2020

Audience Segmentation Ethics in Health Promotion

Uyen Lili Le

Follow this and additional works at: https://digitalcommons.du.edu/etd

Part of the Health Communication Commons
Audience Segmentation Ethics in Health Promotion

A Thesis

Presented to

the Faculty of the College of Arts, Humanities and Social Sciences

University of Denver

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

Uyen (Lili) Le

December 2020

Advisor: Renee Botta, Ph.D.
Audience segmentation is a crucial component of health promotion campaigns as it is believed to support health-related campaigns to achieve greater benefits. However, there are numerous concerns about the ethicality of audience segmentation. For instance, Newton, Newton, Turk, and Ewing (2013) stated that audience segmentation can create inequalities between different groups of audiences. In addition, unintended audience and consequences are often excluded from health campaign planning and execution. These factors can negatively affect the campaign by creating adverse impacts. As a matter of fact, the prominent challenge of health promotion is sustaining the connection between ethics and effectiveness for promotional activities and processes. Thus, it is important to investigate this relationship under a health-related lens to support health campaigns to be more audience-centric and contextually and culturally appropriate, and better providing fair health distribution and producing long-term beneficial outcomes. The study used a binge drinking prevention campaign on campus to test the hypotheses. It conducted an online survey with 360 participants from the students and employees at the University of Denver (DU) to examine three aspects: 1) The impacts of health messages on the intended and unintended audiences; 2) The effects of ethical segmentation on the audience; And 3) The relationship between audience, intended and unintended, and consequences, intended and unintended. In particular, there was not a distinguishing difference in the cognitive, emotional, and behavioral impacts between intended audience
members who were assigned targeted messages and those assigned non-targeted messages or between intended audience members and unintended audience members. Additionally, non-consequentialist targeting can create the same level of impacts on the intended and unintended audiences as consequentialist targeting. Moreover, unintended audience members were less likely to stigmatize the targeted audience than intended audience members when consequentialist targeting was used. In conclusion, the study finds that non-consequentialism can be a useful tool to ensure the ethicality and effectiveness of audience segmentation in health promotion as it takes into consideration the intended and unintended effects health campaign may have on both intended and unintended audiences.
# Table of Contents

**Chapter one: Introduction** ......................................................................................... 1

**Chapter two: Literature Review** .................................................................................. 5

- Conceptualizing Health Promotion Ethics ................................................................. 5
  - Ethics ......................................................................................................................... 5
  - Health Promotions .................................................................................................. 7
  - Ethics in Health Promotions .................................................................................. 9
  - Problems in Ethics and Effectiveness .................................................................... 13

- Linking Ethics to Audience Segmentation’s Effectiveness ........................................ 16
  - Audience Segmentation ......................................................................................... 16
  - Audience Segmentation’s Effectiveness ................................................................. 17
  - Ethics in Segmentation ......................................................................................... 18
  - Ethics of conducting effective segmentation ....................................................... 21
  - Ethics of unintended audience and unintended consequences ......................... 25

**Chapter three: Research Questions** ......................................................................... 31

**Chapter four: Method** ............................................................................................... 37

- Overview .................................................................................................................... 37
- Procedure .................................................................................................................... 38
  - Campaign ................................................................................................................ 38
  - Messages .................................................................................................................. 39
  - Mini survey ............................................................................................................. 44
  - Online (survey) experiment .................................................................................. 45
  - Participants ............................................................................................................. 46
- Measurement .............................................................................................................. 47
  - Intended versus unintended audience ................................................................. 48
  - Targeted versus non-targeted messages ............................................................... 48
  - Consequentialist versus non-consequentialist targeting ...................................... 48
  - Behavioral impacts ................................................................................................. 48
List of Tables

Chapter five: Analysis and Results ........................................................................... 52

Table 1.1: The Emotional Impacts Results for The Main Effect Difference
Across Posters ............................................................................................................. 54

Table 1.2: The Cognitive Impacts Results for The Main Effect Difference
Across Posters ............................................................................................................. 55

Table 1.3: The Behavioral Impacts Results for The Main Effect Difference Across
Posters ......................................................................................................................... 55

Table 1.4: Emotion Mean Scores and Standard Deviations Across Target Groups ..... 58

Table 1.5: Cognitive Mean Scores and Standard Deviations Across Target Groups ... 59

Table 1.6: Behavior Mean Scores and Standard Deviations Across Target Groups ..... 60

Table 2: Engaging and Important Means and Standard Deviation Across
Audience*targeting .................................................................................................... 65

Table 3: Likelihood to Adopt Behaviors Means and Standard Deviation Across
Audience*targeting .................................................................................................... 69

Table 4.1: Emotion Means and Standard Deviation Across Audience*targeting .... 71

Table 4.2: Cognition Means and Standard Deviation Across Audience*targeting .... 73
List of Figures

Chapter four: Method .................................................................................................................. 37

Figure 1: Poster of message using non-consequentialist targeting and scare tactics .... 41
Figure 2: Poster of message using non-consequentialist targeting and reward tactics .. 42
Figure 3: Poster of message using consequentialist targeting and reward tactics ......... 43
Figure 4: Poster of message using consequentialist targeting and scare tactics ............ 44

Chapter five: Analysis and Results .......................................................................................... 52

Figure 5: A contingency table shows participants’ ability to recognize targeted audience .................................................................................................................................................. 63
Figure 6: A contingency table shows percentage of participants stigmatize or do not stigmatize intended audience as binge drinkers ................................................................. 67
Chapter one: Introduction

According to the World Health Organization (WHO), health promotion is a process that aims to encourage people’s control over, and to improve, their health. Health communication and social marketing are prominent approaches to achieve health promotion campaigns’ objectives (Parvanta et.al, 2011). Health communication plays a significant role in health care. It uses multiple methods to “influence, engage, empower, and support” different affected groups (Schiavo, 2013, p.31). The practice of social marketing is understood as joining the marketing and social sciences disciplines (French, Blair-Stevens, McVey, & Merritt, 2010). According to Andreasen (1994), social marketing is “the adaptation of commercial marketing technologies to programs designed to influence the voluntary behavior of target audiences to improve their personal welfare and that of the society of which they are a part” (p. 110). For years, health promotion has been increasingly popular, especially among governments and donors, as an effective tool to address health issues. It seeks knowledge and insights about the environment and the audience in order to create promotional activities that positively impact the outcomes of these activities.

Segmentation is one of the key components of the health promotion planning process. Donovan and Henley (2010) define it as the process of “dividing up a heterogeneous market into homogenous segments” (as cited in Dietrich, Rundle-Thiele, & Kubacki, 2017, p.10). The ethicality of using audience segmentation in social
marketing has been debated and discussed over the decades by many social marketers and scholars. On the one hand, some social marketers argue the importance of segmentation by claiming that it helps tailor social marketing intervention strategies (Dietrich, Rundle-Thiele, & Kubacki, 2017). Segmentation also solves concerns about limited financial resources, effectively distributing resources to smaller, more targeted audiences. Furthermore, it provides deeper “understanding about citizens” to tailor products, services and social programs (2017). Donovan and Henley (2003) emphasize the significance of “[directing] limited resources towards those segments where the greatest good can be achieved” (Newton, Newton, Turk, & Ewing, 2013, p.1423). As a result, segmentation increases the efficiency and effectiveness of social marketing campaigns (Kotler & Lee, 2008). However, many critics are concerned about the sustainability of audience segmentation. Lewis and Lewis (2015) point out that even though some social marketing campaigns are available to the general public, their messages are designed to target particular audiences, therefore limiting the benefits. Additionally, audience segmentation can create inequalities between different groups of audiences (Newton, Newton, Turk, & Ewing, 2013). As a matter of fact, many scholars have criticized social marketing audience segmentation for discriminating against specific groups or populations (Andreasen, 1995; Andreasen, 2006; Bloom and Novelli, 1981; Brenkert, 2002; Dholakia, 1984). Moreover, the belief that people in the same group share similar beliefs, culture and behaviors prevents social marketers from considering potential unintended consequences for intended and unintended audiences (Bloom & Novelli, 1981). Not only do the two sides disagree on these issues, there is also
a lack of discussion about how beneficial it is to focus on the ethics of effective and audience and scholars. On the one hand, some social marketers argue the importance of segmentation by claiming that it helps tailor social marketing intervention strategies (Dietrich, Rundle-Thiele, & Kubacki, 2017). Segmentation also solves concerns about limited financial resources, effectively distributing resources to smaller, more targeted audiences. Furthermore, it provides deeper “understanding about citizens” to tailor products, services and social programs (2017). Donovan and Henley (2003) emphasize the significance of “[directing] limited resources towards those segments where the greatest good can be achieved” (Newton, Newton, Turk, & Ewing, 2013, p.1423). As a result, segmentation increases the efficiency and effectiveness of social marketing campaigns (Kotler & Lee, 2008). However, many critics are concerned about the sustainability of audience segmentation. Lewis and Lewis (2015) point out that even though some social marketing campaigns are available to the general public, their messages are designed to target particular audiences, therefore limiting the benefits. Additionally, audience segmentation can create inequalities between different groups of audiences (Newton, Newton, Turk, & Ewing, 2013). As a matter of fact, many scholars have criticized social marketing audience segmentation for discriminating against specific groups or populations (Andreasen, 1995; Andreasen, 2006; Bloom and Novelli, 1981; Brenkert, 2002; Dholakia, 1984). Moreover, the belief that people in the same group share similar beliefs, culture and behaviors prevents social marketers from considering potential unintended consequences for intended and unintended audiences (Bloom & Novelli, 1981). Not only do the two sides disagree on these issues, there is also
a lack of discussion about how beneficial it is to focus on the ethics of effective and audience segmentation in health promotion. Applying ethical frameworks may give a better understanding to this debate because it affirms the importance and advantage ethical practice in health promotion. Therefore, it is significant to examine the relationship between ethical frameworks and the efficiency and effectiveness of audience segmentation.
Conceptualizing Health Promotion Ethics

**Ethics.** Ethics or moral philosophy is defined as the discipline that governs individual behavior or the conducting of an activity. Moral doctrine “involves systematizing, defending, and recommending concepts of right and wrong behavior” (Fieser, 2018, para. 1). The four approaches under which ethics is examined are: normative ethics, meta-ethics, descriptive ethics and applied ethics. Normative ethics is concerned with the formation and rationalization of fundamental principles that “govern the issues of how we should live and what we morally ought to do” (Driver, 2007, para. 1). “Thou shall not murder” is an example of normative ethics. It is a socially agreed upon moral norm with which people should always act in accordance. Normative ethics aims to determine and evaluate the morality of human decision-making procedures and human conduct using teleological, achievement, or deontological, moral principles. In other words, normative theory uses social norms or standard moral principles of the right and the morally good to determine what makes actions right or wrong. Meta-ethics, on the other hand, is concerned with the semantic, metaphysical, psychology, and etymology of ethics (Smith, 2007). Meta-ethics is based on the nature and meaning of ethics and moral reasoning to answer the question “how can we know what is right or wrong?” (Gowdy, 2013) For example, under different circumstances, lying can be classified as
morally right or wrong. It is morally wrong if one lies in order to benefit oneself or to harm others. However, if one lies to avoid hurting someone’s feelings, that person’s act will be ethically justified. Descriptive ethics, also known as comparative ethics, studies people’s moral beliefs and practices from a scientific perspective. In addition, it can be perceived as the branch of ethics that attempts to develop conceptual models, and empirically test them to enhance people’s understanding of “ethical or moral behavior, moral decision making, and more broadly moral phenomena” (Kolb, 2008, para. 1). For instance, a child’s sense of morality is externally controlled by parents and teachers. In other words, moral standards are formed based on the child’s observation of adult’s actions. Lastly, applied ethics is concerned with practical ethics. Applied ethics addresses moral problems in real-life and professional situations (Frey & Wellman, 2003), including insights from professional fields. For example, the Public Relations Society of America (PRSA) code of ethics is considered applied ethics as it guides PR practitioners to follow ethical approaches to prevent problems in PR.

Ethics is important because it helps individuals to justify their actions and identify potential harmful outcomes. In health promotion, ethics is considered a crucial factor as it guides and evaluates the ethicality of the conduct, goals and consequences of a health communication campaign. However, practitioners often overlook ethics in their discussion regarding promotion practices. Consequently, health campaigns may become ineffective as the strategies and tactics fail to follow ethical principles and meet the community’s moral standard. Therefore, it is important to examine ethics in health promotion and its connection to health campaign’s effectiveness.
Health promotion. Health promotion campaigns aim to improve people’s health by focusing on factors and approaches at different levels (Kumar and Preetha, 2012). A campaign is successful when it effectively impacts individuals and groups using multisectoral approaches (Kumar and Preetha, 2012). Parvanta et.al (2011) states that in order to influence people’s health behaviors, health communication and social marketing are often used to advance health objectives. Health communication is a multifaceted field that aims to improve individual, community and public health outcomes by exchanging health-related information (Schiavo, 2013). It is built upon a variety of disciplines and theoretical fields, including health education, social and behavioral sciences, community development, mass and speech communication, marketing, social marketing, psychology, anthropology, and sociology (Bernhardt, 2004; Kreps, Query, and Bonaguro, 2007; Institute of Medicine, 2003b; World Health Organization [WHO], 2003). As a matter of fact, it is a prominent field in public health, health care, and the non-profit and private sectors. The role of health communication is to “influence, engage, empower, and support individuals, communities, health care professionals, patients, policymakers, organizations, special groups, and the public so that they will champion, introduce, adopt, or sustain a health or social behavior, practice, or policy” (Schiavo, 2013, p.5). According to Schiavo (2013), key characteristics of health communications include: 1) People-centered; 2) Evidence-based; 3) Multidisciplinary; 4) Strategic; 5) Process-oriented; 6) Cost-effective; 7) Creative in support of strategy; 8) Audience- and media-specific; 9) Relationship building; 10) Aimed at behavioral and social results; and 11) Inclusive of vulnerable and underserved groups. Effective health communication interventions are
based on these characteristics which emphasize the importance of scientific and ethical considerations for the key groups, situations and sociopolitical environments, intervention process, and other influential factors. It is significant for the information to be included in all stages, such as development, planning, and implementation. According to Bernhardt (2004), “information from and about the intended audience should inform all stages of an intervention” in order to ensure that the program is both ethical and effective. (p. 2052)

When focusing on behavior change, health promotion often utilizes social marketing techniques (Schiavo, 2013), this it is necessary to also understand this methodology when considering the ethics of health promotion. Social marketing uses commercial marketing’s principles and tools to design, implement and evaluate health promotion campaigns. One of the most common descriptions of social marketing is “the adaptation of commercial marketing technologies to programs designed to influence the voluntary behavior of target audiences to improve their personal welfare and that of the society of which they are a part” (Andreasen, 1994, p. 110). Donovan and Henley (2003) describe an eight-point benchmark criteria of social marketing: 1) Customer orientation; 2) Behavior and behavioral goals; 3) Theory based; 4) Insight; 5) Exchange; 6) Competition; 7) Segmentation; and 8) Method mix. Firstly, customer orientation requires social marketers to fully understand their audience’s lives, behaviors and issues. Secondly, health intervention programs aim to influence people’s behavior to achieve better health outcomes, so, specific behaviors, unambiguous, measurable and time-bound behavioral objectives have to be established. As a matter of fact, theory-based criterion
sets principles for social marketers to identify and understand people’s behaviors using behavioral theories. Insights from target audience research supports and leads intervention development by identifying opportunities and barriers that may occur for the audience and the program. Exchange considers the potential benefits and costs of adopting and maintaining new behavior. It also establishes audience orientation and insights to measure target audience values in order to determine suitable incentives and rewards to encourage behavioral change. Competition criterion concerns with factors that prevent the audience to adopt the new behavior. Understanding competing factors allows social marketers to maximize the impact of the program. Further, based on audience research and insights, different audience “segments” are identified. Additionally, social marketers avoid “one size fits all” segmentation to tailor the method appropriately for the audience. Lastly, social marketers use all elements of the marketing mix (i.e., product, price, place and promotion), as well as numerous methods and approaches, to ensure the wellbeing of the target audience, and the effectiveness and efficiency of the program.

Ethics in health promotion. The major problem of health promotion is guaranteeing the effectiveness and efficiency, as well as the ethicality, of the intervention campaign. Ethical frameworks have been developed to guide ethical conduct in health promotion. Health promotion ethics is applied ethics as it aims to “provide practical tools that can guide decision-making in [health promotion] contexts” (Carter, 2014, p.20). It includes public health’s philosophies, moral and political commitments, and health communication’s and social marketing’s theories to instruct health promotion practitioners’ practices.
According to Bull, Riggs and Nchogu (2012), some guidelines are already provided for ethical decision-making within this field, such as the Framework for Ethical Health Promotion from the United Kingdom and the Code of Ethics for the Health Education Profession from the United States. Both of these frameworks are based on the fundamental ethical principles in health care (i.e., respect for autonomy, avoidance of harm, promotion of social justice, and beneficence). Additionally, a health communication ethical framework developed by Ratzan (1998) includes consideration of interest, objectivity, intended effect, and long-term ramification. Firstly, one must consider the audience’s personal interest and substantial impacts that a health promotional campaign has on the audience, people or things they care about (Ratzan, 1998). For example, health communicators should pay attention to whether the information is relevant to the audience it is reaching, and whether the audience will be interested in the message delivered. Secondly, objectivity concerns the appropriation, validity, reliability, and accuracy of information, perspective and story delivered to the audience (1998). Furthermore, health communicators should be concerned with the intended effects the campaign has on the audience. The intended effects are to change the audience’s behaviors and beliefs. In addition, people engage with health messages, find them relatable and understand them are included in intended effects of health promotion. These effects are vital to prevent risks that can occur to the audience. Long-term ramification is the last factor to be considered. It focuses on different viewpoints, comprehensibility, the development of the campaign, and how influential figures, such as opinion leaders, contribute to the outcomes and long-term effects of the campaign (1998).
Andreasen (2001) suggests code of ethics for social marketing to guide social marketers: 1) Do more good than harm; 2) Favor free choice; 3) Evaluate marketing within a broader context of behavior management; 4) Select tactics that are effective and efficient; 5) Select marketing tactics that fit marketing philosophy; and 6) Evaluate the ethicality of a policy before agreeing to develop strategy. “Do more good than harm” emphasizes the importance of allowing the audience to make their own choice, rather than limiting the options (Andreasen, 2001). “Favor free choice” approach asks practitioners should favor the strategies that allow free choice and can achieve the goals of the policy. The third code, “Evaluate marketing within a broader context of behavior management”, states that marketing should be used when the use of law is excessively forceful and restrictive of freedom, and when education is perceived as ineffective. It requires social marketers to review behavior managing strategies under the lens of contextualist framework as it “provides input into the question of whether behavior management should be a neutral force, provide information, persuade, motivate, provide incentives, or coerce” (Andreasen, 2001). The fourth code, “Select tactics that are effective and efficient,” says “it is unethical to select a set of strategic tools that are not felt to be the most efficient and effective for the task at hand” (p.36). In addition, the fifth code requires social marketers to choose marketing tools that fit ethical standards and social norms to maximize the effectiveness and efficiency of the strategy. This code requires practitioners to select tactics follow marketing philosophy to enhance the ethicality of the program. Marketing philosophy aims to provide benefits for the target audience without manipulating their behaviors or only following the organization’s self-interest. Lastly, “Evaluate the
ethicality of a policy before agreeing to develop strategy” concerns with the utility and ethics of policy used. It asks social marketers to examine the ethicality of the policy prior to the implementation of the policy. Hence, if the policy is ethical, the strategy used to promote it will be more likely to be ethical. Furthermore, Carter (2014) lists several strategies that have been suggested in previous ethical frameworks. He recommends that an ethical health promotion campaign should build mutual relationships with citizens. As a matter of fact, people that are likely to be impacted by a strategy, should be included in the decision-making process to advance a better solution. In addition, he states that “it is more justifiable to prevent people from imposing harms on one another than to prevent people harming themselves (although in health that distinction is often not entirely clear)” (p.20). In other word, if the campaign causes people to have negative effects on each other, it will be perceived as unethical. Moreover, no group should have more burdens or benefits than the others. Concerning ethics of strategies and tactics, Carter (2014) claims that the intervention promotion process should “work on causes of ill health or the social determinants of health,” “ensure that action is necessary and in proportion to the problem,” and provide accurate information to gain trust (p.21). As a matter of fact, practitioner’s choice of actions should be supported by evidence-based. The strength of the evidence is proportional with magnitude of the risk of harm. Accordingly, promotion act should respect citizen, produce least potential harm as possible and prevent unfair distribution of burdens and benefits between groups. The purpose of these ethical principles is to guide health promoters to respect the communities, prevent unethical and harmful practices, and advance beneficial and ethical consequences.
Problems in ethics and effectiveness. On the other hand, practitioners face various difficulties in applying ethical practice and achieving effectiveness in the campaign. The first problem is the shortage of financial resources. The limitation of supporting resources is a barrier to ethical application in health campaign. For example, the most vulnerable group can be excluded from health campaign because it cannot create the greatest benefits for the campaign with the given budget. Also, Bang (2000) states that due to limited financial resources, public health promotions are less likely to focus their resources and efforts on audience segmentation and media placement. In other word, low budget leads to ineffective segmentation and method mix. For example, because of the shortage of budget, campaigns tend to use public service announcements (PSAs) despite their low message exposure and ineffectiveness on target audiences. Thus, this problem prevents health promotion campaigns from being people-centered, audience- and media-specific, and inclusive of vulnerable and underserved groups. Secondly, the lack of analysis of social context also significantly affects the ethics of the campaign, especially the ethics of tactics used (Andreasen, 2001). For instance, Guttman (2004) mentions the harm-reduction approach as an ethically concerning strategy that fails to analyze the campaign’s context. Even though it is responsible for protecting people from negative detrimental consequences, its intervention strategy may be deemed as “anti-social” or “immoral” by the society. For example, a campaign that provides youth with information about contraceptives and safer sex practices can be objected by groups that believe sexual relation should be discussed privately or among adults. These groups perceive that sexual activities among youth are immoral and against social or
cultural norms. So, the intervention that normalizes youth sexual relations has negative effects, like stigmatizing that immoral activities are common among youth, although its intentions are to prevent harmful sexual activities among youth. Therefore, intervention process should pay attention to social and environmental factors to create ethical and effective messages. Additionally, the difference between ethical principles and practical ethics application challenges practitioners to implement ethical conduct. Carter, Mayes, Eagle and Dahl (2017) discuss “procedural ethics” (i.e., philosophical theories or codes of ethics) and “ethics-in-practice” (i.e., ethical concerns in everyday practices). They state that although “procedural ethics” is effective to guide how campaigns should be executed and let social marketers know what to expect in order to execute ethical campaigns, every day practices often rely on the current context where the campaign is occurring to evaluate the ethicality of the conduct. Strategies and tactics that are not appropriate to contextual values can cause unintended adverse effects on the target audience. Thus, they will deteriorate the beneficial effect of the campaign. Lastly, practitioners tend to choose strategies and tactics based on the short-term outcomes rather than ethicality. For instance, Guttman (2004) concerns with the ethicality of “shock tactics” or “fear appeals” used in health communication campaigns to persuade the audience. Although, these tactics are proven to enhance public response, it goes against communication ethics which asks communicators to avoid exaggerating factors like “negative consequences, the magnitude of problems or the degree of the expertise of the authorities” (Guttman, 2004). Hence, practitioners tend to use the outcomes of the
campaign to justify the use of unethical promotion act, in spite of the negative effects they cause to the audience.

In summary, the problems create a challenge for the health promoter to maintain a reciprocal relationship between effectiveness and ethicality in a campaign. They impede the inclusion of health communication’s key characteristics and the achieving of social marketing’s key criteria. People/audience, promotion acts, and consequences are most likely to be affected by these problems and to cause harm to each other. Andreasen (2001) suggests the act (i.e., strategies and tactics), audience and consequences are crucial factors of a health campaign. He states that practitioners should consider whether the act stereotypes groups of people, projects images that pander to popular and often harmful misconceptions or withholds information from the audiences. In addition, regarding the audience, he claims that practitioners should recognize the intended audience’s ability to understand and accept the advice or the product and consider the effects the campaign has on unintended audience. Lastly, Andreasen (2001) recommends that practitioners should include intended and unintended benefits, relative benefits and harm that result from the act to analyze the consequences. Therefore, ethics and effectiveness of health promotion campaign depend on the ethicality and effectiveness of the tools that associate with people/audience, promotion acts, and consequences.

As a matter of fact, Hornik and Ramirez (2006) consider segmentation can solve the ethical and effective concerns of health campaign. Audience segmentation is one of the most essential tools used to solve ethical and effective concerns in health promotion campaign. The next section will examine the effectiveness and
efficiency of audience segmentation, its ethicality in the relationship between ethics, effectiveness and efficiency, and the importance of consideration of unintended audience and unintended consequences.

**Linking Ethics to Audience Segmentation’s Effectiveness**

*Audience segmentation.* Audience segmentation was popularized in the 1970s (French, 2016). It focused on satisfying customer needs using strategies tailored for a specific audience group to increase profits. In commercial context, marketers realize that each audience has unique, yet similar, needs and desires due to social, physical, or demographic groupings (Plummer, 1974; Wedel and Kamakura, 2000). Thus, in order to increase the efficiency and effectiveness of marketing campaigns, marketers focus on strategies and tactics that appeal to specific groups. Similar to commercial marketers, health promoters consider particular targeted groups for an intervention. Health communication perceive audience segmentation as the key activity in audience analysis. In addition, it is one of the key components of social marketing planning process (Dibb et al. 2002) and one of the eight social marketing benchmark criteria (Donovan and Henley, 2003). Donovan and Henley (2010) define it as the process of “dividing up a heterogeneous market into homogenous segments” (Dietrich, Rundle-Thiele, & Kubacki, 2017). Segmentation in health promotion, in contrast to commercial marketing, emphasizes more on the respect for the audience and aims to empower them (French, 2016). There are seven characteristics and profiles used to develop audience segment: 1) Demographics; 2) Cultures/subcultures; 3) Attitudes; 4) Psychological profile; 5) Values; 6) Behavioral profiles; and 7) Geographics (Eagle et al., 2013; Weinreich, 2011).
Moreover, according to Lefebvre (2013), these characteristics and profiles should meet eight-point benchmark criteria, as well as support health promotion’s characteristics to ensure that the campaign meet the requirements (French, 2016). In health communication, audience segmentation assists the creation of effective strategies for “safe, efficient, effective, timely, [people]-centered, and equitable health care” (Lynn et. Al, 2007). Audience segmentation also supports two methods to design health message, targeting and tailoring. Message targeting is based on various factors, such as demographics and psychographics, to customize the health messages to fit the targeted segment. Tailoring, on the other hand, is more detailed-oriented and specific in information gathering. Intervention program messages are designed based on the audience’s particular needs, values, beliefs and practices (Schmid, Rivers, Latimer & Salovey, 2008). The ethicality of “tailoring” requires highly comprehensible, complete and culturally appropriate messages. As a matter of fact, besides supporting intervention strategy creation, segmentation can assist health practitioners to decide the health message customizing methods and “informs and shapes responses to ethical considerations” by emphasizing on “commitment to citizen centric planning and delivery” (French, 2016).

**Audience segmentation’s effectiveness.** According to McDonald and Dunbar (2012), segmentation is believed to maximize efficacy, and to solve the problem of limited resources by targeting the resources to the most promising segment. An umbrella review of segmentation shows that despite the limited use of segmentation in social marketing interventions, it allows social marketers to better develop promotional
materials (Kubacki et al., 2016). Donovan and Henley (2010) claims that, as one of eight-point benchmark criteria of social marketing, segmentation supports social marketers to “satisfy different groups within the target audience” by improving marketing mix (4Ps) (i.e., place, product, promotion and price). It targets the resources to the most promising group and provides sociocultural knowledges about it to support decision-making process (Hornik & Ramirez, 2006).

**Ethics in segmentation.** Segmentation is often examined under the lens of consequentialism and non-consequentialism which are the classes of normative ethical theories. Consequentialism claims that the consequences of one’s conduct are the ultimate foundation to determine the rightness or wrongness of that action. Non-consequentialism, in contrast, denies judging the morality and immorality of one’s conduct based on the consequences of that conduct. Donovan and Henley (2003) state that consequentialists prefer a form of audience targeting that directs limited resources. They tend to target segments where “the greatest good can be achieved” (Donovan & Henley, 2003). This means that a more vulnerable segments of the population may be excluded to achieve better outcomes for both the marketers and the target audience. Regarding audience targeting, non-consequentialists, on the other hand, divide into two groups. One objects segmentation claiming that everyone should be treated equally. These individuals support non-segmented or targeting a broad group of audience (Bloom & Novelli, 1981). The other states that segmentation should be used selectively in order to improve the well-being of the population who are in greatest need of a specified intervention. They argue that the ethicality of segmentation can be justified if it is used to
“direct the benefits of social marketing to the most vulnerable or needy members of the population” (Donovan & Henley, 2003).

Besides consequentialist and non-consequentialist approaches, two ethical frameworks, Integrative Social Contracts Theory (ISCT) and the Theory of Just Health Care (TJHC), are applied to examine the ethicality of segmentation within social marketing (Newton et al., 2013). According to ISCT, macrosocial (universal) and microsocial (communal) contracts determine the ethicality of behavior (Donaldson and Dunfee, 1994, 1995, 1999). Macrosocial contracts are based on major philosophies and religious concepts to justify the ethicality of segmentation. On the other hand, microsocial contracts depend on the community context to evaluate the ethics of segmentation application. From ISCT perspectives, segmentation ethics should rely on both macrosocial and microsocial contracts. While microsocial contracts indicate that the justification of segmentation use may vary across communities and require further empirical research, macrosocial norms identify health as a human right (e.g., article 25 of the Universal Declaration of Human Rights) can be referred to as a principle to justify “some form of segmentation in health-related social marketing contexts” (Newton et al., 2013). Despite the findings that support the ethicality of segmentation, there are still limitations in segmentation use guidance, especially on the determination of population segments that should be targeted. TJHC follows three principles: 1) “a right to basic liberties”; 2) “fair equality of opportunity”; and 3) “difference principle”. The first principle states that basic rights are critical to all individuals. “Fair equality opportunity” claims that obstacles should be eliminated to better enhance social positions. The last
principle, “difference principle”, points out that solution that “maximizes benefits” to the most vulnerable group should be prioritized in situations where inequalities exist. Additionally, four conditions are suggested to ensure that “the priorities problem can be resolved in a manner that is consistent with a just health care” (Daniel, 2001): 1) “all decisions restricting health care access to certain segments of the population should be publicly disseminated, along with the arguments underpinning those decisions;” 2) “the criteria used to determine which groups receive access to a specific form of health care should be deemed relevant by all groups;” 3) “an appeals process should be instituted such that earlier decisions can be revised if new evidence supporting alternative decisions is found;” and 4) “the preceding three conditions should be regulated through voluntary agreements or legislation.” These conditions support the ethical frameworks in health promotion as they emphasize equitable access to health care and interventions, respect all groups’ opinions, evidence-based process, and free of force. From TJHC perspectives, segmentation used in social marketing campaigns is ethical when it “protect individuals’ access to the normal opportunity range” in health care. Hence, TJHC support segmenting based on cost-effectiveness (consequentialism) or need (non-consequentialism) as long as the decision-making process is publicized and evaluated (Daniels, 2001). Accordingly, both ISCT and TJHC justify the use of segmentation in health promotion. Moreover, Newton et al. (2013) recommend that in order to maintain the cost-effective characteristic of segmentation, the end result should be focused. The use of segmentation in health-related contexts requires careful consideration of health distribution and “what is really needed” among the target (Newton et al., 2013). Therefore, audience segmentation is
ethical as it satisfies the requirements of both consequentialist and non-consequentialist perspectives. Particularly, it is ethical if it is audience-centric, providing fair health distribution, contextually and culturally appropriate, and producing beneficial outcomes.

**Ethics of conducting effective segmentation.** According to Andreasen (2001), choosing effective strategies and tactics is one of health promotion’s ethics criteria. However, the definition of effectiveness and efficiency in health promotion is different from the commercial context because health promotion’s purpose is to enhance people’s health outcomes and advance social good, and is conducted in an environment where the product being made available is focused on health behaviors. Therefore, it is important to examine the ethics of effective audience segmentation following ethics criteria. Firstly, effective segmentation should help practitioners to create ethics parameter for targeting an audience segment. Secondly, it ought to provide a better understanding of audience’s particular needs, cultural values and beliefs, and socioenvironmental factors in order to tailor the campaign to be relatable, appropriate and persuasive to the audience. In addition, it supports campaign to achieve three principles of TJHC, as a result, create equitable health access for both the individual and all people. Lastly, it leads to effective strategies and tactics to meet the campaign’s objectives, improve welfare of the people, and prevent adverse effects. As mentioned above, the act should commit to citizen centric planning and fair health intervention distribution and minimize harmful effects. Hence, effective audience segmentation should assure that each phase of the promotion process meets these requirements. According to Carter (2014), “the ethics of health promotion also means recognizing health promotion as a normative ideal: a vision of the good
society” (p.19). Accordingly, from ethical perspective, effective segmentation should be examined under the lens of utilitarianism/consequentialism, deontology/non-consequentialism, liberalism and contextualism.

Firstly, liberalism aims for “the greatest good for the greatest number” with the emphasis on the equal right to free choice (Feinberg, 1984). This principle overlaps with “obtaining the equivalence of informed consent” that concerns who has the right to decide the wellbeing of a community. In fact, the opinions of vulnerable group are needed to be considered, along with the opinion of authoritative individuals. Andreasen (2001) supports “favor of free choice” as disrespecting people’s opinions results in social control or manipulation. In addition, segmentation that is determined based on the organization’s own problems (i.e., low budget, shortage of staff, etc.) does not support effective strategic planning and delivery. For example, Bang (2000) stated that misplacing media is due to the practitioners choose the communication channel that benefits their budget, not the audience. As a matter of fact, in order to create better solution, people, especially those that are affected by the strategy, should be considered in the decision-making process (Carter, 2014). Hence, people’s opinion should be considered in segmentation to improve the effectiveness and efficiency, as well as ethics, of health campaign.

Secondly, contextualism is an ethical theory that is closely associated with moral relativism, an ethical doctrine that claims that moral values depend on society’s approval (Timmons, 1998). As a matter of fact, social factors, such as culture and history, have great impact on moral reasoning and justification. Contextualist doctrine is partly covered
in Guttman’s examination of targeting and tailoring public health messages, and harm-reduction messages. He states that it is important to present the information in a format that reduces stigma and is appropriate to the audience. As segmentation is a key activity in audience analysis, it is important for segmentation to follow the principles of contextualism. Fail to apply contextualism can lead to audience’s rejection, ignorance or incomprehension of the messages. In addition, it is vital to analyze and utilize all seven characters and profiles used in segmentation to determine the most effective and least harmful strategies and tactics. Hence, effective segmentation is the one that based on audience’s personal interest, cultural values and beliefs, and evidence to provide useful insights for the designing of strategies and support practitioners’ choice of using them.

Further, deontology, similar to non-consequentialism, is an approach of ethics which states that morality of an action is based on rules or obligations, such as law, ethic codes, religious law or cultural values. This doctrine, in contrast to utilitarianism or other consequentialist moral theories, claims that “means” or action is more important than “end” or consequences (Lippert-Rasmussen, 2005). (2004) agrees with deontological ethics as he highlights the significance of utilizing ethical tactics. He claims that interventions that are sensitive to ethical concerns are believed to gain more trust from the intended audience and have higher quality implementation phase. Moreover, Andreasen (2001) emphasizes that effectiveness and efficiency of the act is determinant of ethics. From deontological perspective, segmentation in health promotion is ethical when it targets the audience with good intentions and high level of effectiveness. So, the campaign is not yet ethical if the motive behind targeting moderate-risk segment is to
better influence high-risk segment. In order to be ethical, the campaign has to promote unity and reduce the chance of stigmatizing the high-risk segment. Additionally, according to Carter (2014), health promotion campaign should prevent unfair distribution of benefits and harms between groups. Therefore, ethical effective segmentation should eliminate the gap of benefits and harms between different groups.

Lastly, like consequentialism, utilitarianism is a moral doctrine that is based on the idea that a behavior is considered morally good if it leads to the greatest wellbeing for the greatest number of people (Mill, 1991). This doctrine is briefly considered in Guttman’s discussion about unintended adverse effects. The concern is that these effects may cause detrimental outcomes to individuals which prevents the campaign from achieving the “greatest good” (Mill, 1991). Under the lens of utilitarianism, effective segmentation is ethical when it targets the audience that can help the campaign to achieve “the greatest good” (i.e., benefit the target population, fair distribution of product, achieving desired outcomes, can potentially influence other groups, etc.). Therefore, it is ineffective and unethical to choose a segment based on short-term outcomes. Targeting a segment should not depend only on how it assists the campaign to achieve the objectives easiest. Instead, an effective segmenting should maintain the beneficial long-term effects of the campaign.

In summary, the ethics of conducting effective segmentation is to maintain and achieve the audience-centric characteristic, fair health distribution, contextual and cultural appropriateness, and beneficial outcomes of health promotion campaign. The effectiveness of segmentation has to be examined and justified under ethical
philosophies, health promotion ethics and segmentation’s ethical frameworks (i.e., ISCT and TJHC). Moreover, as health promotion aims for a long-term impact, scholars highlight the significance of unintended consequences and unintended audience. Because the resources are targeted toward researching intended audience and achieving intended consequences, health promotion practitioners often fail to notice the effects the campaign has on the unintended audience and the unintended consequences it has on both intended and unintended audience. Unintended audience and unintended consequences can affect long-term effects of the campaign. Therefore, as long-term ramification is a crucial factor in evaluate the ethics and effectiveness of the campaign, unintended audience and unintended consequences should be considered.

**Ethics of unintended audience and unintended consequences.** So, how do unintended audience and unintended consequences affect audience segmentation to achieve people-centered characteristic, contextual and cultural appropriateness, fair health distribution and beneficial outcomes?

Firstly, because the unintended audience is not enabled to make their own choices about the health intervention campaign, audience segmentation does not commit to “respect for autonomy” principle. As a matter of fact, the unintended audience do not receive equal right to free choice which is essential in liberalism, health promotion and segmentation ethics. In this case, the requirement to include all groups in planning and delivery process is disregarded. Additionally, without considering unintended audience, segmentation does not follow TJHC’s principles, “a right to basic liberties” and “fair
equality of opportunity” (Daniel, 2001). Hence, it can contribute to social control as unintended audience involuntarily involve in the intervention or is indirectly manipulated.

Secondly, because individuals are surrounded by the interpersonal, organizational, community and policy levels, interaction and impacts between groups will be created during the intervention process (Dahlberg et al., 2002). Moreover, according to ISCT, microsocial contracts are created in community level. Furthermore, situational ethics/ethics-in-practice everyday practices often rely on the current context where the campaign is occurring to evaluate the ethicality of the conduct (Carter, Mayes, Eagle & Dahl, 2017). The existence of unintended audience can change ethics-in-practice. For example, a breast cancer campaign, which targets young women in underdeveloped countries, encourages the women to openly discuss the symptoms with each other. The unintended audience of this campaign is older women who find this campaign inappropriate and immoral as it promotes social taboo, such as discussing and touching women’s breasts. As a result, younger women are discouraged following the desired behavior that can improve their health outcomes. So, intended and unintended audience can influence each other’s perception of ethics and effectiveness, and response to the campaign.

Thirdly, unintended consequences are evidences that indicate a need for modification of the campaign. According to TJHC, practitioners have to come up with different alternatives, if there is new evidence that does not support current solutions. So, ignoring unintended consequences limits the campaign’s impact. Also, excluding unintended audience is against fair distribution of health intervention as unintended
audience are not offered solutions for their problems. As a matter of fact, audience segmentation in health promotion contexts requires careful consideration of health distribution and people’s needs. Hence, the campaign is not considered ethical and effective if it excludes both unintended audience and consequences.

Lastly, unintended consequences may cause the campaign to not achieve greater outcomes and social good. According to Cho & Salmon (2007), “short- and long-term effects may differ not only in terms of strength but also in terms of direction.” As a matter of fact, unintended or undetected outcomes may be more likely to be discovered over the long term. For instance, obesity awareness campaigns often target the audience’s eating habits or activity levels. The emphasis on these factors may lead to culpability as the targets are blamed for their health outcomes. In the long term, the stigmatization against obese people is reinforced. Consequently, the audience will be more likely to reject recommended behaviors due to negative social and psychological impacts. They may also refuse to identify as being a member of the target audience due to the stigmatization it would include. According to Guttman (2004), there are “three types of unintended adverse effects associated with public health communication activities that may label and stigmatize, expand social gaps, and promote health as a value” (p. 546). He states that unintended effects are important as they can have disadvantageous outcomes on individuals and society. The first unintended adverse effect is audience labelling and stigmatization. Individuals may suffer from being feared, avoided, or blamed for engaging in the behaviors that are associated with negative health outcomes. For instance, HIV/AIDS intervention that shows vulnerable populations’ lifestyle may cause certain
people to be avoided due to their race or sexual orientation. So, messages that label and stigmatize can cause “internalization of self-blame and destruction of self-esteem” (p. 547). In addition, the relation between stigmatization and age should be considered. According to Angermeyer and Dietrich (2006) who studied attitudes toward people with mental illness, people in older age group reported higher levels of stigma toward people with mental illness. Hence, in this study, it is crucial to look at whether people in different age groups indicate different levels of stigma towards the intended audience of the health promotion campaign. In other words, the study examines if younger or older people have more stigmatizing attitudes toward the intended audience. Secondly, Guttman (2004) concerns with the “social gaps” existing in public health. The first gap is a “knowledge gap” between different socioeconomic groups. Research indicates that higher socioeconomic groups have greater adherence and are more likely to adopt recommended behaviors, “though motivation to do so may have been similar across different populations” (p.549). This is an ethical problem in public health as the dissemination of information is inequitable between different groups which may increase inequalities in health care. Another “social gap” is that “certain recommendations presented persuasively in health messages may deprive disadvantaged populations of practices they enjoy, or that have become part of their identity or daily routine” (Guttman, 2004). An anti-smoking campaign that targeted Vietnamese American men who commonly carry a pack of cigarettes is one example of this issue. The program classifies the behavior as negative and should not be followed. However, the act of carrying a pack of cigarettes around and offering cigarette to others is seen as an
important social practice. Despite the goal of preventing smoking-related diseases among the target, the messages that are tailored for this group labels their social practice as doing harm to others. As a result, these men are forced to adopt the recommended behaviors due to the feeling of guilt, instead of voluntarily following them. Therefore, health communicators are obligated to consider the effects that health messages can have on cultural practices and the target. The last unintended adverse effect is “health as an overriding value might have on individuals and society” (p. 550). On individual level, the more being healthy is considered a significant virtue, the more likely unhealthy individuals are perceived as unworthy. On societal level, critics concern that health promotion may raise public expectations for healthcare system. However, because of healthcare disparities, only the more powerful groups’ demands for the system are acknowledged and satisfied. As a matter of fact, promoting health as a value may identify the state of being healthy and the pursuit of health into moral virtues. Consequently, individuals who are unable to meet these standards may be criticized and perceived as unethical. Therefore, because of unintended consequences, more harms are created and the impact to the campaign is decreased.

In conclusion, segmentation is a crucial component of health promotion. It is perceived as an effective tool to advance the benefits and the resources provided to the health-related campaigns. Audience segmentation in health promotion should be examined different from segmentation in commercial context, especially in ethics and effectiveness. In health-related contexts, ethics and effectiveness should connect and support each other. Effective audience segmentation should aim for ethics criteria, such
as audience-centric, fair health distribution, contextual and cultural appropriateness, and beneficial outcomes. In addition, it is crucial to include unintended audience and unintended consequences in segmenting process. Disregarding unintended audience and unintended consequences can deteriorate ethics, as well as effectiveness and efficiency, of the campaign. Therefore, this study examines whether the use of ethical segmentation can improve the effectiveness and efficiency of the campaign, as well as allow practitioners to identify unintended audience and unintended consequences. Two ethical approaches of segmentation, consequentialism and non-consequentialism, will be used to determine the audience segments that the campaign targets.
Chapter three: Research Questions

The prominent challenge of health promotion is sustaining the connection between ethics and effectiveness for promotional activities and process. Professionals have pointed out numerous challenges to achieve ethicality while at the same time being effective in health campaigns. The challenges include shortage of financial resources, the lack of analysis of social context and the absence of ethical considerations. Health communication ethics and social marketing ethics have provided guidelines focusing on people/audience, promotion acts, and consequences to instruct ethical practices and to tackle these challenges. They encourage the use of the fundamental ethical principles in health care, such as nonmaleficence, respect for autonomy, promotion of social justice and beneficence, in health promotion programs. Ratzan (1998), Andreasen (2001) and Carter (2014) emphasize the significance of including people, especially who are affected by the campaign, in the decision-making process. Moreover, ethicality, effectiveness and efficiency of the act, and long-term ramifications are suggested in their ethical frameworks. In addition, these frameworks aim for fair distribution of benefits and harms between different groups. Andreasen (2001) also especially highlights the importance of considering the different impacts on unintended and intended audiences, as well as consequences, in the ethical assessment of health campaigns. In brief, health promotion ethics suggest that health promoters should respect the communities, avoid unethical and harmful practices, and pursue beneficial and ethical consequences.
Audience segmentation is one of the most crucial elements that determine the ethics and effectiveness of health campaigns. As one of the eight-point benchmark criteria of social marketing, segmentation is believed to maximize effectiveness, and to solve the problem of limited resources by targeting the resources to the most promising segments (McDonald and Dunbar 2012). Hornik and Ramirez (2006) state that it assists campaign planning and delivering by providing sociocultural knowledge. Even though audience segmentation faces some concerns regarding ethics, its ethicality is justified by ISCT and TJHC. Both frameworks claim that audience segmentation is able to meet requirements of consequentialism and non-consequentialism. Specifically, it allows the campaign to achieve “the greatest good” and commit to audience-centric planning and delivering. THJC and ISCT states that ethics of segmentation depends on whether it assists the campaign to be audience-centric, allows fair health distribution, encourages contextually and culturally appropriate acts, and supports the campaign to achieve the most benefits and produce the least harm. So, effectiveness and efficiency are defined differently for audience segmentation in health promotion. First, segmentation is not effective if its process is deemed unethical under the lens of normative and applied ethics. In other words, it has to aim to improve people’s health outcomes, promote social good and justice, and commit to the audience-centric characteristic, fair health distribution, contextual and cultural appropriateness and beneficial outcomes. Secondly, it should support ethical and effective strategies and tactics. The audience’s characteristics and profiles provided by segmentation are the key to successful promotional acts. Practitioners need to include people’s opinion in the segmenting, planning and delivering
process. Lastly, segmentation should draw attention to unintended audiences and unintended consequences. Excluding these factors can negatively affect the campaign by creating adverse impacts, such as social control and social gap. Unintended audience and unintended consequences are crucial to ethics, as well as effectiveness and efficiency, of the campaign. Therefore, audience segmentation ethics in health promotion concerns with the effectiveness and efficiency of the campaign, especially on unintended audience and unintended consequences.

This study’s purpose is to explore three aspects regarding the connection between effectiveness and ethicality of segmentation in health promotion. First, the study considers how health messages affect and are perceived by intended and unintended audiences behaviorally, cognitively and emotionally. Different health messages will be designed for each group of audience. The study defines intended audience as the population that is specifically targeted in the campaign due to the level of risk they are facing and/or the benefits they can create for the campaign. On the other hand, unintended audience is described as the group that is not the focus of the campaign. However, they are still directly or indirectly impacted by the campaign. The audience is segmented by consequentialist and non-consequentialist targeting. Under consequentialism, choosing the intended audience has to meet the requirements of normative and applied ethics and support the campaign to achieve the greatest outcomes. Specifically, the campaign should respect free choice, utilize ethical and effective strategies and tactics, and create beneficial outcomes for both the campaign and the audience. Moreover, practitioners should be able to collect and analyze information about
this group in order to create ethical, effective strategies and tactics. In addition, the audience should need the intervention program at a certain level and can influence unintended audience. This study chooses female students, aged from 18 to 25, studying at University of Denver (DU) as the intended audience for consequentialist targeting, because they meet the conditions of this framework. In addition, this group is specifically targeted because: 1) they are at risks of binge drinking and 2) they can influence other groups. According to CDC (2018), two age groups, 18-24 and 25-34, are most likely to involve in binge drinking. Additionally, according to Tavolacci et al. (2019), frequent binge drinking is significantly common between 18 and 25 years. Also, frequent binge drinking between this age group “appears to be a risk factor for alcohol dependence in adulthood” (Tavolacci et al, 2019). Moreover, Hoeppner et al. (2013) points out that sex differences can impact drinking motives. The study finds that female college students are more likely to exceed weekly alcohol limit than men. Besides being the group that has high risks of binge drinking, women are experiencing a major cultural shift in perceptions about drinking. According to Kindy and Keating (2016), heavy drinking is normalized among female population. Women in the U.S. are drinking more than women of previous generations. Therefore, based on these four reports, female students, aged 18-25, are at the most risks of binge drinking. Further, women are more likely to share health information than men. According to 2017 Health Information National Trends Survey (HINTS) (2018), 19% of women said that they often shared health information on social media. Moreover, females are more proactive and engaged in searching and discussing health issues with others (Ek, 2015). Thus, female students are believed to be more
involved in sharing health-related issues than male students. Non-consequentialist targeting should also follow normative and applied ethics. However, targeting a more general population is preferred. In this study, all DU students, staff and faculties are reached for non-consequentialist targeting. Second, the study examines how the application of an ethical segmentation using consequentialist versus non-consequentialist frameworks influences intended and unintended consequences of a social marketing campaign. In other words, with the support of an ethical segmentation, can health promotion practitioners forecast the unintended consequences that decrease or increase the effectiveness and efficiency of the campaigns? Lastly, it will look into the relationship between consequences, both intended and unintended, and audience, both intended and unintended.

The study proposes the following five hypotheses:

**H1:** Targeted messages will have greater intended cognitive, emotional and behavioral impacts on the intended audience than they will on the unintended audience.

**H2a:** The consequentialist targeting will result in the intended audience recognizing messages targeted toward them, rather than non-consequentialist targeting which will result in no difference in recognition of the message targets.

**H2b:** When using the consequentialist targeting, the unintended audience will find the messages less important and less engaging than the intended audience. When using non-consequentialist targeting, there will be no difference in how important or engaging the messages are rated to be between intended and unintended audience members.
**H3:** The unintended consequence of using consequentialist targeting will be that unintended audience members will be more likely to stigmatize the intended audience as binge drinkers than intended audience members.

**H4:** Using consequentialist targeting will result in greater likelihood to adopt desired behavior of intended audience than among the unintended audience, whereas using non-consequentialist targeting result in the same level of behavioral impact on both intended audience and unintended audience.

**H5:** The unintended consequences of using consequentialist targeting will be that unintended audience members will have less behavioral, cognitive and emotional impacts than intended audience members.

The study adapted Do You! Campaign from UC Berkeley, a university in Northern California, to test these hypotheses. The campaign is a binge drinking prevention campaign targeting college students at UC Berkeley. The study wanted to examine the relationship between audience segmentation ethics and effectiveness by creating health promotion campaign that focused on this public health issue that was common among universities and colleges (i.e., binge drinking).
Chapter four: Method

Overview

The study utilized quantitative, experimental method to examine the intended and unintended impacts of segmentation in three aspects: cognition, behavior and emotion. Additionally, it analyzed how these impacts affected the audience, both intended and unintended. Also, the method looked at the relative relationship between segmentation, consequentialist and non-consequentialist frameworks, and intended and unintended consequences of the campaign. Firstly, consequentialist targeting chose the segment that created the best consequences. In other words, the target segment had to create mutual benefits for the audience and the actor. For example, binge drinking campaign targets college freshmen and sophomores in order to achieve better outputs (i.e., message distribution, event participation, media impression, etc.) and outcomes (i.e., improve binge drinking knowledge, decrease in binge drinking cases, etc.). On the other hand, non-consequentialism supports population-wide targeting. Campaigns that advantage a general population are preferred under non-consequentialism principles. In order to examine the impact of consequentialist and non-consequentialist targeting, a binge drinking campaign was designed. The study applied consequentialism by targeting a particular group as the intended audience. For consequentialist, the intended audience were DU female students, aged from 18-25. The messages were designed to appeal to
this group of audience. The intended audience’s opinion regarding the elements used in the message were provided through a mini survey in order to adjust the messages to become more credible, understandable, relevant, and engaging to the audience. For non-consequentialist targeting, a broad population was approached. In this study, DU students, staff and faculties were considered the audience. Messages used policy, health center’s information and/or national data to raise awareness and educate about binge drinking on DU campus. The messages were designed to target the intended audience and to achieve intended behavioral, emotional and cognitive consequences. However, the study perceived that they could be received by unintended audience and could create unintended consequences. So, the experiment was to examine the intended and unintended impacts targeted health messages had on intended and unintended audiences, and how different the effects were for consequentialist and non-consequentialist targeting.

Procedure

Campaign. The campaign messages were based on the Do You! Campaign from UC Berkeley. Modifications were made to become more suitable to University of Denver (DU)’s culture and environment following DU’s Brand Visual Guide and suggestions from DU Health Promotion Office. A 2013 report indicates that DU records a high number of students admitted to hospitals and detoxification facilities (2014). In 2013, there were 107 students transported to detox for alcohol consumption. From September 2013 to January 2014, 19 students were sent to the hospital and 53 students sent to detoxification facilities due to alcohol overconsumption (Banet, 2014). Considering that
binge drinking and detoxification were significant issues among the students, the messages intended to: 1) raise awareness about the risks of binge drinking among target audience; 2) promote safer drinking habits and environment; and 3) encourage behaviors that prevent binge drinking and/or help people who are intoxicated due binge drinking.

The experiment was divided into two stages. In the first stage, a mini survey was conducted to formulate the messages and the online survey’s measurements. The second stage was an online survey which delivered to the sample and contain different messages and measures to test the research question and hypotheses.

**Messages.** There were four versions of the message created, two of which applied non-consequentialism and the others applied consequentialism. Moreover, one message of each group used “rewards tactics” and the other used “scare tactics”. The non-consequentialist or non-targeted messages were designed for everyone at DU, so the content and design had to be generic. First, biological gender symbols were used to ensure that everyone can refer the messages. Second, national or DU’s statistics related to binge drinking were used to emphasize that binge drinking was a common public health issue at DU and in the U.S. Lastly, orange and sand yellow from DU’s Brand Guidelines were used as the main colors, so that people recognized that the messages related to the university. On the other hand, the consequentialist or targeted messages focused on DU female students. The messages chose graphics that closely relevant to this population. In addition, they used dark red and crimson gold from DU’s Brand Guidelines. Lastly, the slogan, “Do U!”, highlighted the intended purpose of the
messages which was to persuade the intended audience to control their own choices when
drinking alcohol.
Figure 1. Poster of message using non-consequentialist targeting and scare tactics
Figure 2. Poster of message using non-consequentialist targeting and reward tactics
Figure 3. Poster of message using consequentialist targeting and reward tactics
**Mini survey.** The purpose of the mini survey was to learn about the intended audience under consequentialist targeting. The study recruited 10-12 participants of the targeted audience for the message development and pretesting in the mini survey using Qualtrics. A few recruited participants were asked to invite their friends who fit the recruiting characteristics to join the study. In other words, snowball convenience sampling of the target audience was conducted. Snowball sampling is a type of convenience sample. It is used to ease data collection of participants who meet certain criteria. In this study, participants evaluated the massages in order to provide important changes for and finalize the messages before they were included in the survey. In other
words, the editing of the messages followed the feedback provided by the participants. Also, the mini survey helped to test the validity of the messages, such as content validity. It examined if the participants could understand the intended purposes and interpret the messages in the way they were intended. For example, if the message asked the participants to drink healthily and do not let anyone influence their choices, could participants recognize its purpose? Furthermore, they were asked for suggestions in terms of emotion, cognition, and behavioral motivation. In addition, the mini survey will test message relevance, realism, understandability and believability among participants. For instance, is the content of the message easy to understand, do they find the message interesting and relevant to them, and how to improve the message. Lastly, the participants will be asked to evaluate the peripheral design of the posters and how to improve it.

Moreover, the targeted messages were reviewed by DU Health Promotion Office to ensure that the messages meet DU’s promotion guidelines. After receiving the feedback from the mini survey, the messages’ content and design were adjusted as the follows: 1) A specific timeline (e.g., “two hours”) for safe alcohol consumption was added; 2) The call-to-action statement was shorten and more direct; 3) Statistics and information focused more on binge drinking were added; 4) Citations for the statistics and information used were added; 5) The old colors were change to brighter ones; And, 6) The graphics was changed from two different girls to a diverse group of girls to ensure inclusiveness. The edited messages will be used for the online surveys.

**Online (survey) experiment.** An internet-based survey was used to test health messages and their impacts. This online survey was considered a convenience sample,
which only questioned a sample of the population in order to infer how the population would react to the messages based on the responses of the sample. Participants were recruited via DU Institutional Research and Analysis (IRA). The participants who met criteria (i.e., people who are studying or employed at DU) were invited to join the survey. The participants were randomly assigned into 4 groups, each group was assigned a version of the health promotion messages. They were randomly assigned by the randomization function in Qualtrics. Then, they were asked to respond to the questionnaires about the messages assigned to test for reactions.

Questionnaires were created to collect information in the survey. They focused on behavioral, cognitive and emotional perspectives that were impacted by health messages. Moreover, a measure of health messages’ impacts reflected these three elements. In addition, criterion validity was to examine the correlation between the massage and related variables. For instance, if different element was focused in the message, how this element correlated with the participants’ attitude. Lastly, the survey was conducted to determine how intended and unintended audience differ in their reactions to different messages. The participants also provided opinions of who they perceive as intended audiences, and the purposes of the messages.

Participants. People who were studying or employed at University of Denver (DU) were the population and a convenience sample of 360 students from the population was drawn by IRA’s randomization system to circulate the internet survey and complete over a 4-week period.
Convenience sampling is a type of nonprobability sampling. It allows researchers to conduct pilot-tests for their measurement techniques and determine “the feasibility of administering particular treatments in an experiment (Orcher, 2005). For this study, the participants were selected because of easy accessibility, geographical proximity and willingness to participate in the study. Information collected from the sample was to examine the reaction of the participants to each different message. However, as elements included in the sample were based on subjective methods, convenience sampling is presumed to be a biased sample (Orcher, 2005). Hence, the sample might not represent all individuals at DU’s reaction to different messages.

**Measurement**

The study divided the variables into independent variables, and dependent variables. Independent variables were those that the experimenter measures or manipulates in an experiment to examine its effects on the dependent variable. In this study, the main independent variables were intended and unintended audiences, consequentialist and non-consequentialist targeting, and targeted and non-targeted messages. Dependent variables were those that were measured each time the independent variable was changed. Dependent variables were intended and unintended consequences that occur after being exposed to campaign messages. The behavioral, cognitive and emotional impacts was also dependent variables.
**Intended versus unintended audience (independent variable).** Intended audience and unintended audience were assumed to have a direct effect on the dependent variables, such as emotional, cognitive, and behavioral impacts. Intended audience were DU female students, aged from 18-25. Unintended audience were all individuals who associated with DU, such as other groups of students, faculties, and staff.

**Targeted versus non-targeted messages (independent variable).** Two groups, targeted and non-targeted messages, could control dependent variables. For example, targeted messages were expected to create greater emotional, cognitive, and behavioral impacts on intended audience because they were designed for this group of audience.

**Consequentialist versus non-consequentialist targeting (independent variable).** Consequentialist or non-consequentialist targeting were applied to design the messages and determine the intended and unintended audience. Hence, they could have direct effects on the dependent variables. For instance, using consequentialist targeting on intended audience could increase the emotional, cognitive, and behavioral impacts of that group.

**Behavioral impacts (dependent variable).** Behavioral impacts were measured by a Likert scale of questions designed to indicate their behavioral intentions. The impacts were perceived as intended impact and unintended impact. Intended behavioral impacts were desired behavioral outcomes, such as the audience’s willingness to adopt the call-to-action, ability to recall the message and likelihood to share the message.
On the other hand, the unintended impacts were refusal to follow the call-to-action or ignore the message. A Likert scale is often used to measure attitudes, perceptions and behavioral changes (Vogt, 1999). Respondents chose from a five-point scale.

Examples:

1. How difficult or easy, on a scale from 1 to 5, 1 being very difficult and 5 being very easy, would you rate the action(s) which the message encourages you to follow? - I find the action(s) which the message encourages me to follow

2. Please indicate your level of likelihood with the following statement, on a scale from 1 to 5, 1 being very unlikely and 5 being very likely - How likely would you follow the action(s) that the message asks you to do?

3. Please indicate your level of likelihood with the following statement, on a scale from 1 to 5, 1 being very unlikely and 5 being very likely - How likely would you discuss this message to your friends and family?

**Cognitive impacts (dependent variable)**. Cognitive impacts were measured by a Likert scale. Respondents chose from a ten-point scale. The cognitive impacts aimed to study participants’ process of understanding the messages. Specifically, the participants were asked to describe their thoughts about the messages and how they were designed. The cognitive impacts include ability to recognize the target audience, high message understandability, and reasonable and easy-to-follow call-to-actions.
Examples:

1. Please rate your thoughts about the message on a scale from 0 to 10, which description better describes your thoughts about the message, 0 being completely complicated and 10 being completely straightforward?

2. Please rate your thoughts about the message on a scale from 0 to 10, which description better describes your thoughts about the message, 0 being completely discouraging and 10 being completely encouraging?

3. Tell us who do you think is the audience of the message?

**Emotional impacts (dependent variable).** Emotional impacts were measured by the Semantic Differential Scale (Bradley & Lang, 1994). Semantic Differential Scale often consists of 18 bipolar adjective pairs that are each rated along a nine-point scale. In this study, respondents rated eight pairs along a ten-point scale. The sets are:

- Sad-Happy: examined how the participants felt about the information about binge drinking provided in the messages.
- Guilty-Innocent: examined if the way binge drinking problem addressed in the messages made the participants felt good or bad whether they perceived themselves as the intended audience or not.
- Scared-Fearless: examined whether the participants were confidence in improving binge drinking problem.
- Anxious-Calm: examined how the participants rated their emotion after learning about binge drinking and the messages’ call-to-action.
• Disgusted-Pleased: examined how the participants felt not only about the binge drinking problem and/or the population mentioned in the messages.

• Not surprised-Surprised: examined if the participants found the statistics provided in the message new to them and how they felt about them.

• Ashamed-Proud: examined how the participants, whether as the intended audience or not, rated their emotion related to binge drinking.

These pairs were used to measure how participants’ emotional perspectives were impacted by the health messages.
Chapter five: Analysis and Results

A total of 360 participants responded to the survey. The sample of participants was asked demographic questions that cover factors such as age, gender, student class standing and living location. 51.4% (n = 185) identified as female, 17.2% (n = 62) identified as male, 1.1% (n = 4) identified as non-binary, gender neutral or genderqueer, and 30.3% (n = 109) preferred to not identify. The ages of participants ranged from 18 to 62 years old with most 68.1% (n = 245) older than 25 and 31.9% (n = 115) is 25 or below. Participants were predominantly graduate students, at 47% (n = 169), 22.2% (n = 80) was undergraduate students, 1.4% (n = 5) was faculties or staff, and 29.4% (n= 106) preferred to not answer. Lastly, 5.8% (n = 20) was living on campus and 63.1% (n= 227) was living off campus, and 31.1% (n = 112) did not answer.

Survey response data was downloaded from the Qualtrics website as a comma separated values (.csv) file. This file was loaded into IBM SPSS Statistics Version 26 (IBM Corporation, 2019) and statistically inspected for patterns to make objective judgement of normality. Then, the data were dummy coded to transform categorical variables (i.e., age, gender, class levels) into dichotomous variables. Data were, then, screened for normality test. The test was used to determine if the dependent variables were approximately normally distributed for each category of the independent variables (Kim, 2013). The skewness of all cases was not near +/-1 and the kurtosis of all cases.
was smaller than 1. Thus, the data were normally distributed, in terms of skewness and kurtosis. The next step was to examine each hypothesis.

**H1:** Targeted messages will have greater intended cognitive, emotional, and behavioral impacts on the intended audience than they will on the unintended audience.

First, the study looked at the main effect difference across four versions of the poster for emotional, cognitive and behavioral impacts. The significance values for the effects of the messages for emotional and cognitive impacts were greater than .05 (p = .001) indicating that there were significant differences across the 4 posters. However, the effect of the messages on the behavioral impact between groups was not significant (p = .781). Among the posters, poster of message using consequentialist targeting and reward tactics and poster of message using non-consequentialist targeting and reward tactics had greater emotional, cognitive impacts, and behavioral impacts.
Table 1.1
The Emotional Impacts Results for The Main Effect Difference Across Posters

<table>
<thead>
<tr>
<th>Effect</th>
<th>Value</th>
<th>F</th>
<th>df</th>
<th>Error df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>Pillai's Trace</td>
<td>.950</td>
<td>689.140b</td>
<td>8.000</td>
<td>292.000</td>
</tr>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>.050</td>
<td>689.140b</td>
<td>8.000</td>
<td>292.000</td>
</tr>
<tr>
<td></td>
<td>Hotelling’s Trace</td>
<td>18.881</td>
<td>689.140b</td>
<td>8.000</td>
<td>292.000</td>
</tr>
<tr>
<td></td>
<td>Roy's Largest Root</td>
<td>18.881</td>
<td>689.140b</td>
<td>8.000</td>
<td>292.000</td>
</tr>
<tr>
<td>Message Version</td>
<td>Pillai's Trace</td>
<td>.172</td>
<td>2.240</td>
<td>24.000</td>
<td>882.000</td>
</tr>
<tr>
<td></td>
<td>Wilks’ Lambda</td>
<td>.834</td>
<td>2.279</td>
<td>24.000</td>
<td>847.490</td>
</tr>
<tr>
<td></td>
<td>Hotelling’s Trace</td>
<td>.191</td>
<td>2.315</td>
<td>24.000</td>
<td>872.000</td>
</tr>
<tr>
<td></td>
<td>Roy's Largest Root</td>
<td>.140</td>
<td>5.127c</td>
<td>8.000</td>
<td>294.000</td>
</tr>
</tbody>
</table>

a. Design: Intercept + MessageVersion
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.
Table 1.2
The Cognitive Impacts Results for The Main Effect Difference Across Posters

<table>
<thead>
<tr>
<th>Effect</th>
<th>Hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
</tr>
<tr>
<td>Intercept</td>
<td>Pillai's Trace</td>
</tr>
<tr>
<td></td>
<td>Wilks' Lambda</td>
</tr>
<tr>
<td></td>
<td>Hotelling's Trace</td>
</tr>
<tr>
<td></td>
<td>Roy's Largest Root</td>
</tr>
<tr>
<td>Message Version</td>
<td>Pillai's Trace</td>
</tr>
<tr>
<td></td>
<td>Wilks' Lambda</td>
</tr>
<tr>
<td></td>
<td>Hotelling's Trace</td>
</tr>
<tr>
<td></td>
<td>Roy's Largest Root</td>
</tr>
</tbody>
</table>

- a. Design: Intercept + MessageVersion
- b. Exact statistic
- c. The statistic is an upper bound on F that yields a lower bound on the significance level.

Table 1.3
The Behavioral Impacts Results for The Main Effect Difference Across Posters

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>.974(^a)</td>
<td>3</td>
<td>.325</td>
<td>.361</td>
<td>.781</td>
</tr>
<tr>
<td>Intercept</td>
<td>3776.914</td>
<td>1</td>
<td>3776.914</td>
<td>4197.835</td>
<td>.000</td>
</tr>
<tr>
<td>MessageVersion</td>
<td>.974</td>
<td>3</td>
<td>.325</td>
<td>.361</td>
<td>.781</td>
</tr>
<tr>
<td>Error</td>
<td>236.629</td>
<td>263</td>
<td>.900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4028.000</td>
<td>267</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>237.603</td>
<td>266</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- a. R Squared = .004 (Adjusted R Squared = -.007)
Then, to test the first hypothesis, the 360 subjects were categorized into three groups. Group 1 (n= 36) included intended audience that were assigned intended message. Group 2 (n= 46) consisted of intended audience that were assigned unintended message. The last group, Group 3, (n= 221) consisted of unintended audience who were assigned either intended or unintended message.

Emotional and cognitive impacts on each group were tested using multivariate analysis of variance (MANOVA). The purpose of using MANOVA was to determine if the dependent variables (emotional impacts of the intended audience) are altered by the independent variables (targeted or non-targeted messages used) (Tabachnick, 2018). On the other hand, the behavioral impact on each group was tested using analysis of variance (ANOVA), a test which was used to find out if there were any statistically significant differences between the means of three or more independent (Tabachnick, 2018).

ANOVA is used to analyze the means of three groups of independent variables on one dependent variable, behavioral impact. The data were submitted to a general linear model (GLM), a framework used to compare how several variables control or change different interval variables, in SPSS 26 (Field, 2018, p.553).

Two MANOVAs were conducted to test differences across the sets of variables for cognitive and emotional impacts. The first MANOVA was run to test the emotional impacts. The multivariate tests table displayed four tests of significance, such as Pillai’s trace (p = .452), Wilks’ Lambda (p = .452), Hoteling’s trace (p = .451) and Roy’s largest root (p = .143), for the model effect. The significance values for the effect of audience*message was greater than .05 indicating that it did not contribute to the model.
One of the emotional impacts, the anxious-calm variable, was statistically significant \( (F[2, 303] = 3.706, p = .026) \), the other emotional variables were not significant \( (p > .05) \). As illustrated in Table 1.1., people in Group 1 felt happier more fearless, calmer, more pleased and prouder than the other two groups. On the other hand, Group 2 reported higher emotional rates in innocence and excitement. Lastly, group 3 was more surprised because of the messages than the two other groups. Therefore, targeted messages have very little emotional impacts on intended audience. The means and standard deviations are reported in Table 1.4.
### Table 1.4

*Emotion Mean Scores and Standard Deviations Across Target Groups*

<table>
<thead>
<tr>
<th>Emotional Impacts</th>
<th>Intended Audience*Targeted Message</th>
<th>Intended Audience*Non-targeted Message</th>
<th>Unintended Audience*Both Message</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Sad - Happy</td>
<td>5.36</td>
<td>1.417</td>
<td>4.89</td>
</tr>
<tr>
<td>Scared - Fearless</td>
<td>6.19</td>
<td>2.328</td>
<td>5.33</td>
</tr>
<tr>
<td>Bored - Excited</td>
<td>4.19</td>
<td>2.352</td>
<td>4.35</td>
</tr>
<tr>
<td>Anxious - Calm</td>
<td>6.22</td>
<td>2.392</td>
<td>5.07</td>
</tr>
<tr>
<td>Disgusted - Pleased</td>
<td>5.56</td>
<td>2.273</td>
<td>4.72</td>
</tr>
<tr>
<td>Not Surprised – Surprised</td>
<td>2.94</td>
<td>2.425</td>
<td>3.24</td>
</tr>
<tr>
<td>Ashamed - Proud</td>
<td>5.78</td>
<td>1.869</td>
<td>5.00</td>
</tr>
</tbody>
</table>

Next, the MANOVA tests table for cognitive impacts displays four tests of significance, such as Pillai’s trace (p = .005), Wilks’ Lambda (p = .006), Hoteling’s trace (p = .006) and Roy’ largest root (p = .007), for the model effect. The significant values
for the audience*message effect indicated that it contributed to the model. Only one of the cognitive impacts results was significant, discouraging-encouraging (p = .017). The participants in Group 1 perceived the target messages more relevant, more encouraging and easier to understand, compared to the participants in Group 2 and Group 3. However, the participants in Group 2 had higher mean scores of motivation, credibility, and straightforwardness than Group 1 and Group 3. The mean differences are presented in Table 1.5.

**Table 1.5**

*Cognitive Mean Scores and Standard Deviations Across Target Groups*

<table>
<thead>
<tr>
<th>Cognitive Impacts</th>
<th>Intended Audience*Targeted Message</th>
<th>Intended Audience*Non-targeted Message</th>
<th>Unintended Audience*Both Message</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Irrelevant - Relevant</td>
<td>7.59</td>
<td>2.002</td>
<td>7.24</td>
</tr>
<tr>
<td>Discouraging – Encouraging</td>
<td>6.24</td>
<td>1.860</td>
<td>5.09</td>
</tr>
<tr>
<td>Uninspiring - Motivating</td>
<td>4.88</td>
<td>2.520</td>
<td>5.28</td>
</tr>
<tr>
<td>Unreliable - Credible</td>
<td>6.68</td>
<td>2.184</td>
<td>6.93</td>
</tr>
<tr>
<td>Complicated - Straightforward</td>
<td>7.44</td>
<td>2.402</td>
<td>7.74</td>
</tr>
<tr>
<td>Understand the Information</td>
<td>1.65</td>
<td>1.041</td>
<td>1.52</td>
</tr>
</tbody>
</table>
Lastly, the ANOVA was used to compare the effects of the targeted message on behavioral impacts was conducted. The ANOVA test showed that the effect of the targeted message combined with the type of audience on the behavioral impact between groups was not significant (F [2, 267] = 2.58, p = .078). The Tukey post hoc test results showed the differences between (1) Intended audience assigned intended message, (2) Intended audience assigned unintended message, and (3) Unintended audience assigned either intended message or unintended message. From the results of the Turkey post hoc test, there is not a statistically significant difference between all three different educational levels (p > .05). The difference between the means for Group 1 versus Group 2 is approximately -0.24. The difference between the means for Group 1 versus the Group 3 is approximately 0.11. The difference between the means for Group 2 versus the Group 3 is approximately 0.35. Group 2 reports the highest mean value. Hence, targeted messages did not create the greatest behavioral impacts on the intended audience. The mean scores are illustrated in Table 1.6.

**Table 1.6**

*Behavior Mean Scores and Standard Deviations Across Target Groups*

<table>
<thead>
<tr>
<th>Behavioral Impacts</th>
<th>Intended Audience*Targeted Message</th>
<th>Intended Audience*Non-targeted Message</th>
<th>Unintended Audience*Both Message</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Difficult - Easy to follow the action(s)</td>
<td>3.80</td>
<td>.211</td>
<td>4.04</td>
</tr>
</tbody>
</table>
Then, the subjects were divided into four groups in order to analyze hypothesis 2, 3, 4 and 5. They were categorized this way because these hypotheses examine the effects of each type of segmentation, consequentialist and non-consequentialist, on each type of the audience, intended and unintended. The first group consisted of intended audience*consequentialist targeting (n=36). The second group was intended audience*non-consequentialist targeting (n=46). The third group was unintended audience*non-consequentialist targeting (n=103.) Unintended audience*consequentialist targeting was the last group (n=118).

**H2a:** The consequentialist targeting will result in the intended audience recognizing messages targeted toward them, rather than non-consequentialist targeting which will result in no difference in recognition of the message targets.

Two-way Chi-square test, a method to analyze the association between two categorial data (Tabachnick, 2018), was conducted to compare the ability to identify the targeted audience of the messages between intended and unintended audience when they either consequentialist or non-consequentialist targeting is applied. In order to conduct the two-way Chi-square test in SPSS26, crosstabs command was proceeded. For hypothesis 2a, I had two variables in the crosstabulation table, audience*targeting and participants’ ability to recognize intended audience.

The chi-square test is highly significant, $\chi^2 (3, 360) = 93.013., p = .001$. This indicated that the ability to recognize the targeted audience differed across each group of audience*targeting. Looking at the standardized residuals, the ability to identify targeted audience for which these were significant was when unintended audience interacted with
consequentialist targeting. It showed the greatest split of whether the participants answered correctly about the targeted audience (12.1%) or incorrectly (87.9%).

Additionally, the standardized residuals for intended audience*non-consequentialist targeting were also significant, 84.8% of participants of this group answered correctly and 15.2% answered incorrectly.

The last two audience*targeting groups, the residuals were lower than 1.96. For intended audience*consequentialist targeting, the residual for ‘correct’ was negative but for ‘incorrect’ was positive. It meant that people who responded correctly was significantly smaller than would be expected. The case was the opposite for unintended audience*non-consequentialist targeting as the residual for ‘correct’ was positive but for ‘incorrect’ was negative. Refer to Figure 1.
**Figure 5.** A contingency table shows participants’ ability to recognize targeted audience.
**H2b:** When using the consequentialist targeting, the unintended audience will find the messages less important and less engaging than the intended audience. When using non-consequentialist targeting, there will be no difference in how important or engaging the messages are rated to be between intended and unintended audience members.

Total N of 360 was reduced to 281 with the deletion of missing responses. A MANOVA test was performed on two dependent variables: engaging levels and importance levels, as indicated in Table 2. Independent variables were audience category and type of segmentation. This test examined if the degree of importance or engagement was affected when each audience category combined with each type of audience targeting. With the use of multivariate tests table, the dependent variables were significantly related to the type of targeting, F(1, 281) = 3.78, p = .024, but not to audience category, F(1, 281) = .943, p = .39, and their interaction, F(1, 281) = .05, p = .961. For these data, there was a statistical difference in important and engaging levels between audience groups, intended and unintended, based on targeting types. It is clear from the means, presented in Table 2, that when non-consequentialist targeting was used, both audience categories found the messages more important and engaging.
H3: The unintended consequence of using consequentialist targeting will be that unintended audience members will be more likely to stigmatize female undergraduates as binge drinkers than intended audience members.

For hypothesis 3, two-way Chi-square was used to test two variables in the crosstabulation table were audience*targeting and perceptions on intended audience, stigmatized as binge drinkers or did not stigmatize as binge drinkers.

To summarize the relationship between two different variables of categorical data, audience*targeting and perceptions on intended audience, stigmatized as binge drinkers or did not stigmatize as binge drinkers. When the audience, intended and unintended, were assigned by consequentialist or non-consequentialist targeting, they might have different perceptions on the intended audience. The test was to compare the differences in terms of stigmatizing the intended audience as binge drinkers between different audience*targeting groups.

The chi-square test is highly significant, $\chi^2 (3, 360) = 13.473, p = .004$. This indicated that the perceptions on intended audience, stigmatized as binge drinkers or did not stigmatize as binge drinkers, were significantly different between the intended and unintended audience groups.
not stigmatize as binge drinkers differed across each group of audience*targeting. As
presented in Figure 6, within each group, the percentage of participants who did not
stigmatize the intended audience as binge drinkers was greater than the percentage of
participants who stigmatize. However, looking at consequentialist targeting specifically,
the gap between stigmatize and non-stigmatize among intended audience is much smaller
than the gap among unintended audience. For example, within intended
audience*consequentialist targeting, 53.3% (n =21) of the responses was ‘non-stigmatize’
and 47.7% (n = 15) of the responses was ‘stigmatize’. However, within unintended
audience*consequentialist targeting, 75.2% (n =106) of the responses was ‘non-
stigmatize’ and 24.8% (n = 35) of the responses was ‘stigmatize’. Looking at the
standardized residuals, only intended audience*non-consequentialist targeting had one
residual greater than 1.96. The other audience*targeting groups, the residuals were lower
than 1.96. Refer to Figure 6.
<table>
<thead>
<tr>
<th>AudienceVNonconsequentialist</th>
<th>Intended Audience nonconsequentialist</th>
<th>Q24_category</th>
<th>Count</th>
<th>not stigmatize</th>
<th>stigmatize</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Expected Count</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AudienceVNonconsequentialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within AudienceVNonconsequentialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Q24_category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standardized Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intended Audience nonconsequentialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Intended Audience nonconsequentialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Q24_category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standardized Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unintended Audience nonconsequentialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Unintended Audience nonconsequentialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Q24_category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standardized Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unintended Audience consequentialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Unintended Audience consequentialist</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Q24_category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standardized Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Count</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected Count</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% within Q24_category</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>% of Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standardized Residual</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 6.** A contingency table shows percentage of participants stigmatize or do not stigmatize intended audience as binge drinkers.
**H4:** Using consequentialist targeting will result in greater likelihood to adopt desired behavior of intended audience than among the unintended audience, whereas using non-consequentialist targeting result in the same level of behavioral impact on both intended audience and unintended audience.

Total N of 360 was reduced to 264 because of the missing responses. To investigate the impact of the interaction between audience category and the type of audience segmentation on the likelihood to adopt the desired behaviors among the audience, a MANOVA test was performed on five dependent variables: the likelihood to encourage your friend(s) to follow action(s), the likelihood to follow the action(s) the messages ask, the likelihood to follow the action(s), the likelihood to follow the recommendations next time the participants drink, the likelihood to mention the messages to friends and families. Independent variables were audience category and type of segmentation. With the use of multivariate tests table, the dependent variables were significantly related to the type of targeting, $F(1, 264) = 3.664, p = .003$, but not to audience category, $F(1, 264) = 2.163, p = .059$, and their interaction, $F(1, 264) = 1.115, p = .353$. Hence, the likelihood to adopt desired behaviors was significantly related to the type of targeting used. However, when considering only audience category, the significance level of the likelihood to encourage friend(s) to follow the action(s) mentioned in the message was significant ($F[1, 264] = 4.814, p = .029$). When using non-consequentialist targeting, the mean values of the likelihood to adopt desired behaviors are higher than when using consequentialist targeting for both kinds of audience. Means and standard are reported in Table 3.
H5: The unintended consequences of using consequentialist targeting will be that unintended audience members will have less behavioral, cognitive and emotional impacts than intended audience members.

Emotional and cognitive impacts on each group were tested using MANOVA. The test was to determine if the dependent variables (emotional impacts on unintended or intended audience) are affected by the independent variables (i.e., audience...
category, the type of audience targeting, or the combination of both). The behavioral impact on the audience was tested using ANOVA. GLM was the chosen procedure to conduct MANOVA and ANOVA for this hypothesis. Total N of 360 was reduced to 303 because of the missing responses.

Firstly, a MANOVA was performed to test if the emotional impacts were controlled by the four audience*targeting groups. For these data, only the test statistics of segmenting types were significant with $F(1, 303) = 2.72, p = .007$. The data of audience category, $F(1, 303) = .616, p = .764$, and audience*targeting, $F(1, 303) = .372, p = .935$, were not significant. Therefore, the emotional impacts on the audience was significantly dependent on the type of targeting applied. On the other hand, the emotional impacts were not significantly dependent on the audience category or the combination of audience category and type of segmentation. In addition, the results indicated that when engaging with messages using consequentialist targeting, both intended and unintended audience report to more fearless ($F[1, 303] = 4.738, p = .03$), calmer ($F[1, 303] = 8.12, p = .005$), more pleased ($F[1, 303] = 5.895, p = .016$) and prouder ($F[1, 303] = 5.454, p = .02$). Refer to Table 4.1.
Secondly, a MANOVA was conducted to test if the cognitive impacts were changed by the four audience*segmenting groups. With the use of multivariate tests, the dependent variables were significantly related to the type of targeting, $F(1, 303) = 4.857, p = .001$, but not to audience category, $F(1, 303) = 1.865, p = .088$, and their interaction, $F(1, 303) = 1.005, p = .423$. So, the cognitive impacts on the audience were significantly dependent on the type of segmentation. Specifically, the significance level...
of discouraging-encouraging was significant ($F[1, 303] = 7.613, p = .006$). As presented in Table 4.2, both intended and unintended audience thought the messages were more encouraging when using consequentialist targeting. Looking at the tests of between-subjects effects, the irrelevant-relevant of audience category was significant ($p = .041$).

Table 4.2 showed that intended audience found the messages more relevant when consequentialist targeting was used ($M = 7.59$, $SD = 2.002$) than non-consequentialist ($M = 7.24$, $SD = 2.272$). However, the unintended audience found the messages more relevant when non-consequentialist targeting was used ($M = 6.69$, $SD = 2.575$) than non-consequentialist ($M = 6.17$, $SD = 2.780$).
<table>
<thead>
<tr>
<th>Cognitive Impacts</th>
<th>Intended Audience</th>
<th>Unintended Audience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Consequentialist</td>
<td>Non-consequentialist</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Irrelevant - Relevant</td>
<td>7.59</td>
<td>2.002</td>
</tr>
<tr>
<td>Discouraging - Encouraging</td>
<td>6.24</td>
<td>1.860</td>
</tr>
<tr>
<td>Uninspiring - Motivating</td>
<td>4.88</td>
<td>2.529</td>
</tr>
<tr>
<td>Unreliable - Credible</td>
<td>6.68</td>
<td>2.184</td>
</tr>
<tr>
<td>Complicated - Straightforward</td>
<td>7.44</td>
<td>2.402</td>
</tr>
<tr>
<td>Understand the Information</td>
<td>1.65</td>
<td>1.041</td>
</tr>
</tbody>
</table>
Lastly, ANOVA was conducted to find out if there were any statistically significant differences in the means of behavioral impacts between the four audience*targeting groups. The significance values for the segmenting types (F[1, 267] = 1.111, p = 293), audience category (F[1, 267] = 3.238, p = .073) and audience*targeting (F[1, 267] = .764, p = .383) were greater than .05. In other words, the type of segmentation, audience category and the interaction between them had no significant effects on behavioral impact. Therefore, the behavioral impact did not depend on the type of segmentation, audience category and the interaction between them.
Chapter six: Discussion and Conclusion

Discussion

The impacts of health messages on the intended and unintended audiences.

The study considers how health messages affect and are perceived by intended and unintended audiences behaviorally, cognitively, and emotionally. The results do not support this hypothesis. Intended audience members who saw targeted messages in this study did not significantly indicate greater intended overall cognitive, emotional, and behavioral response than intended audience members who saw non-targeted messages and unintended audience members who saw either of the messages. According to McDonald and Dunbar (2012), targeting a specific audience segment can increase the effectiveness of the campaign. Additionally, Dietrich, Rundle-Thiele, and Kubacki (2017) state that segmentation is useful as it helps to tailor intervention strategies. However, in this study, as targeting method of segmentation was applied to design the targeted messages, it did not enhance the effect the messages had on intended audience. As a matter of fact, there was not a distinguishing difference in the cognitive, emotional, and behavioral impacts between intended audience members who were assigned targeted messages and those assigned non-targeted messages or between intended audience members and unintended audience members. According to the result, the idea that only intended audience members are affected by the message is questionable. The study
applies Carter (2014)’s theory that “people that are likely to be impacted by a strategy, should be included in the decision-making process to advance a better solution,” which fit the principles of consequentialist principles, for message design. However, Bloom and Novelli (1981) doubt the belief that people in the same group share similar beliefs, culture and behaviors. So, practitioners should not assume that the opinions of the representatives of the targeted segment represent everyone in that group and assure that those opinions will help the campaign to meet its expected outcomes.

**The effects of ethical segmentation on the audience.** The study examined how the application of an ethical segmentation using consequentialist versus non-consequentialist frameworks influences intended and unintended audiences of a health promotion campaign. The results support that there is no difference in how important or engaging the messages are rated between intended and unintended audience when non-consequentialist targeting is used. Another area the study examined was how each type of targeting affects the audience’s ability to recognize the targeted audience. When using consequentialist targeting, there were only a few times when the intended audience members recognized they were the intended audience. For example, the percentage of correct responses from intended audience when consequentialist targeting is used is lower than the percentage of incorrect responses. Among the intended audience, most of them perceived college students or DU students as targeted audience, which was partially true, rather than more specifically female students at DU, aged from 18-25. On the other hand, when using non-consequentialist targeting, more participants recognized the intended audience of the messages. Donovan & Henley (2003) states that the purpose of
consequentialist targeting is to achieve the greatest number of objectives and goals by targeting and tailoring its products to suit the targeted audience. As a matter of fact, it can support health promotion messages to become more relevant and relatable to the intended audience (Ratzan, 1998). Hence, the intended audience should be able to recognize they are the targeted audience. Nevertheless, the results above do not support this hypothesis as the levels of audience recognition are higher when using non-consequentialist targeting than using consequentialist targeting. This problem is because the method applied to generate the content and design of the messages. The targeted message may not highlight the targeted elements enough, so that the intended audience can recognize the messages are for them. Moreover, the revisions made in the final versions of the messages might be one of the reasons the messages could not deliver full effect. DU Health Promotion Office suggested that the targeted messages should not include statistics or information that focused on female students to prevent victim blaming narratives. The removal of this could have decreased the clarity of audience targeting in the messages. As a result, the audience did not realize the messages were for them. In order to improve the quality of the messages, the audience research process should gather more opinions from the intended audience and consider gender cues (e.g., word choices, graphics, gender-focused statistics, etc.) in targeted message. Last, unintended audience members did not have less behavioral, cognitive, and emotional impacts than intended audience members when using consequentialist targeting. As a result, non-consequentialist targeting can create the same level of impacts on intended and unintended audience as consequentialist targeting. For segmentation, segmentation
targeting a specific group of audience is used to create strategies and tactics that are expected to support the campaign to achieve its goals the easiest, instead of focusing on its ethicality. Long-term ramification and unintended consequences are often overlooked. Thus, population-wide targeting is deemed as ineffective or time-consuming. However, this result supports that, for segmentation in general, non-consequentialist targeting can benefit both intended and unintended audience, as well as increase benefits and decrease harms.

The relationship between audience and consequences. I investigated the relationship between consequences, both intended and unintended, and audience, both intended and unintended, the study revealed that there were more participants who did not stigmatize the intended audience as binge drinkers in both groups. This finding contrasts with Guttman (2004)’s theory saying that labeling and stigmatizing is one of the unintended adverse effect of health communication activities (p. 546). Additionally, the gap between non-stigmatizing and stigmatizing among unintended audience is greater compared to intended audience. In other words, when consequentialist targeting was used, unintended audience members were less likely to stigmatize the targeted audience than intended audience members were to stigmatize the target audience. There are two ways to explain this finding. First, the intended audience’s inability to recognize themselves as intended audience can contribute to this problem. Second, stigmatizing and labeling can happen not only externally, but also internally. Practitioners should be aware of internal stigmatism, as well as external stigmatism. There is a chance that stigmatism happens within the targeted group. Further, this contrasts to the findings of Angermeyer
and Dietrich (2006). In this study, unintended audience, who belonged in the older age group, had lower stigma levels than intended audience, who aged from 18 to 25. So, the study was unable to conclude that there was a connection between age and stigmatizing attitudes. Therefore, practitioners should predict and monitor unintended consequences as they do not only come from outside, but also inside.

The next finding is that the likelihood to adopt desired behaviors among an intended audience is not greater than among an unintended audience when using consequentialist targeting. According to Schiavo (2013), health communications activities aim at behavioral and social results. As discussed above, consequentialist targeting is believed to be able to support practitioners to identify and understand the targeted group to enhance the effectiveness of the health promotion activities. However, in this study, consequentialist targeting cannot support this purpose. It can be because the intended audience was not persuaded enough that the issue is more serious among them than among others. The vague content and design of targeted messages may be another factor that contributes to the result. Hence, practitioners should reconsider the effectiveness of consequentialist targeting.

From the results, I found some positive unintended outcomes. Firstly, there were significant differences of the emotional, cognitive and behavioral impacts across the four posters. It meant that the targeting methods and tactics used in the posters might control the impacts of the health messages. Additionally, messages with an applied non-consequentialist targeting were perceived more positively and impactful, especially the one that uses a reward tactic. It affirms Guttman’s (2004) doubt about the ethicality and
effectiveness of “shock tactics” or “fear appeals”. As the past research has shown that “one size fits all” segmentation needs to be avoided (Donovan and Henley, 2003), it is important to distinguish “one size fits all” segmentation and non-consequentialist targeting. This study finds that by applying non-consequentialist principles to audience segmentation, the health promotion campaign can be more ethical and effective. Bang (2002) emphasizes the crucial role of media placement in promoting health messages. However, despite whichever media used, the messages can be viewed by not only the intended audience. So, they may have effects on other groups of audience and vice versa. In addition, the results may suggest that the type of message is a crucial element to enhance the impacts that the campaign has on the audience. Therefore, health promotion messages designed for a general population can be effective for multiple audience segments.

These findings suggest that for audience segmentation to be ethical and effective, non-consequentialist targeting should be considered. As non-consequentialist targeting applies principles from both “procedural ethics” and “ethics-in-practice”, it can ensure that the communications activities follow philosophical ethics doctrines and are appropriate to the contextual values of the community (Dietrich, Rundle-Thiele, & Kubacki, 2017). Also, it allows practitioners to understand about all citizens who are directly or indirectly involved with the health promotion campaign. As non-consequentialism supports population-wide targeting with additional focus on the most vulnerable group, so all individuals, who are likely to be impacted by a strategy, are included in the decision-making process to advance a better solution (Carter, 2014). It
supports the campaign to meet the requirements of Andreasen’s code of ethics “Select tactics that are effective and efficient” (2001, p.36). Therefore, non-consequentialist targeting can support a health promotional campaign to be audience-centric, providing fair health distribution, contextually and culturally appropriate, and producing beneficial outcomes.

There are a few lessons from this study that can be used to improve health promotion campaign procedures. First, applying ethical frameworks, especially non-consequentialism, can ensure that no group is excluded from health information and healthcare access. Practitioners should think of effective segmentation as the one that is audience-centric, providing fair health distribution, contextually and culturally appropriate, and producing beneficial outcomes. Second, as non-consequentialist targeting is supported to ensure the effectiveness and ethicality of segmentation and health promotion campaign, practitioners should target a wide range of audience which not only benefits the most vulnerable or needy members of the population, but also others. As a matter of fact, the intended impacts should be weighed for both intended and unintended audience. Practitioners should understand that the campaign and its activities do not affect only one group of audience. Lastly, health promotion practitioners should pay attention on the unintended consequences which intended and unintended audience may face because of the campaign. It is important to present the information in a format that reduces stigma and is appropriate to the audience. Non-consequentialist targeting can provide insights about the audience and surrounding context to reduce stigma. Moreover, to support non-consequentialist targeting, TJHC should also be used. The application of
non-consequentialism and TJHC can help the practitioners to create strategies and tactics that commit to citizen centric planning and fair health intervention distribution and minimize harmful effects (Carter, 2014).

**Limitations**

There are a number of limitations to consider. First and foremost is the fact that this study collects a small sample of intended audience members. The study had only 81 intended audience members, which was disproportionately small compared to unintended audience members, 219 subjects. The big gap between the number of intended audience and unintended audience prevents the study from properly estimating and modelling the populations. The small sample size results in low statistical power in intended audience. Another limitation is intended audience members were unable to recognize themselves as the intended audience of the messages. This may be problematic as it reduces the impact of the targeted messages on the intended audience. Lastly, the Health Promotion Office required edits to the posters that also limited the target audience ability to recognize messages as targeted to them. For example, the office asked that gender-focused information not to be included in the messages to avoid gender bias or victim blaming on a specific gender group. Hence, the lack of gendered cues in the messages may prevent the intended audience members to realize that the messages were targeting them.
**Future directions**

For the future studies, participant recruiting should be more carefully conducted to ensure that the numbers of intended and unintended audience are not disproportionately difference. Additionally, the messages should be better designed so that the audience can clearly recognized they are intended for them. Lastly, the study recommends future studies to look at the impacts of ethical health promotion messages on the audience and health campaign’s outcomes.

**Conclusion**

In sum, the study finds that non-consequentialism can be a useful tool to ensure the ethicality and effectiveness of audience segmentation in health promotion. As the previous literatures emphasize that strategies and tactics should focus on their ethicality and effectiveness to guarantee the outcomes, short- and long-term, of health promotion campaigns. Practitioners should be aware that health promotion campaigns are exposed to not only the targeted segment. Hence, the campaign can produce unintended consequences on the unintended audience. As a matter of fact, the other segments can create unintended effects on the campaign and cause unintended consequences on intended audience. Population-wide targeting can support health promotion practitioners to target a wide population which takes into consideration the intended and unintended effects it has on both intended and unintended audience. Therefore, applying non-consequentialist principles to audience segmentation can help health promotion campaigns to be more audience-centric and contextually and culturally appropriate, and better providing fair health distribution and producing long-term beneficial outcomes.
References


Appendices

Appendix A

UC Berkeley Do You! Campaign

Maybe I'm drinking tonight because...

- I want to have a good time.
- I want to celebrate.
- I want to be outgoing in social situations.
- I want to feel connected with the people around me.
- I like the taste.
- I want to experiment.
- I want to decrease inhibitions.

Whatever your reasons, they're yours...own 'em!

Let's get another drink.

Maybe later. I've had 2 drinks and I feel good.

Be yourself: DO YOU!

If you decide to drink tonight be smart and safe with alcohol:

Most college student drinkers (70-90%) avoid negative consequences by drinking moderately and taking a few simple precautions:

- Set and stick to your limit
- Tell a friend what your limit for tonight is.
- Make, pour, serve and count your drinks.
- Alternate between alcoholic and non-alcoholic drinks.
- Watch your drink being made and at all times.
- Know the alcohol-related policies and penalties.
- Buddies agree to leave together when either one wants to.

Helping an Intoxicated Person

Look for Signs of Alcohol Poisoning:

- Cold, clammy skin
- Unconsciousness
- Slowed or irregular breathing
- Puking, particularly while passed out

Helping an Intoxicated Person, continued...

Health and Safety are #1 Priorities

- Stay with the person, don’t let them “sleep it off”
- Ensure they rest on their side to prevent choking or vomit
- No food, drink, or drugs if they’ve vomited in last 3 hours (can cause vomiting or choking)
- Keep them still to avoid injury
- If you are unsure about someone’s condition, CALL 911

Ever lifesaving, collect from all!
I'm not drinking tonight because . . .
- Drinking is against my personal values or religious beliefs.
- People in my family have had alcohol problems.
- I have a lot of work to catch up on.
- I don't need alcohol to have a good time.
- I don't like the taste or the effects.
- I don't want to lose control.
- I'd rather do something else.

WHATEVER YOUR REASONS, THEY'RE YOURS . . . OWN 'EM!

CAN I GET YOU A DRINK?

NO, THANK YOU. I'M DRIVING TONIGHT.

BE YOURSELF: DO YOU!

Did you know . . .
- Nationally, more college students are abstaining from drinking.
  (NIHS, 2006)
- About 60% of first year college students are non-drinkers.
  (NIAAA, 2010)
- Of all undergraduate college students, about 22% are non-drinkers.
  (NIAAA, 2011)
- Students at community colleges drink less heavily than students at
  four year colleges. (HIC, 2006)

Other stuff to do on the weekend besides drinking:
- Go studying with friends.
- Movie nights with friends.
- Listen to live music.
- Take a ride.
- Dinner with your honey or your friends.
- Safer sex.

What’s out there for all East Bay public colleges?
To find out more about safe partying, counseling and
support, and volunteer opportunities visit
http://uhs.berkeley.edu/doyou

For more information about DO YOU? contact Health Promotion
at University Health Services, Tang Center at UC Berkeley:
(510) 643-7203 or check out our website at:
http://uhs.berkeley.edu/students/healthpromotion

CARD 1 OF 5, COLLECT THEM ALL.
I MAY BE HAVING SEX TONIGHT . . . I'M NOT HAVING SEX TONIGHT
I AM DATING/I'M IN A RELATIONSHIP . . . I'M SINGLE AND LOVING IT

Do YOU!

Do YOU!

Do YOU!

is a public health information campaign brought to you by the
following University Health Services programs:
University Health Services, Tang Center at UC Berkeley
Appendix B

Mini Survey Questionnaires

1. What is your preferred gender expression?
   □ Female
   □ Male
   □ Other (please list)_________________

2. What year are you at DU (Choose just one)
   □ Freshman
   □ Sophomore
   □ Junior
   □ Senior
   □ Other (please list)

3. Where are you living? On-campus or Off campus
   □ On campus
   □ Off campus

4. If you belong to a student organization, which organization is it? (Choose all answers that apply)
   □ Sorority
   □ Fraternity
   □ Student Government
☐ Athletic team

☐ Other (please explain)_________________

5. In looking at the message, please tell us how much you believe you understand the purpose of the message?

☐ 0 (not at all)

☐ 1(a little)

☐ 2 (mostly)

☐ 3(completely)

6. What does the message ask you to do? (check all that apply)

☐ Educate about what binge drinking is and its consequence.

☐ Encourage drinking responsibly and avoiding binge drinking.

☐ Promote that people should feel free to drink and have a good time.

☐ Persuade drinking safely and helping others to do the same.

☐ Help understand that drinking more than personal alcohol-intake limit is OK.

☐ Encourage making your own healthy choices about alcohol.

☐ Other, please explain below ________________

7. Who do you think is the audience of the message? (check all that apply)

☐ University of Denver (DU) students

☐ Female undergraduate students at DU

☐ Undergraduate students at DU
☐ Graduate students at DU

☐ College students in general

☐ Guardians of college students

☐ Everyone

☐ Other, please explain below

8. In what ways do you think the message is talking to students like you (as individuals) or not talking to students like you? Please explain

9. In what ways do you think the message is talking to students as members of a group? Please explain

10. How relevant do you think this message would be to students like you?

☐ 0 (not at all relevant)

☐ 1 (a little relevant)

☐ 2 (somewhat relevant)

☐ 3 (very relevant)

What makes it relevant or not relevant? Please explain

11. How relevant do you think this message would be to DU students in general?

0 (not at all relevant) 1 (a little relevant) 2 (somewhat relevant) 3 (very relevant)

What makes it relevant or not relevant? Please explain

12. How impactful do you think the information would be for students like you at DU?

☐ 0 (not at all impactful)
☐ 1 (a little bit)

☐ 2 (Somewhat impactful)

☐ 3 (Very impactful)

What makes it impactful or not impactful? Please explain

13. How do you think the information provided in the message would make the reader feel?

☐ Scared

☐ Angry

☐ Sad

☐ Surprised

☐ Happy

☐ Pleased

☐ I don’t feel anything

☐ Other, please explain below

14. What do you like about the message’s design? (click all that apply)

☐ Colors

☐ Fonts

☐ Typography

☐ Space

☐ Graphics
☐ Message

Any comments to offer?__________________

15. What don’t you like about the message’s design? (click all that apply)

☐ Colors

☐ Fonts

☐ Typography

☐ Space

☐ Graphics

☐ Message

Any comments to offer?__________________

16. Please explain how you would change the design elements and/or message:
Appendix C

Online Survey Questionnaires

1. Please rate your emotional reactions to the message you just saw on a scale from 1 to 9.

9. Which emotions better describes your feelings when you first see the message?

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sad - Happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guilty - Innocent</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Scared - Fearless</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Bored - Excited</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxious - Calm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disgusted - Pleased</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Not Surprised - Surprised</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
</tr>
<tr>
<td>Ashamed - Proud</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. Please rate your cognitive reactions to the message on a scale from 1 to 9. Which words better describes your thoughts about the message? The message is:

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrelevant - Relevant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unimportant - Important</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boring - Engaging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Discouraging - Encouraging</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uninspiring - Motivating</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unreliable - Credible</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complicated - Straightforward</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Briefly tell us what you think is the purpose of the message

4. Briefly tell us who you think is the audience of the message

5. What do you think the message says about how you should respond to the people who pressure you to binge drink? (Choose all that apply)

☐ Firmly reject the offers
☐ Accept the drink. One more drink doesn’t hurt
☐ Indirectly reject the offer by asking for help from friends
☐ Accept the drink, but have non-alcoholic drinks always in hand as “drink spacers”
☐ Go home to avoid drink more
☐ Accept the drink if in familiar places, such as your own apartment, close friend’s

☐ Other (please explain)______________________________

6. What do you think are the behaviors the message encourages you to follow? (Choose all answers that apply)

☐ Drink safely.

☐ Don’t drink alcohol.

☐ Don’t let anyone make decision for you when it comes to drinking

☐ Only drink with close people to be safe.

☐ Prevent other people from binge drinking.

☐ Other (please explain) __________________________
7. Thinking again about the same poster, please indicate your level of likelihood with the following statement, on a scale from 1 to 5, 1 being very unlikely and 5 being very likely

<table>
<thead>
<tr>
<th></th>
<th>Very Unlikely</th>
<th>Unlikely</th>
<th>Neutral</th>
<th>Likely</th>
<th>Very Likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>How likely are you to encourage your friend(s) to follow the action(s) mentioned in the message?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How likely would you follow the action(s) that the message asks you to do?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How likely would follow the message recommendations the next time you drink?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How likely would you mention this message to your friends and family?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>How likely would you discuss this message to your friends and family?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
8. How difficult or easy would you rate the action(s) which the message encourages you to follow?

I find the action(s) which the message encourages me to follow

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely Difficult</td>
<td>Neutral</td>
<td>Easy</td>
<td>Extremely Difficult</td>
<td>Easy</td>
</tr>
</tbody>
</table>

9. Whether these are the same or different from your previous response does not matter. Please, without going back, tell us which of these is the purpose of the message (Check all that apply)

☐ Educate about what binge drinking is and its consequence.
☐ Encourage drinking responsibly and avoiding binge drinking.
☐ Promote that people should feel free to drink and have a good time.
☐ Persuade drinking safely and helping others to do the same.
☐ Help understand that drinking more than personal alcohol-intake limit is OK.
☐ Encourage making your own healthy choices about alcohol.
☐ Other, please explain below

10. Whether these are the same or different from your previous response does not matter. Please, without going back, tell us who do you think is the audience of the message? (Choose just one)

   o University of Denver (DU) students
   o Female undergraduate students at DU
   o Undergraduate students at DU
   o Graduate students at DU
   o College students in general
   o Guardians of college students
   o Everyone
11. What ideas did the message give you about binge drinking among the group of people that the message is speaking to? (Choose all answers that apply)

☐ The group has the highest number of binge drinkers
☐ The group mostly faces negative consequences due to binge drinking
☐ The group tend to be pressured to binge drink by other people
☐ It is easiest to prevent the target group from binge drinking
☐ Other. (Please Explain:
12. Please indicate how much you agree with the following statements on a scale from 1 to 5 with 1 being strongly disagree and 5 being strongly agree:

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Neither agree nor disagree</th>
<th>Somewhat disagree</th>
<th>Strongly disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The message reflects what has happened to me and/or my friends.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I understand the information provided in the message.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>I am able to recognize the call-to-action in the message.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>The statistic in the message has great impact on me</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

13. Without going back, tell us what the target group should pay attention to when drinking alcohol, according to the message (choose all answers that apply)

- [ ] Know their alcohol-intake limit
- [ ] Don’t let others pressure them to drink
- [ ] Help those that have intoxicated signs
- [ ] Binge drinking is OK under supervision
- [ ] Don’t binge drink
- [ ] Other, please explain below
14. According to the message, how many drinks should you consume in a two-hour period consider healthy drinking? (Choose just one answer)
   o Four drinks or fewer for any alcohol beverages
   o Four drinks or fewer for female and five drinks or fewer for male for 12 fl. oz 5% beer
   o Two drinks of 12 fl. oz 5% beer along with water
   o It doesn't matter as long as pacing with water or other drinks without alcohol when drinking alcohol beverages
   o I don't know
   o Other, please explain below

15. Without going back, tell us what the negative consequence of binge drinking is, according to the message (Choose just one answer)
   o Unintentional injuries
   o Sexual assault or date rape
   o Bad academic results
   o Hangover
   o I don't know
   o Other, please explain below

How likely would you follow the action(s) that the message asks you to do?

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

16. Without going back, tell us what the benefit of drinking healthily is, according to the message (Choose just one answer)
   o Better mental health
   o Avoid negative consequences
   o Reducing your risk of heart diseases
   o None
   o Other, please explain below
17. What do you think about the statistic showed in the message? (Choose all answers that apply)

☐ It raises my awareness about binge drinking
☐ I feel guilty looking at the statistic
☐ I feel optimistic looking at the statistic
☐ It isn’t relevant to me
☐ It is credible and straightforward
☐ It is hard to understand
☐ None
☐ Other, please explain below

18. How old are you?

19. What is your preferred gender expression?

20. What year are you in at DU (Choose just one)
   o Freshman
   o Sophomore
   o Junior
   o Senior
   o First year graduate student
   o Second year graduate student
   o Other (please explain)_________________

21. Where are you living? On-campus or Off campus
   o On campus
   o Off campus

22. If you belong to a student organization, which organization is it? (Choose all answers that apply)
   ☐ Sorority
   ☐ Fraternity
   ☐ Student Government
☐ Athletic team

☐ Other (please explain)