethics Scale (PSE-2)

instrument (Donoho, Herche, & Heinze, 2013) in this e-mail, dated May 14, 2016.

From: **Donoho, Casey** ▮▮▮▮▮▮▮▮▮▮▮▮▮
Subject: Re: Personal Selling Ethics Scale (question about generalizability)
Date: May 14, 2016 at 1:41 PM
To: Brian ▮▮▮▮▮▮▮▮▮▮▮

DC

Brian,

I am happy to hear that you are using the PSE-2 Scale in your research. You have my (our) permission to use the scale and modify it for your research. We have never meant the scale to be proprietary. Thank you for citing our work.

Modifying the scale items for a specific industry group makes a lot of sense. We had to adjust the scale item you mentioned below for Indonesian students because of the religious prohibition of alcohol use. There was nothing about "wine distribution" per se that was necessarily germane to the scenario.

Good luck with your research. I would be very interested in hearing from you about your results on the shortened version of the PSE-2 scale.

Best regards,

Casey

Appendix E: Ethical Dilemmas and Dependent Measures

Ethical Dilemma Scenarios

Scenario 1: Exaggerating Efficacy while Downplaying Safety Risks

Instructions provided to the participant.

For this activity you will be asked to read two scenarios. After reading each

scenario you will be asked a series of questions about the scenario. You will also be

asked about how you might react if you observed this scenario in your workplace.

Answering Questions

Except for the first question, all of the questions will ask you to evaluate an action

between two opposite choices. For example, if I were to ask you how you felt today.

The answers would be (1) happy __ __ X __ __ (7) sad. You can pick (1) happy, (7) sad,

or somewhere in between (2,3,4,5, or 6). There is no right or wrong answer. Please

answer quickly and honestly.

Situation: A sales representative from Acme Pharmaceuticals had been working

very hard to exceed sales targets and impress their manager. However, for several

months, sales were down and the only way to improve sales was to exaggerate the

efficacy of the company's products or downplay product safety information in

interactions with physicians in order to influence prescription writing.

Action: The sales representative decided to exaggerate the efficacy data and

downplay the product safety data in presentations to physicians in their sales region.

Outcome: The sales strategy seemed to work, and physicians increased their writing of prescriptions. As a result, the sales representative won an award and went on a sales recognition trip to Bora Bora.

Ethical Issue Awareness

Do you believe that this situation involves an ethical issue or problem? 1 (strongly agree) to 7 (strongly disagree)

Ethical Judgment (Moral Equity Scale)

How would you judge the action of the sales representative?

1. fair 1 to 7 unfair
2. just 1 to 7 unjust
3. morally right 1 to 7 not morally right
4. acceptable to my family 1 to 7 not acceptable to my family

Behavior Intention to speak up

If you became aware of a similar situation, would you speak-up?

1. likely 1 to 7 unlikely
2. probable 1 to 7 improbable
3. possible 1 to 7 improbable
4. definitely would 1 to 7 definitely would not

Ethical Dilemma Scenarios

Scenario 2. Use of Unapproved Off-Label Claims to Increase Sales

Situation: Sales for product ABC were down at the Acme Pharmaceuticals company. Product ABC was approved for treatment X in the target population A, but not approved for treatment Y in population B. A sales representative from Acme Pharmaceuticals was aware that physicians were prescribing mainly for the unapproved treatment Y in population B, and very little for the approved treatment X in population A. The physicians may have been influenced by a recent independent research study from a prominent research institution, suggesting that product ABC would be effective treating Y for population B, both of which were unapproved.

Action: For one month, during all visits with physicians, the sales representative mentioned the study results from the prominent research institution involving the use of product ABC for the unapproved treatment Y for population B.

Outcome: Physicians increased writing of their prescriptions of product ABC for the unapproved treatment Y for population B. As a result, the sales representative became one of the top sales reps and won an award.

Ethical Issue Awareness

Ethical Issue Awareness: Do you believe that this situation involves an ethical issue or problem? 1 (completely disagree) to 7 (completely agree)

Ethical Judgment (Moral Equity Scale)
How would you judge the action of the sales representative?
5. fair 1 to 7 unfair
6. just 1 to 7 unjust

7. morally right 1 to 7 not morally right

8. acceptable to my family 1 to 7 not acceptable to my family

Behavioral Intentions to speak up

If you became aware of a similar situation at your company, would you speak-up by calling the company hotline, or reporting this to your compliance group?

1. likely 1 to 7 unlikely

2. probable 1 to 7 improbable

3. possible 1 to 7 improbable

4. definitely would 1 to 7 definitely would not

Appendix F: Permission to Use Cell Cast® Application

ONPOINT

August 15, 2016

Mr. Brian Miller

████████████████████

Dear Brian,

OnPoint Digital is pleased to extend you the offer to use a production-grade instance of our CellCast Solution platform to serve the foundation for your research study in support of your current academic endeavors. The platform will include access to a "slice" on an active server along with all the necessary administrative, managerial and user licenses you'll require to design, establish, deploy and manage your efforts through the research period. Access to these servers is managed according to strict security standards and methods to ensure system and data integrity throughout your various endeavors.

As an experienced administrator utilizing another CellCast-based instance, we're confident in your abilities to access and manage your project with little need for outside assistance and support but we're also happy to provide you with whatever configuration or site establishment services that may be required; simply ask and we'll get it in place.

Please let us know if you've got any questions and let's schedule a time later this week to get the site setup as needed.

Best regards,

Robert Gadd
President & Cofounder
OnPoint Digital, Inc.

Appendix G: Permission to Use *The Workshop* Video Series

The Second City
WORKS

1616 N. Wells St.,
Chicago, IL 60614

Subject: Permission to use *TheWorkshop* video series for academic research

September 5, 2016

Brian G. Miller

Brian,

Second City provides permission to Brian G. Miller to use *The Workshop* video series in the course of conducting, publishing, and presenting original academic research. During the course of said research, Brian G. Miller must maintain possession of *The Workshop* videos and cannot in any way distribute them to research participants, publications, conference attendees, or any other entities for use beyond the express purpose of the research. Should *The Workshop* videos appear in the public domain beyond the publication of research findings or presentations at appropriate academic conferences, Brian G Miller will be considered in breach of this agreement.

You agree to share the findings from your research with Second City Works.

Regards,

Steve Johnston
President & Managing Partner
Second City Works
1616 N Wells
Chicago, IL 60614

Appendix H: Research Company Cooperation Letter (Unsigned)

Insert Company Name
Insert Company Address
Insert Contact at Company

Insert Date

Dear Brian Miller,

Based on my review of your research proposal summary, I give permission for you to conduct the study entitled "Effects of Entertainment-Education versus eLearning on Pharmaceutical Sales Ethical Decision-Making" using a pre-approved list of employees from <COMPANY NAME>.

As part of this study, I authorize you to (1) receive a list of 200 to 300 email addresses* (approved by our legal department) of employees currently working in a field sales role, (2) select and contact up to 150 of our employees from our approved list to complete an informed consent form, (3) ask participants to download and register a mobile learning application on their mobile device (phone or tablet), (4) ask the selected participants to complete a questionnaire asking for gender, age, and years of experience in pharmaceutical sales, (5) ask selected participants to complete an assessment of ethical issue awareness, ethical judgement, and behavioral intentions to speak up after reading two pharmaceutical-sales ethical dilemmas, and (6) either view five educational videos or five eLearning courses addressing ethical issues in pharmaceutical sales and marketing. I authorize you to publish your results in your Walden University research dissertation. Individuals' participation will be voluntary and at their own discretion.

We understand that our organization's responsibilities include: (1) providing you with a list of 300 emails of employees working in a field sales role, (2) making a reasonable attempt to provide a randomized list of potential participants, equally distributed across the United States. We reserve the right to withdraw from the study at any time if our circumstances change.

I confirm that I am authorized to approve research in this setting and that this plan complies with <COMPANY NAME> policies.

I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University IRB.

Sincerely,
<Name of Authorization Official>
<Contact Information>

*Participant names are not required. I will identify participants using their email address and a randomly generated numerical code. Participant email addresses will not be distributed or used in anyway outside of the study.