To Erect Temples to Virtue and Dig Dungeons for Vice:
An Advertising Reductionist Framework for
Enhancing the Persuasiveness of Warning Messages

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Abstract

Dysfunctional forms of consumption behavior (e.g., problem gambling, binge drinking) can interfere with consumer wellbeing to the point of physical, mental, financial and social harm. Prior research has called for theory-based communication strategies to counter-act the allure of unhealthy consumptions, yet empirical evidence on the topic is often mixed or lacking. Converging meta-analytic work shows that theories consensually acknowledged as effective in supporting the design of health communications have either non-significant or marginal effects on persuasion. Despite the substantial public expense in supporting these campaigns, social and health issues stemming from unhealthy consumptions continue to increase each year (e.g., the obesity epidemic).

Against this background, the aim of this dissertation is to explain the psychological mechanisms driving message persuasion in anti-consumption messages. Specifically, this dissertation investigates the persuasion process from an advertising perspective, conceptualizing it as a function of the interplay between message content, source effects, and dispositional traits of the audience.

Over the course of four empirical papers, I (1) conceptualize negative consequences in terms of psychological distance and study their persuasive effect, qualified by message framing and dispositional level of the problem behavior (Paper 1); (2) test a theory of narrative closure in health narratives, with particular regard to the underlying mechanisms of narrative transportation and counterfactual thinking (Paper 2); and (3) extend work on consumer-generated advertising to the public sector, providing evidence on the source effects associated to messages disclosed to be co-created between consumers and health institutions (Paper 3 and Paper 4). A wide range of unhealthy and compulsive consumption behaviors including gambling, drink-driving and unhealthy eating serve as contexts of investigation. The aggregate findings have relevant implications for both theory and practice.
Declaration

This is to certify that

i) the thesis comprises only my original work toward the degree of Doctor of Philosophy except where indicated in the Preface,

ii) due acknowledgement has been made in the text to all other material used,

iii) the thesis is fewer than 100,000 words in length, exclusive of tables, maps, bibliographies and appendices.

Date: ___________________________  Signature: ___________________________
Preface

This dissertation includes four empirical papers which have been published or are intended for publication. The candidate is the lead author for all the four papers. The first three papers are multi-author papers. The candidate is the sole author of the fourth paper and of the non-paper chapters of this dissertation.

For the first paper, the candidate created the first draft and overall more than 75% of the content of the publication. The candidate was solely responsible for the planning and execution of the research project and was principally responsible for the preparation of the work for publication. The contributions of the co-authors Jing Lei and Liliana Bove include constructive discussions on the design of the experiments, the confirmation of analysis results and revisions of the paper. At the submission date of this dissertation, the paper has been published in a special issue of *Journal of Business Research* titled “Problem Gambling, Drinking, and Smoking”:


For the second paper, the candidate created the first draft and overall more than 80% of the content of the publication. The candidate was the sole responsible for the design, planning and execution of the research project and the principal responsible for the preparation of the work for publication. The contributions of the co-authors Jing Lei and Liliana Bove include constructive discussions on the theoretical development and revisions of the paper. The paper is intended to be submitted to *Journal of Marketing Research*. At the submission date of this dissertation, the paper has yet to be submitted to *Journal of Marketing Research* or elsewhere.

For the third paper, the candidate created the first draft and overall more than 85% of the content of the publication. The candidate was solely responsible for the planning, design, and execution of the research project and was principally responsible for the preparation of the work for publication. The contributions of the
co-authors Liliana Bove and Jing Lei entail revisions of the paper. At the submission date of this dissertation, the paper has been published in a special issue of *International Journal of Advertising* titled “Social and Environmental Issues in Advertising”:


For the fourth paper, the candidate created the first draft and overall more than 95% of the content of the publication. The candidate was solely responsible for the design, planning and execution of the research project and principally responsible for the preparation of the work for publication. The contribution of Dr. Max Theilacker in terms of critical discussant and friendly reviewer in earlier versions of the paper are gratefully acknowledged. A prior draft of the paper is under review for publication in *Journal of Business Ethics*. At the submission date of this dissertation, the paper has neither been published nor been accepted for publication in *Journal of Business Ethics* or elsewhere.

In addition to the papers listed above, an extract from *Chapter 1* dealing with social marketing at a macro-level has been used in the theoretical development of a paper co-authored with Matthias Koch. The paper has been conditionally accepted at *Journal of Macromarketing*. Similarly, an extract of *Chapter 1* dealing with structural reductionism and integrative message design has been used in a theoretical paper co-authored with Merrill Warketin and Allen Johnston. The paper is currently under review at *MIS Quarterly*. Neither of the two papers is included in this dissertation, but their existence is acknowledged.
Finally, the following conference papers based on work included in this dissertation have been presented in Europe, Asia, and Australia:


Orazi DC, Lei J and Bove L (2014) “It’s not only what you say, but also how you say it: the influence of threat type and message framing on anti-gambling advertising”, paper presented at the 43rd European Marketing Academy Conference (EMAC), June 2014, Valencia, Spain.

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<thead>
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<th>Symbol</th>
<th>Description</th>
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<tbody>
<tr>
<td>AGFI</td>
<td>Adjusted goodness-of-fit index</td>
</tr>
<tr>
<td>AMTURK</td>
<td>Amazon Mechanical Turk</td>
</tr>
<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
</tr>
<tr>
<td>AVE</td>
<td>Average Variance Extracted</td>
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<tr>
<td>BMI</td>
<td>Body-Mass Index</td>
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<td>Comparative Fit Index</td>
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<tr>
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<td>$df$</td>
<td>Degrees of freedom</td>
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<td>F</td>
<td>F-test statistic</td>
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<td>$g$</td>
<td>Hedge’s bias-corrected effect size index</td>
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<td>HIT</td>
<td>Human Intelligence Task</td>
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<td>JN</td>
<td>Johnson-Neyman</td>
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<td>NFCC</td>
<td>Need for Cognitive Closure</td>
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<td>NTT</td>
<td>Narrative Transportation Theory</td>
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<tr>
<td>$p$</td>
<td>p-value significance level</td>
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<tr>
<td>PACT</td>
<td>Personalization, Authorization, Capabilization,</td>
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<td></td>
<td>Transformation</td>
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<td>PGSI</td>
<td>Problem Gambling Severity Index</td>
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<tr>
<td>PNFI</td>
<td>Parsimony Normed Fit Index</td>
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<tr>
<td>PSA</td>
<td>Public Service Advertisement</td>
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<tr>
<td>$r$</td>
<td>Correlation coefficient</td>
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<tr>
<td>$R^2$</td>
<td>Squared correlation coefficient</td>
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<td>Root Mean-Square Error of Approximation</td>
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<td>World Health Organization</td>
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Introduction

A young financial consultant heads to the casino down the river. What good is money for if you can't spend it? After a week of 14-hour working days, he can finally feel the chill down his spine for when he will sit at the poker table and look at his cards. He will end the night with a 5,000$ loss, but he will not care. He knows he is good, he just got unlucky. Tomorrow he will recoup everything, and more.

A group of friends meet at the local pub for a few drinks. After several pints, one of them gets a text from a friend inviting them to a party. The idea is accepted with enthusiasm by the buzzed group. They get into the car and turn the ignition key, speeding out of the parking lot. The music is pumping in the car and the group is singing. Suddenly, they run a red light. The music is drowned out by the screech sound of a collision.

A divorced woman drives toward the nearest fast-food. She is too tired to cook, and her kids love fries and hamburgers. It started as a week-end treat, but over the last two years she finds herself increasingly relying on fast food as a quick and cheap alternative to cooking dinner. She will gain twenty pounds in less than a year, and her knee pain will get inexplicably worse, reducing her will for any physical activity. She will witness her kids getting fatter by eating what they always had and what they perceived as a normal diet. After all, mommy always brought it for dinner.

The above three scenarios refer to dysfunctional forms of consumption behavior that can have significant implications for consumer’s life and well-being (Faber, O’ Guinn and Krych 1987). Termed compulsive (Faber, O’ Guinn and Krych 1987; Workman and Paper 2010) or unhealthy (Stuckler, McKee, Ebrahim and Basu 2012), such consumption behaviors are characterized by an urge to satisfy a dependence on a substance or activity. This short-term satisfaction interferes with the consumer’s life to the point of long-term physical, mental, financial, and social harm (Fullerton and Punj 2004; Bridges and Florsheim 2008; Workman and Paper 2010). Despite the potential or the actual occurrence of negative consequences, the consumer persists in the consumption behavior.

The academic community has investigated the aetiology of compulsive and undesirable behaviors from a variety of perspectives, including biology, genetics, psychology, and sociology (e.g., Blaszczysnki et al. 1986; Kreek et al. 2005; Blum et
al. 2014; Palmer et al. 2015). As marketing is often intended as the science of facilitating consumption, prior research has also considered these behaviors from a marketing perspective (Prentice and Cotte 2015). Advertising is the channel through which the gambling, fast-food, and alcohol industries reach consumers, crafting powerful messages to entice consumers “to eat and drink profitable, unhealthy products, as well as engage in sedentary and other unsound activities” (Royne and Levy 2015, p. 85). Although it will be unfair to impute problem gambling, obesity, and alcoholism exclusively to marketing communications, the commercial marketing of these unhealthy products plays a significant role in increasing compulsive consumptions.

With consumer health and wellbeing receiving media attention as never before (Royne and Levy 2015), reaching consumers through effective health communications has become a public health imperative (Prentice and Cotte 2015; Royne and Levy 2015). Multiple stakeholders are engaging in the art and science of crafting effective social marketing communications. Social marketers strive to adapt marketing tactics mimicked from their commercial counterparts to solve social and health issues (Andreasen 2012; Dibb 2014). Health communicators work relentlessly to apply theories in the design of health communications (Fishbein and Cappella 2006; Keller and Lehmann 2008). Public institutions have started involving citizens in the collaborative creation of communications targeting compulsive consumption to leverage authentic insights (e.g., Office of Road Safety WA 2012).

Despite concerted efforts and substantial amounts of public money invested in communication programs, extant evidence is either mixed or lacking with regard to communication effectiveness and ensuing behavioral change. Many social marketing and institutional campaigns aimed at educating consumers about compulsive and addictive behaviors have yielded limited success (e.g., de Gruchy and Coppel 2008; Kerr et al. 2013). In the meantime, health problems caused by unhealthy consumptions, such as obesity, keep increasing every year (Krishen and Bui 2015). A legitimate question arises: are the designs of these social marketing campaigns and health communications based on solid theoretical foundations and strong empirical evidence supporting their effectiveness?

A review of the literature unveils two major issues. First, mounting meta-analytic work shows that several theories consensually acknowledged as effective
in the design of health communications have either non-significant or marginal effects on persuasion (Keller and Lehmann; Shen et al. 2015). For instance, the meta-analytic work of Keller and Lehmann (2008) found that loss frames were not more effective than gain frames, in contrast to what was commonly accepted in literature. Similarly, Shen et al. (2015) found that the use of health messages in narrative format was not effective in persuading the cessation of the targeted behaviors despite the assumption that health messages in narrative format result in high persuasion. Thus, a more fine-grained analysis of which theories are effective depending on the behavior investigated and the audience's characteristics is much needed to advance the field and overcome barriers created by studies that are poorly grounded (Reid and Aiken 2011).

Second, the adoption of communication tactics inspired by commercial marketing makes the premise that these tactics will perform similarly in the public domain. Of particular interest is the case of consumer-generated advertising (CGA), namely advertisements designed by consumers to resemble a professional level of content and quality (Ertimur and Gilly 2012). Albeit used as an advertising tactic by global brands such as Doritos and Coca-Cola, prior research on CGA in the commercial domain has produced mixed findings, particularly with regard to the drivers of positive ad evaluations (Ertimur and Gilly 2012; Lawrence, Fournier and Brunel, 2013; Thompson and Malaviya 2013). Notwithstanding mixed findings in the commercial domain and lack of evidence in the public domain, the use of co-creative approaches in the design of PSA is increasingly being adopted by public institutions (Dibb and Carrigan 2013).

Against this background, this dissertation aims at answering calls for greater theoretical integration in social marketing and health communication (Fishbein and Cappella 2006; Reid and Aiken 2011; Dibb 2014) by adopting a structural reductionist approach to communication design (LaTour and Rotfled 1997; Shehryar and Hunt 2005). Structural reductionism in advertising stems from the epistemological principle of reduction and generalization, for which reducing a problem to its fundamental components enables a better understanding of the problem itself (Easterby-Smith, Thorpe and Lowe 1991). Since messages comprise a combination of visuals and text that produce different effects depending on traits and characteristics of the receiving audience, it is necessary to reduce the unit of
analysis (i.e., the message) to its fundamental components to enable meaningful comparisons of effects. In adopting a structural reductionist approach, this dissertation offers novel insights on conflicting findings and uncharted effects in the existing social marketing, consumer research, and health communication literatures.

This endeavour is supported by four experimental papers examining different advertising tactics focused on either the message content or the message source. The first two research papers focus predominantly on the structural elements of the message and their interaction with the audience’s characteristics. The first paper uses construal level theory to categorize gambling consequences in terms of low vs. high construals (Trope and Liberman 2010), depending on the level of cognitive effort invested in the process of mental imagery of these consequences. The paper demonstrates that material consequences such as loss of money are perceived as more concrete and easier to construe, whereas social consequences such as damaging social relationships are perceived as more abstract and harder to construe. The cognitive effort required for elaboration renders social consequences more effective. The paper continues by contributing to the stream of literature stating that the effectiveness of message framing in terms of losses vs. gains depends on boundary conditions (Block and Keller 1995; Rothman and Salovey 1997; Keller and Lehmann 2008), in this case the construal level of the consequences. The level of problem gambling of the sample investigated is taken into account as a segmentation variable (Smith and Wynne 2002), showing that problem gamblers are particularly sensitive to social consequences in comparison to regular gamblers.

The second paper draws on narrative transportation theory (Green and Brock 2002; van Laer et al. 2014) to investigate the persuasive effect of narrative closure – namely the phenomenological feeling that all the salient questions raised by a narrative have been answered (Russel and Schau 2014). The paper demonstrates that high (vs. low) narrative closure leads to different types of narrative thoughts, which in turn have differential effects on persuasion. High (vs. low) closure generates counterfactuals (vs. conjectures) aimed at replotting the narrative in search for alternative courses of action that could have prevented the negative outcomes (vs. aimed at completing the interrupted narrative). The effect of narrative closure is amplified by the dispositional need for cognitive closure of the
receiving audience, namely the individual propensity to tolerate uncertain and ambiguous situations (Kruglanski 1989; Webster and Kruglanski 1994; Roets and van Hiel 2011). The paper concludes by demonstrating a moderated serial mediation carrying the qualified effect of narrative closure over persuasion through narrative transportation and counterfactual thinking.

The last two research papers focus on the source of the message and illuminate the drivers of more positive ad evaluations for co-created health communications. The third paper draws from attribution theory (Kelley, 1967; Wilson and Sherrell 1993; Kang and Herr 2006) and literature on consumer-generated advertising (Ertimur and Gilly 2012; Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013) to offer a preliminary investigation of the impact of co-creative approaches in public and non-profit advertising targeting unhealthy eating. Presenting the same message disclosed to be either collaboratively created between consumers and a health institution or solely created by a health institution returns more positive ad evaluations and attitudes toward healthy eating for the collaborative condition. Perceived sympathy toward the ad creator is isolated as a relevant mediator of the effect of the message source on ad evaluations. The audience’s level of involvement with healthy eating represents a relevant boundary condition, such that the main effect of message source on ad evaluations and attitudes is amplified when the audience is highly involved with the advertised issue. As commercial marketers in industries with strong social and health implications (e.g., food and beverages) use a variety of advertising tactics to reach consumers (Royne and Levy 2015), this paper offers preliminary evidence that the same approach can be effectively leveraged by social marketers and public institutions.

The fourth paper builds on the preliminary findings of the third paper to greatly extend our understanding of co-created ads in the public sector and the drivers of their effectiveness. The paper compares the effect of three different sources (i.e., institution- vs. consumer- vs. co-created) of a health message targeting unhealthy eating to rule out the possibility that independent attempts to tackle social issues from the consumer side are perceived as more effective that collaborative efforts. Integrating consumer responsibilization theory (Giesler and Veresiu 2014), the paper confirms the positive influence of co-created messages on credibility and authenticity. The paper progresses with the development of a source effects
framework in which the effect of source disclosure is serially mediated on ad evaluations through credibility, similarity, and authenticity. Authenticity, in particular, is isolated as the key mediating factor responsible for the more positive evaluations of co-created messages.

The dissertation is structured in four blocks. The first block (*Chapter 1 & Chapter 2*) introduces the broader theoretical and methodological background upon which the four empirical papers rest. *Chapter 1* and *Chapter 2* provide a more comprehensive overview of the theories and methods that inform the research papers but that, owing to publications format restrictions, are discussed in a more succinct form in the papers.

The second block (*Chapter 3 and Chapter 4*) focuses on the content of the message, exploring the interplay between different structural components including the construal level of the consequences depicted, message framing, and narrative closure. Specifically, *Chapter 3* presents the first research paper on the nature and framing of consequences in responsible gambling advertisements. *Chapter 4* presents the second research paper on the effect of narrative closure on narrative thoughts and persuasion in health narratives.

The third block (*Chapter 5 and Chapter 6*) focuses on the source of the message, investigating the differential persuasiveness of source effects. Specifically, *Chapter 5* presents the third research paper, offering preliminary insights on the audience’s evaluations of co-created social marketing communications targeting unhealthy eating. *Chapter 6* greatly expands the insights obtained in the previous chapter by illuminating the underlying mechanisms responsible for more positive evaluations of co-created social marketing communications.

The fourth and last block (*Chapter 7*) concludes the dissertation. The key findings of each paper are summarized, highlighting the broader contribution to theory and extracting actionable insights for practice and public policy. Figure 1.1 provides a visual summary of the dissertation structure.
Figure 1.1
Dissertation visual outline

Introduction

Chapter 1: Broader theoretical background

1.1 – Macro-level positioning: Social marketing
1.2 – Meso-level positioning: Advertising reductionism and health communications

1.3 – Message content
- Construal level theory
- Narrative transportation theory

1.4 – Message source
- Attribution theory and source effects in CGA research

Chapter 2: Broader methodological background

2.1 – Epistemological stance
2.2 – Validity of AMTurk samples
2.3 – Analyses of moderating effects
2.4 – Analyses of mediating effects

Message content

Chapter 3
The nature and framing of gambling consequences in advertising
Orazi, Lei, Bove

Chapter 4
Not all narrative thoughts are created equal: Narrative closure and counterfactual thinking in responsible drinking narratives
Orazi, Lei, Bove

Message source

Chapter 5
Empowering social change through advertising co-creation: The roles of source disclosure, sympathy, and personal involvement
Orazi, Bove, Lei

Chapter 6
Consumer responsibilization and source effects in advertising co-creation
Orazi

Chapter 7: Conclusion and overall contribution
Chapter 1: Broader Theoretical Background

This chapter presents the dissertation’s positioning within the broader social marketing and communication literatures and reviews the theoretical background informing the four dissertation papers. After tracing the evolution of marketing definitions up to the recent inclusion of society at large as one of the key beneficiaries of value creation, the first sub-section situates the dissertation within the broader social marketing field (i.e., macro-level). In this sense, social marketing is conceptualized as a planned approach to social innovation aiming to develop and apply marketing strategies and tactics to create value for both individuals and society (Lefebvre 2012).

The second sub-section refines the macro-level positioning by narrowing its scope to a meso-level of advertising reductionism and health communication theories. Specifically, this section substantiates the rationale behind reaching consumers through effective health communications and highlights some limitations of the traditional approach to social marketing (Dibb 2014). Theory-based reductionism is proposed as a viable theoretical perspective to overcome such limitations and tie together the four dissertation papers in a coherent framework.

The third sub-section reviews in detail the theories at the basis of the four dissertation papers, which, owing to publication format restrictions, are included in the papers in condensed form. The first half of the sub-section reviews the theoretical backbone of communication interventions based on the manipulation of message content. Construal level theory of psychological distance (Trope and Liberman 2010) and narrative transportation theory (Green and Brock 2002; van Laer, De Ruyter, Visconti and Wetzels 2014) are reviewed to provide a solid background supporting the reading of the first two research papers. The second half of the sub-section reviews the literature at the basis of the manipulations of message source presented in the third and fourth research papers. Particular emphasis is given to attribution theory (Kelley 1967; Wilson and Sherrell 1993) and consumer-generated advertising literature (Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013; Hautz, Füller, Hutter and Thürridl 2014).
1.1 Macro-level positioning: From marketing to social marketing

The definition of marketing has evolved over the years to reflect the features of the evolving marketing practice. Early definitions focus on the set of services necessary to transfer a product from one party to another (Duncan 1920), including advertising, research, planning and development (Collins 1930). In its inception, marketing is concerned with the business activities required to manage the flow of goods and services from production to consumption, resembling more operations management than modern marketing. The definitional focus on the distribution function of marketing continues well after World War II, with marketing being considered more of a necessity for production business than a discipline in itself. Maynard and Beckman (1952), for instance, define marketing as the set of business activities gravitating around physical distribution of goods and the ancillary services and functions performed during this process, with the exclusion of manufacturing. Yet as times and marketing practice change, so does the definition of marketing. In the aftermath of World War II, the first U.S. schools start conceptualizing marketing as a business function whose primary purpose is to satisfy the needs and wants of consumers (Keith 1960). As the discipline gains momentum and progressively separates itself from economics and management, so marketing becomes:

“"The process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives (AMA 1985).""

In the ‘80s, marketing becomes a business function aimed at satisfying customer needs and generating revenues for the company, riding the wave of an unprecedented economic expansion. While the world starts to evolve and change at an increasingly rapid pace due to technological and digital innovation, marketing starts adapting to a globalized arena affected by increased competition, information asymmetry, multiple stakeholders and macro-environmental forces. In modern times, marketing evolves from being a business function to being a strategic process
aimed at satisfying the customer needs while taking into account organizational capabilities, multiple stakeholders and external forces. More specifically:

"Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large (AMA 2013)."

For the first time in history, however, the definition of marketing includes a beneficiary other than the single actors involved in value exchange: society at large. Understanding what this value represents for society at large is open to debate. Thus this chapter highlights how the recent inclusion of marketing-related societal benefits in the definition of marketing is largely attributable to the growing respect earned by social marketing as a discipline (Dibb 2014).

The relationship between commercial marketing and social marketing is undeniably complex (Dibb 2014), as the word ‘marketing’ is often associated with subtle persuasion and revenue maximization (Dibb and Carrigan 2013). In addition, marketing is often intended as the art and science of facilitating consumption, which includes unhealthy consumption behaviors such as smoking, unhealthy eating, binge drinking, and gambling (Prentice and Cotte 2015). Consequently, the association of the word ‘social’ with the word ‘marketing’ can clash in the minds of consumers and academics alike. Evidence of this latter clash comes from the long and ongoing debate over the legitimacy of social marketing as its own discipline rather than a subset of commercial marketing (Dibb 2014).

In an attempt to clearly separate commercial marketing from social marketing, the concerted efforts of Andreasen (2002) and Bird (2010) led to the formalization of eight foundational pillars of social marketing: (1) behavioral change, (2) formative research informing the interventions, (3) segmented rather than general interventions, (4) exchange logic in adopting or resisting the intervention, (5) use of marketing mix tools, (6) consideration of competing behaviors and barriers to implementation, (7) use of theory to inform the interventions, and (8) understanding of the target audience in the social context they operate (Andreasen 2002; Bird 2010). As a result, an overarching “social dominant logic” has been proposed for marketing justified by the importance of the value exchange process
for individuals and society at large (Andreasen 2012). Accordingly, since the final outcome of the exchange (i.e., value) is more important than any of the determining inputs, distinguishing between commercial and non-commercial offerings or between products and services (Vargo and Lusch 2004) becomes irrelevant for defining marketing and understanding the dynamics of behavioral change. In the moment in which people are the beginning and the end of the value exchange process, the only relevant elements are the set of processes and activities resulting in the individual and communal good (Andreasen 2012). Under this logic, social marketing is elevated as the dominant marketing logic of which commercial marketing becomes a branch that only deals with the exchange of commercial product and services (Andreasen 2012).

From a macro-level perspective, this dissertation is grounded within the field of social marketing, broadly intended as a driver of positive social change and specifically seeking to:

“develop and integrate marketing concepts with other approaches to influence behaviors that benefit individuals and communities for the greater social good. Social marketing practice is guided by ethical principles. It seeks to integrate research, best practice, theory, audience and partnership insight, to inform the delivery of competition sensitive and segmented social change programmes that are effective, efficient, equitable and sustainable (AASM, 2013)”.

This integrative approach of marketing and ancillary disciplines is foundational to the dissertation’s aim of adding to the existing set of marketing theories and tools employed to solve health and societal issues. In the following, I present advertising and health communication theories and mindset whose integration in the design of social marketing communications is likely to greatly contribute to the social dominant logic.
1.2 Meso-level positioning: Advertising reductionism and theory-based health communication

In addition to the macro-level positioning within social marketing, this dissertation further refines its scope by adopting a meso-level grounding within advertising and health communication theory. Media communication represents the main channel through which several industries producing and promoting unhealthy offerings (e.g., tobacco, sugary drinks, junk food) reach consumers (Royne and Levy 2015). Marketing efforts in promoting these offerings play a major role in increasing the consumption of unhealthy products. Even worse, major producers of unhealthy offerings invest considerable amounts of money in devising strategy to misdirect consumers’ attention from the negative effects of said consumptions. For instance, the recent Coca-Cola campaign connected to the Global Energy Balance Network stated that obesity is caused by a lack of exercise rather than unhealthy eating (New York Times 2015). While the uproar by many public health experts has forced Coca-Cola to retract this claim, the event highlights how considerable corporate investments fund questionable research (e.g., Global Energy Balance Network at the basis of the Coca-Cola campaign) that informs even more questionable campaigns.

As a consequence of this phenomenon, reaching consumers through effective health communications has become a public health imperative (Prentice and Cottee 2015; Royne and Levy 2015). Social marketing is adept at the development of interventions targeting a specific population segment in pursuit of reducing-stopping an undesirable behavior or increasing-starting a desired behavior (Andreasen 2012). However, the development of social marketing interventions has been traditionally narrow in scope, with “an enduring interest in behaviour change at the individual level” (Dibb 2014: p. 1162). If a social dominant logic has to be embraced as an overarching perspective, social marketing needs to broaden the scope of its interventions and open to the integration of parallel streams of literature.

Inevitably, resistance within the field exists with regard to broadening the scope of social marketing interventions. The provision of the eight pillars of social marketing (Andreasen 2002; Bird 2010) – intended as means to clarify what social marketing is and what is not – is a testament to a somewhat reactionary stance
within the field (Gordon 2013). Some scholars advocate more individualized interventions and take distance from complementary fields such as health communication, advertising and population health (for an overview, see Gordon 2013; Dibb 2014).

Not everyone agrees with this inward-looking perspective, though. Dibb (2014), in particular, acknowledges the benefits of interdisciplinary cross-pollination, citing health communication, social psychology, and behavioral economics as fruitful research fields that can provide strong theoretical support to the development of effective social marketing interventions. In strong agreement with Dibb (2014), I believe that the traditional focus on individual segments and measurable behavioral outcomes adopted by early social marketing often comes at the expense of solid theoretical foundations and limits the effectiveness of the resulting interventions. While a segmentation approach to behavioral change constitutes the very basis of intervention development, it is likewise important if not fundamental to progress the state of the field with regard to the theoretical background informing the interventions. In this sense, social marketing and health communication work on parallel routes, the first adapting marketing tactics mimicked from their commercial counterparts to solve social and health issues (Andreasen 2012; Dibb 2014), the second working relentlessly for the application of sound theories to the design of health communications (Fishbein and Cappella 2006; Keller and Lehmann 2008).

This dissertation thus adopts a meso-level positioning grounded in advertising reductionism and theory-based health communication. According to advertising reductionism, studies investigating the effectiveness of communications must reduce the message to its fundamental structural components to allow a meaningful comparison of effects (LaTour and Rotfled 1997; Shehryar and Hunt 2005). Advertising reductionism stems directly from the epistemological principle of reductionism and generalization, such that reducing a problem to its simplest elements and then analyzing them individually allows a better understanding of the problem itself (Easterby-Smith, Thorpe and Lowe 1991). Typical health campaigns and social messages are composed by multiple visual and textual elements, each of them potentially carrying different meanings and triggering differential affective and cognitive processes at the basis of persuasion. Only by isolating and studying the individual and interactive effects of each structural component against the
audience’s characteristics it becomes possible to understand when, why and how a message produces the intended effects (for a discourse over the implications of meaning attribution to health messages, see Section 2.1 - Epistemological stance).

Yet a reductionist approach is not sufficiently instructive in itself if not reconciled with a corresponding theoretical framework. That is, a reductionist approach isolates which structural components have an effect on message acceptance and behavioral change without illuminating the antecedents of said effectiveness. The immediate implication is that if the cause of an effect cannot be categorized and codified, it becomes harder to replicate the same result in the future. Theory, on the other hand, endows structural components with causal power, providing both theoretical explanations on why a specific message element causes a certain effect and the means to reconcile the newly created knowledge to a broader theoretical framework. For these reasons, several scholars have called for a stronger theoretical underpinning in health communication research to help overcome barriers created by studies that are poorly grounded in theory, facilitating replication while enabling theory refinement (Fishbein and Cappella 2006; Reid and Aiken 2011). An exemplar of this approach comes from Keller and Lehmann (2008), who compiled a meta-analysis of message tactics and individual characteristics influencing the effectiveness of health communications. After almost ten years from this seminal work, however, marketing communications have evolved drastically and new dominant theoretical approaches expose gaps in the literature. These gaps will be exhaustively discussed in each of the four dissertation papers and include, among the others, the lack of a general framework to categorize the negative consequences depicted in social marketing communications (Chapter 3 and Chapter 4), mixed evidence regarding the drivers of effectiveness for health narratives targeting cessation behaviors (Chapter 4), and the intricacy of bundled source effects as a result of the rise of consumer-generated advertising (Chapter 5 and Chapter 6).

In line with calls for more theoretical integration in social marketing and health communication (Fishbein and Cappella 2006; Reid and Aiken 2011; Dibb 2014), I draw from several theoretical quivers including consumer psychology, social psychology, advertising theory and health communication theory to assess what determines the persuasiveness of different theory-based communications.
Particular emphasis is given to the interplay between different structural components of the message and different dispositional traits of the audience. The synthesis of theoretical constructs embedded in the message structural components might lead to the isolation of interactive effects uncharted by prior literature. Such integration may prove to be more effective for behavioral change than the use of individual theories (Brennan, Binney and Parker 2014).

At the same time, I acknowledge the importance of the triad of elements constituting the advertising communication model of sponsor – advertisement – consumer, or simply source – message – recipient (Stern 1994). Accordingly, the message is central to the communication process and corresponds to a textual code that can be manipulated, decomposed and explained, in line with the reductionist approach undertaken in this dissertation. Source and recipients of the message can also assume different roles. The source can be intended as the sponsoring source, the creative author of the ad, or the *dramatis personae* represented within the ad. The recipients can refer to the ideal audience imagined by the source, the sponsored consumer deciding which communications air and which do not, and the actual market segment to be targeted with the message.

In drawing from this framework to complement my structural reductionist positioning, I acknowledge the multidimensionality of sources and recipients, but for different reasons than those explained by Stern (1994). With regard to the source, I am mainly interested in the effects produced by disclosing the identity of the sponsoring source, which can be defined by the combination of multiple stakeholders involved in message creation process. An example of this source multidimensionality comes from consumer-generated advertising applied to social marketing (*Chapter 5* and *Chapter 6*), in which consumers involved with a social or health issue can independently or collaboratively create a message. The consumer-creator can thus be at the same point in time, the sponsoring source, creative author and even *dramatis personae*, in the moment she presents her insights and real-life experiences. Thus, I do not focus on the different roles played by the source, but on the different attributions and inferences made by the recipients with regard to the source in situations when they are confronted with a multidimensional source (e.g., “Is the source trustworthy?”). I aim to disentangle the resulting bundle of source effects to determine which source combination leads to positive ad evaluations.
With regard to the audience, I largely ignore the concepts of audience as implied or sponsoring (Stern 1994) and focus on the target audience segment. In so doing, I explore more in depth the dispositional and experiential traits of the audience in pursuit of uncovering interactive effects between the content and the source of the message. Figure 1.2 presents the overarching communication framework tying together the four papers included in the dissertation.

**Figure 1.2**
Overarching communication framework

```
<table>
<thead>
<tr>
<th>Source effects</th>
<th>Structural components</th>
<th>Dispositional &amp; physical traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Source disclosure (P3-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Similarity (P3-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Credibility (P4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Authenticity (P4)</td>
<td>• Construal level of consequences (P1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Message framing (P1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Narrative closure (P2)</td>
<td></td>
</tr>
<tr>
<td>Note: P = Paper</td>
<td>• Problem gambling (P1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Need for cognitive closure (P2)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Involvement (P3)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Body-Mass Index (P4)</td>
<td></td>
</tr>
</tbody>
</table>
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In summary, over the course of four papers I manipulate the structural components (*Paper 1 and Paper 2*) and the source (*Paper 3 and Paper 4*) of different social marketing communications to assess their influence on persuasion and message acceptance, while accounting for relevant dispositional and behavioral traits of the audience. Figure 1.3 summarizes the multilevel positioning of the dissertation, while the next section provides a detailed overview over the theoretical backbone of the dissertation papers (i.e., micro-level positioning).
### Figure 1.3
Theoretical positioning

<table>
<thead>
<tr>
<th>Level</th>
<th>Theory/Concept</th>
<th>Source/Context</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MACRO-LEVEL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social marketing</td>
<td>(Andreasen 2012; Dibb 2014)</td>
<td></td>
</tr>
<tr>
<td><strong>MESO-LEVEL</strong></td>
<td>Communication theories of structural reductionism</td>
<td>(LaTour &amp; Rotfeld 1997; Fishbein &amp; Cappella 2006)</td>
</tr>
<tr>
<td><strong>MICRO-LEVEL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structural components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper 1</td>
<td><strong>Constral level theory</strong> (Bar-Anan et al. 2006; Trope &amp; Liberman, 2010)</td>
<td><strong>Source effects</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Prospect theory</strong> (Tversky &amp; Kahneman, 1981)</td>
<td><strong>Paper 3</strong></td>
</tr>
<tr>
<td></td>
<td><em>Context</em>: Problem gambling</td>
<td><strong>Attribution theory</strong> (Kelley 1967; Wilson &amp; Sherrel 1993)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>CGA literature</strong> (Thompson &amp; Malavya 2013; Lawrence et al. 2013)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Context</em>: Unhealthy eating</td>
</tr>
<tr>
<td>Paper 2</td>
<td><strong>Narrative transportation theory</strong> (Green &amp; Brock 2002; van Laer et al. 2014)</td>
<td></td>
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<tr>
<td></td>
<td><strong>Counterfactual thinking theory</strong> (McGill 1989; Epstude and Roese 2008; Byrne 2016)</td>
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<tr>
<td></td>
<td><em>Context</em>: Drink-driving</td>
<td><strong>Paper 4</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Attribution theory</strong> (Kelley 1967; Wilson &amp; Sherrel 1993)</td>
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<td><strong>CGA literature</strong> (Thompson &amp; Malavya 2013; Lawrence et al. 2013)</td>
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<tr>
<td></td>
<td></td>
<td><strong>Consumer responsibilization theory</strong> (Giesler &amp; Veresiu 2014)</td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Context</em>: Unhealthy eating</td>
</tr>
</tbody>
</table>
1.3 Micro-level positioning: Theoretical foundations for message content

The first two papers included in this dissertation investigate the persuasive effect of different manipulations at the structural level of the message. Two theories are seminal in informing the development and empirical test of such manipulations. The first is construal level theory (Trope and Liberman 2010), which illuminates the cognitive dynamics through which people form abstract representations of objects and events on the basis of their psychological distance. Construal level theory constitutes the main theoretical backbone of Paper 1 and is also introduced in Paper 2. The second is narrative persuasion theory (Green and Brock 2002; van Laer, De Ruyter, Visconti and Wetzels 2014), which investigates the persuasive dynamics of messages presented in narrative format. Narrative persuasion theory underpins Paper 2. In the following, I provide a detailed review of both theories, leaving the individual papers to articulate the theoretical contributions and corresponding hypotheses.

1.3.1 Construal level theory

Construal level theory (CLT) rests on the core tenet that people have direct experience only of the here and now (Trope and Liberman 2010). People can perceive only objects and events occurring in the same space and time, using available information to attribute concrete features to said objects and events (Trope, Liberman and Wakslak 2007). Yet people plan for the future, wander in memories, and construe alternatives to events that happened or have yet to occur. Such plans, imaginations, memories, and counterfactuals are decidedly distinct from experience and refer to distant psychological objects. Construal level theory underpins Paper 1, which demonstrates how mental construal of gambling consequences has an impact on attitudes toward gambling and intentions to reduce gambling behavior. To avoid repetition of the contents of Paper 1, this sub-section first presents the core principles of the construal level theory of psychological distance. Next, the four different types of psychological distance are briefly
reviewed. Finally, the effect of different construal levels on cognition and behavior is discussed.

**Construal level of psychological distance**

CLT proposes that people transcend the perceptual boundaries of the here and now by forming construals—mental simulations abstracted from experience—of distant places, times, people, and alternatives (Trope and Liberman 2010). The level of abstractness of these mental representations depends on their psychological distance, namely the subjective perception that something “takes place further into the future, [...] occurs in a more remote location, [...] happens to people less and less like oneself, and [...] is less likely to occur” (Trope et al. 2007; p. 84). That is, the more people move away from directly experiencing objects and events, the less information is available about said object and events.

Since the representation of a psychological object is a function of the information available to the individual, representing remote things requires more abstract construals than representing close things (Nussbaum, Trope and Liberman 2013). Objects that are psychologically distant are thus mentally represented as high-level construals. People perceiving psychological objects to be distant from the self tend to construe and represent these objects in general and abstract terms, focusing on core and essential features, and considering the superordinate or “why” level (Trope and Liberman 2010). Conversely, objects that are psychologically close are mentally represented as low-level construals. People perceiving psychological objects to be close to the self tend to construe and represent these objects in specific and concrete terms, focusing on surface and incidental features, and considering the subordinate or “how” level (Trope and Liberman, 2010). Importantly, the relationship between construal level and psychological distance is bidirectional (Trope and Liberman 2010). That is, psychologically distant objects and events are construed at higher-levels, but high-level construals are perceived as psychologically distant (Fujita, Trope, Liberman and Levin-Sagi 2006).
Types of psychological distance

Psychological distance is a multi-faceted construct. Prior research documents at least four sub-types of psychological distance: temporal, spatial, social, and hypothetical (Bar-Anan, Liberman and Trope 2006; Trope and Liberman 2010). All types of psychological distances are deemed to be interrelated and share the same reference point in the individual's experience and familiarity with the target object or event (Bar-Anan, Liberman and Trope 2006).

Temporal distance refers to the perception that an object or event occurs in a time near vs. far from the individual (e.g., the near vs. distant past or future). The larger the temporal distance, the higher the construal level used to mentally represent the object or event. Converging evidence demonstrates that events located in the distant (vs. close) past or future are construed with more abstract (vs. concrete) features (Liberman, Trope and Sagristano 2002; Wakslak, Trope, Liberman and Alony 2006; Trope and Liberman 2010).

Spatial distance refers to the perception that an object or event occurs in a place near vs. far from the individual. The relationship between the spatial distance and construal level is effectively captured in Smith and Trope’s (2006) example of the forest and the trees: from a high spatial distance, people see a forest, whereas from a low spatial distance, people see the trees. Similarly to temporal distance, empirical evidence demonstrates that distant (vs. close) places are construed in more abstract (vs. concrete) terms (Fujita et al., 2006).

Social distance refers to the extent to which an individual perceives others to be different and unfamiliar, including also differences in terms of group belonging and status (Bar-Anan, Liberman and Trope 2006). The higher the social distance, the higher the construal level, such that dissimilar people (Nussbaum et al. 2003), people belonging to social circles with whom individuals do not identify (Liberman, Trope and Wakslak 2007), and people in positions of high power (Popper 2013) are described in more abstract terms. In addition, people tend to describe their own behavior in terms of situational and concrete factors operating in the moment of action, whereas the behavior of others are described in dispositional and abstract terms (Trope and Liberman 2010).
Hypothetical distance refers both to the perceived likelihood of occurrence of the construed event and to the extent to which the construed event reflects reality (Bar-Anan, Liberman and Trope 2006). The less an event is likely to occur, or the more detached from reality an object or event is, the higher the construal level required. Research demonstrates that people imagining unlikely events describe them in more abstract terms and focus on their core and essential features (Wakslak, Trope, Liberman and Alony 2006).

**Effects of psychological distance and construal level**

High-level construals are essential for several psychological activities including future planning and predictions, alternatives evaluation and choice, and self-control (Trope and Liberman 2010). Converging evidence demonstrates that predictions of distant future events tend to be more schematic and abstract than predictions of closer future events (Gilbert and Wilson 2007). Prediction biases are also accentuated by psychological distance, which underpins the importance of incidental features and leads people to predict more extreme reactions for future events than what then happens (Trope and Liberman 2010). Other research finds that, when thinking about an event, high-level construals lead to focus on the causes of an event, whereas low-level construals lead to focus on the effects (Rim, Trope, Liberman and Shapira 2013).

With regard to evaluation and choice, psychologically distant outcomes are construed in more essential and abstract terms, downplaying the relevance of incidental features (Trope and Liberman 2000). Choice is influenced by psychological distance, with feasibility concerns (i.e., how can we achieve something) progressively losing importance to desirability concern (i.e., what is the value of the achievement) as psychological distance increases (Trope and Liberman 1998; Liviatan, Trope and Liberman 2008).

High-level construals also facilitate self-control. People primed with high-level construal mindsets report to endure longer in self-regulatory tasks and attribute less positive evaluations to temptations (Fujita, Trope, Liberman and Levin-Sagi 2006). People also commit to self-control more easily when the self-regulatory attempt is expected to be in the distant future (Ainslie and Haslam 1992) and when
the tempting object is distant in time and space (Metcalfe and Mischel 1999). In addition, people are more resilient to negative feedback when primed with high-level construals (Vess, Arndt and Schlegel 2011). Similarly, values, because of their stable, superordinate nature, are easier to apply when situations are construed at high-level, for instance commitment to future events, rather than when they are construed at low-level, for instance in immediate situations (Eyal, Sagristano, Trope, Liberman and Chaiken 2009).

1.3.2 Narrative transportation theory

Narrative transportation theory (NTT) contends that audiences immersed into a story will change their attitudes and intentions coherently with the story told (Green 2008). This attitudinal and volitional change depends on imagery, or the ability to create a mental simulation of the fictional scenario depicted by the story (Green and Brock 2002). Imagery, however, imposes a cognitive load on the individual, such that the mental representation of the narrative makes cognitive capacity unavailable for performing other tasks. The audience is thus less likely to carefully scrutinize the content of the story and generate counter-arguments, with a resulting higher likelihood of message acceptance. Narrative transportation theory represents the theoretical backbone of Paper 2. To avoid redundancy, specific arguments on the effect of narrative closure on narrative persuasion are presented in Paper 2. After a brief overview on the fundamental elements constituting a story, this sub-section introduces the transportation-imagery model (TIM) and the key antecedents of narrative transportation (Green and Brock 2002; van Laer et al. 2014). Next, the consequences associated with narrative transportation are discussed. The subsection concludes with an overview of narrative messages and narrative transportation in health communication.

The structure of stories

A story can be defined as a succession of “connected events and characters that has an identifiable structure, is bounded in space and time, and contains implicit and explicit messages about the topic being addressed” (Kreuter et al. 2007; p. 106).
Although the terms “story” and “narrative” are often used as synonyms, they are conceptually distinct: while the story is associated with the storyteller telling it, the narrative is associated with the audience interpreting and attributing meaning to the story (van Laer et al. 2014). This distinction between what is created and communicated by the storyteller and what is received and interpreted by the audience is fundamental in explaining why the same story (which is conveyed by the storyteller) may produce different effects depending on the resulting narrative (which is developed by the audience). The audience can interpret the story for different reasons for instance, to affirm social identity, appropriate cultural meanings, or inform a consumption experience. The audience may also interpret the story in different ways because of dispositional traits such as gender or chronic transportability (van Laer et al. 2014).

Regarding the story content, all stories share two common elements: (1) a plot of events which are often, but not necessarily, causally connected and revolve around the resolution of a conflict (Carroll 2007), and (2) the characters acting within the story (van Laer et al. 2014). Identification with the story characters and the ability to image the story are the two main drivers of narrative persuasion (van Laer et al. 2014).

Regarding the internal structure of the story, most stories can be decomposed in the Aristotelian triad of beginning (protasis), middle (epitasis), and end (catastrophe) (Butcher 1907), or initiation, peak, and release (Cohn 2013). The beginning sets events in motion, creating a context for action to unfold and often introducing the conflict in the story. The beginning is followed by the middle or peak, which develops the events presented in the beginning and culminates in the narrative climax where the story’s equilibrium is disrupted. Finally, the end releases narrative tension by disclosing the outcomes of the climax and wrapping up the events depicted by the story. The end, often referred to as finale, defines the “feeling of finality that is generated when all the questions saliently posed by the narrative are answered” (Carroll 2007, p. 1). Narrative closure is thus achieved when the most salient questions raised by the story are answered and the climax is resolved (Carroll 2007).

However, some stories end without narrative closure leaving the audience in a state of wonder and anxiety. In several soap operas and movies, for instance, lack of
narrative closure is used to stimulate curiosity (Madrigal and Bee 2005) and to increase the narrative tension of a story (Abuhamdeh, Csikszentmihalyi and Jalal 2015). Paper 2 explores the concept of narrative closure to contend that the presence or absence of closure in a health narrative holds relevant implications for narrative persuasion.

*The Transportation-Imagery Model*

The transportation-imagery model (Green and Brock 2002) details the persuasive dynamics of narrative transportation. Narrative transportation defines the mental state through which the audience is suspended from the rational imperatives of reality and engrossed in the story (Green and Clark 2013; van Laer et al. 2014). This state of narrative transportation is enabled by two psychological processes: (1) empathy and (2) imagery (Green and Brock 2002). Empathy refers to the audience’s ability to connect with the characters of the story (Slater and Rouner 2002). Empathizing with a character facilitates identification, allowing the audience to understand the characters’ experiences through their eyes and experience the narrative world in the same way the characters do. Imagery refers to the audience’s ability to create a mental representation of the story (Green and Brock 2002). Mental imagery makes the events presented in the story more concrete and increases the perceived likelihood that they will occur (Taylor, Pham, Rivkin and Armor 1998). The process of mental simulation of the fictional scenario presented by a story requires cognitive capacity, which cannot be efficiently allocated to the performance of other cognitive tasks. Consequently, constraining cognitive capacity through imagery decreases the likelihood that the audience will generate critical thoughts and counter-arguments undermining the content of the message (Green and Brock 2002).

According to a recent extension of the TIM (van Laer et al. 2014), three key structural elements of the plot have been found to consistently facilitate the mechanisms at the basis of narrative transportation: (1) the presence of identifiable characters, (2) the ease of imagery of the plot, and (3) the verisimilitude of the plot (van Laer et al. 2014). First, transporting stories present characters the audience can relate to by means of empathy and identification (Slater and Rouner 2002). If
the characters depicted in the story possess traits and features mirroring those of the audience, then it will be easier to empathize with them. Second, transporting stories are easy to construct mentally (Green and Brock 2002). Well-crafted stories artfully entwine narrative elements and provide the audience with rich details to recreate the narrative scenario. Third, transporting stories are realistic, as they depict events that are believable and consistent with the expectations — even fictional stories must abide standards and rules of verisimilitude (van Laer et al. 2014). In addition to the positive direct effects on narrative transportation at the operational level, the three structural elements can be considered at the conceptual level as moderators of the process leading to narrative transportation through the parallel processes of empathy and imagery (Figure 1.4).

**Figure 1.4**

Antecedents of narrative transportation
Dispositional, behavioral and socio-demographic traits of the audience can likewise influence the degree of narrative transportation. Among the story receiver’s traits and experiences likely to influence narrative transportation, van Laer et al. (2014) identify (1) chronic transportability, (2) attention level, and (3) familiarity as the ones having the strongest and most recurring effects. First, chronic transportability defines the dispositional tendency to be transported regardless of the structural elements of the story (van Laer et al. 2014). Some people are more prone to lose themselves in the meanders of imagination, increasing the likelihood they will feel immersed in the narrative. Second, attention level defines the extent to which the audience can focus on the story (van Laer et al. 2014). Narrative transportation increases when the audience concentrates on the story or is otherwise motivated to be attentive (Nielsen and Escalas 2010; Polichak and Gerrig 2002). Third, familiarity defines the prior experience and knowledge about the events or topics depicted in the story (Green 2004). A minimum level of familiarity with the themes conveyed by the story is necessary to generate a sense of interest and the corresponding narrative transportation.

The value of narrative transportation resides in the outcomes it produces. Research on narrative persuasion specifically investigates how narrative transportation leads to both affective and cognitive reactions (Green and Brock 2002; Green 2004; van Laer et al. 2014). Stories often evoke affective reactions (Escalas et al. 2004), for instance fear when reading a horror novel or happiness when watching a comedy movie. In the ETIM, affective responses are a consequence of narrative transportation, such that high levels of narrative transportation results in greater affective responses (Chang 2009). In addition to affective reactions, stories provoke at least two types of cognitive reactions: narrative thoughts and critical thoughts. Narrative thoughts reflect the structure of the story and contain details and cues related to the characters or the plot (Escalas, Moore and Britton 2004). Critical thoughts, on the other hand, are generated when an argument contained in the story differs from the audience’s existing beliefs (Moyer-Guse’ and Nabi 2010). Narrative transportation increases narrative thoughts and decreases critical thoughts by constraining cognitive capacity to the imagery of the narrative. The reduction of critical thoughts and strong affective responses are the main determinants of narrative persuasion (Green and Brock 2000). Research indeed
documents positive effects of narrative transportation on beliefs, attitudes, and intentions (for a meta-analysis, see van Laer et al. 2014).

**Narrative transportation in health communication**

Health communications make extensive use messages in narrative formats (Shen, Sheer and Li 2015). Narrative transportation reduces counterarguments and leads to a persuasive state that endures over time (Appel and Richter 2007). Thus, in health communication narrative formats are often preferred to informational and rhetorical ones since they prevent a careful scrutiny of health information and arguments while easing the internalization of health information over time (Braverman 2008).

A recent meta-analysis identified specific boundary conditions for the effectiveness of health narratives, illuminating the moderating effect of (1) the type of health behavior targeted by the narrative and (2) the channel employed to convey the narrative (Shen, Sheer and Li 2015). First, the types of health behaviors targeted by a health messages can be categorized as (a) prevention, (b) detection, and (c) cessation. Health narratives promoting prevention behaviors typically invite the audience to take precautionary action against an impending threat. Examples include the adoption of a healthy diet and vaccination campaigns. Health narratives promoting detection behaviors typically encourage the audience to undergo screening. Examples include early detection of breast cancer and colorectal cancer. Health narratives promoting cessation behaviors aim to convince the audience to quit addictive, compulsive, or otherwise harmful behaviors such as smoking, binge drinking, unhealthy eating and drug abuse. Cessation behaviors are the most challenging for an audience to adopt (Snyder et al. 2004) because they entail giving up a pleasurable behavior which provides short term satisfaction with one that involves considerable discomfort, at least in the short to medium term. The inconsistency between these states is experienced as cognitive dissonance and motivates the audience to search for strategies aimed at resolving the inconsistency. This attempt at reconciling inconsistent states in turn strengthens the generation of counter-arguments and leads to avoidant and maladaptive behaviors (Festinger 1962; Gawronski 2012). Corroborating this evidence, Shen and colleagues’ (2015)
meta-analysis confirms that health narratives dealing with cessation behaviors have a weaker effect on persuasion in comparison to health narratives dealing with prevention and detection behaviors.

Second, health narratives can be communicated through different media, typically (a) written, (b) audio, and (c) video. Narratives delivered via audio and video have a larger effect on persuasion in comparison to those presented in written form (Shen et al. 2015). One plausible explanation for this effect is that audio and video channels do not require active scrutiny of the story as required by written channels. That is, the audience can assimilate audio and video content with less effort and less active participation than written information, which translates in a reduced likelihood of counter-arguments. Another possible explanation for the stronger persuasive effects of audio and video media channels resides in their ability to evoke more vivid scenarios aiding the process of imagery of the fictional world.

These meta-analytic results, however, illuminate contextual rather than structural boundary conditions to the effectiveness of health messages, yielding little insights on the effect of structural components of the story on narrative persuasion. In addition to knowing that video media are more effective and that health narratives work best when communicating prevention behaviors, there is still much to discover on the very craft and design of effective narratives. In pursuit of extending literature on narrative persuasion in health communication, *Paper 2* addresses this opening for theory building by investigating the influence of narrative closure (as determined by the structure of the story) on persuasion.
1.4 Micro-level positioning: Theoretical foundations for source effects

Communication is a complex process which goes well beyond the message content and the fundamental structural units composing it. The last two papers included in this dissertation explore the persuasive effect of different manipulations at the message source level. The seminal theory underpinning both papers is attribution theory (Kelley 1967; Wilson and Sherrill 1993), which has been employed as the theoretical backbone by recent studies on consumer-generated advertising (Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013; Hautz, Füller, Hutter and Thürridl 2014).

In addition to attribution theory, both Paper 3 and Paper 4 draw extensively on findings from extant CGA studies to inform their hypotheses. In its traditional, commercial-driven definition, CGA refers to communications designed by consumers to resemble professionally developed commercials promoting well-known brands (Berthon, Pitt and Campbell 2008). Popularized by means of advertising competitions inviting consumers to create ads for their favorite brands (Ertimur and Gilly 2012), CGA has since been integrated in the media strategies of global brands including PepsiCo, Unilever, and General Motors. CGA strategies aim to harness brand insights from direct collaborations, while creating a sense of engagement with the broader audience by disclosing that a fellow consumer created the ad (Thompson and Malaviya 2013).

The popularity of CGA has attracted the interest of researchers, interested in understanding how the audience reacts to the disclosure that an ad is consumer-generated. Typical studies compare identical messages with different sources (corporate vs. CGA) to examine how ad and brand evaluations are influenced by the audience’s inferences on the credibility, similarity, and ad competence of the source (Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013; Hauzt et al. 2014).

Despite being in its dawning, CGA literature is already suffering from mixed findings and conflicting taxonomies. Findings diverge with regard to the effects of source disclosure on a number of dependent variables While most studies concur on the positive effect of source disclosure on source credibility (Lawrence et al. 2013; Hauzt et al. 2014), results are mixed with regard to almost all other variables.
investigated, including source similarity, advertising competence of the ad creator, ad and brand evaluations, and purchase intentions (Thompson and Malaviya 2013; Lawrence et al. 2013; Hauzt et al. 2014). The exploration of boundary conditions that may reconcile these divergent findings are either isolated to single studies (e.g., brand loyalty; Thompson and Malaviya 2013), or, when reported in at least two studies, consider different dependent variables (i.e., executional quality; Lawrence et al. 2013; Hautz et al. 2014).

This sub-section presents a comprehensive and detailed review of the CGA research, upon which Paper 3 and Paper 4 develop predictions specific to the public health sector. This sub-section begins with an overview of attribution theory and source effects in CGA research. Next, it presents a comprehensive summary of extant findings organized in terms of direct and interactive effects. This sub-section concludes by categorizing the different types of source disclosure conditions as examined in Paper 3 and Paper 4.

1.4.1 Attribution theory and source effects in CGA

Most studies dealing with CGA have used attribution theory as a theoretical lens to explain how the disclosure of a consumer source affects the audience's reactions. Attribution theory suggests that individuals use available information to generate causal inferences about objects and events (Fiske and Taylor 1991). When evaluating a message, for instance, the audience uses any available information about the source to guide their evaluation process. These “source effects” have been extensively investigated in communication research, accruing evidence that individuals draw inferences on the message source following two parallel processes: internalization, triggered by source credibility, and identification, triggered by source attractiveness (Wilson and Sherrell 1993). In the following review, source disclosure is operationalized as the identity of the ad creator as disclosed in a message, with studies typically manipulating source disclosure in terms of consumer-generated vs. corporate message.
Source credibility and source attractiveness

The process of internalization occurs when the message is congruent with the individual’s value system. Internalization is heavily influenced by the credibility of the source, a composite construct comprising source expertise and source trustworthiness (Wilson and Sherrell 1993). Source expertise defines the audience’s expectation that the message source possesses extensive knowledge about the topic, whereas source trustworthiness is the expectation that the source is telling the truth (Wilson and Sherrell 1993).

The process of identification, on the other hand, occurs when the individual gains satisfaction by relating to the message source (Kelman 1961). Identification is triggered by the attractiveness of the source, a composite construct comprising ideological similarity – perceptions of shared interests, opinions, experiences and beliefs – and physical attractiveness (Wilson and Sherrell 1993). In CGA research, ideological similarity has been employed as the sole determinant of identification (Thompson and Malaviya 2013), leveraging the notion that information communicated by a peer or a source more similar to the message recipient, can influence consumer behavior to a greater extent than information communicated by a corporate source (Andsager et al. 2006; Hilmert, Kulik and Christenfeld 2006). Physical attractiveness, widely employed in celebrity endorsement (Spry, Pappu and Cornwell 2011), has never been investigated in CGA research. This is because displaying the ad creator would impose constraints in terms of formatting space for print and video ads. Furthermore the practice may create unbalanced identification patterns depending on gender, age, and ethnicity effects. The provision of identification cues in terms of ideological similarity seems a far safer strategy to manipulate source attractiveness.

Perceived motives, ad competence, and advertising authenticity

In addition to source expertise, trustworthiness, and similarity, other source effects have attracted the curiosity of CGA scholars: (1) the perceived motives of the ad creator, (2) the perceived ad competence, and (3) advertising authenticity. Some scholars suggest that the perceived egoistic motives for creating CGA, such as
monetary rewards and self-promotion, may trigger negative audience's responses (Berthon, Pitt and Campbell 2008; Ertimur and Gilly 2012). Extant empirical evidence, however, does not support this contention (Lawrence et al. 2013). Lawrence and colleagues (2013) for example, found no significant effect for the impact of economic (i.e., monetary reward) and non-economic motives (i.e., ad creator brand loyalty) on trustworthiness and ad evaluations.

Results are also mixed with regard to the ad creator's perceived advertising competence. Thompson and Malaviya (2013) found that source disclosure causes skepticism toward the advertising competence of the consumer ad creator. This skepticism, in turn, leads to negative ad and brand evaluations. Conversely, Lawrence and colleagues (2013) found that the disclosure of consumer sources results in more positive ad evaluations, by lowering expectations of ad competence and by making the audience value the creativity and authenticity associated with CGA more so than the ad creator’s advertising skills (Lawrence et al. 2013).

Finally, Ertimur and Gilly (2012) point to advertising authenticity as an under-investigated and often misunderstood construct in CGA research. In general terms, authenticity is defined as the “illusion of the reality of ordinary life in reference to a [...] situation” (Stern 1994, p. 388). Most studies investigating the concept of authenticity in advertising attribute authenticity to the advertised brand or product (e.g., Beverland, Lindgreen and Vink 2008). The few studies that consider authenticity in reference to the advertisement itself rather than the advertised object tend to use “constructs like authenticity and credibility almost interchangeably” (Ertimur and Gilly 2012, p. 126). Ertimur and Gilly (2012) report in their qualitative study that CGA created in response to sponsored competitions are seen as credible but not authentic, whereas CGA created spontaneously are seen as authentic but not credible.
1.4.2 Main and interactive effects in CGA research

The effects reported below are the result of a comprehensive review of quantitative CGA studies that isolated the effect of source disclosure, as documented by eight independent samples and 1789 participants. Three-quarters of the experimental designs (N = 6) employed student samples, whereas the remaining one-quarter (N = 2) used panel data.

Main effects

Source disclosure (CGA) on credibility of the source. Extant results provide converging evidence that CGA sources are considered to be more credible in comparison to agency sources. Lawrence, Fournier and Brunel (2013) show that CGA and their creators are perceived to be more credible than agency-created ads. Hauzt and colleagues (2014) similarly identify a significant positive effect of source disclosure on measures of credibility (i.e., trustworthiness and expertise), such that CGA is perceived to be more credible than agency-created ads.

Source disclosure (CGA) on identification with the source. Results on the effect of source disclosure on identification with the ad creator are mixed. Steyn and colleagues (2011) found that source disclosure had a significant negative effect on identification, measured in terms of felt empathy. Conversely, Lawrence, Fournier and Brunel (2013) report no significant differences between CGA and agency sources on identification, measured in terms of perceived similarity. Thompson and Malaviya (2013), comparing a control condition with a simple CGA source and a CGA source with background information, found no significant difference between the control and the CGA conditions on identification, again measured in terms of perceived similarity. However, they found that participants in the CGA source with background information condition felt more similar to the ad creator, in comparison to the other experimental conditions.

Source disclosure on technical and executional judgments. Results are also unclear with regard to the technical and executional aspects of advertising creation. Thompson and Malaviya (2013) report a negative main effect of CGA, such that the audience expresses more skepticism about the advertising competence of the
source when it is disclosed to be consumer-generated. Lawrence, Fournier and Brunel (2013), however, report that CGA sources are considered to be of higher executional quality in comparison to agency created sources, and that the effect is stable across different levels of manipulated executional quality. Since the dependent variables investigated by the authors differ (skepticism toward ad competence vs. perceived executional quality), a direct comparison of results is inappropriate. Yet further research is necessary to reconcile the idea that the audience may discount the technical ability of consumer-creators but ultimately rate their creations as of higher quality than agency products.

Source disclosure on ad evaluations and brand evaluations. Extant research reports seemingly contrasting results with regard to the effect of source disclosure on ad and brand evaluations. While Lawrence, Fournier and Brunel (2013) find that CGA sources return more positive ad and brand evaluations in comparison to agency-created sources, Thompson and Malaviya (2013) report the opposite. CGA decrease both ad and brand evaluations, yet some boundary conditions alter this main effect.

Source disclosure on intentions. Results are also mixed with regard to the influence of source disclosure on intentions to purchase the advertised product or service. In the context of purchasing a Kindle reader, Lawrence, Fournier and Brunel (2013) found that CGA sources had a stronger effect in comparison to agency sources. In the context of visiting an alpine locality however, Hautz and colleagues (2014) found no significant main effect of source disclosure on intentions to visit.

Other direct effects of source characteristics and perceived motives. In addition to the main effect of source manipulations, extant literature has investigated the main effects of (1) manipulating background information on the ad creator and (2) motives of the ad creator. Thompson and Malaviya (2013) found that, in comparing two CGA conditions with or without additional background information, (i.e., disclosing the ad creator to be a student instead of a generic consumer) resulted in higher perceived similarity, less criticism, and more positive ad and brand evaluations within a student population. Lawrence, Fournier, and Brunel (2013) manipulated the motives driving the consumer-creator (economic vs. non-economic motives) and tested their influence on the credibility of the source, finding no
significant effects. Irrespective of the ad creator motives, both types of CGA achieved similar levels of perceived source credibility.

**Two-way interactive effects**

*Source disclosure x Cognitive resources (constrained vs. unconstrained).* Thompson and Malaviya (2013) examined how imposing cognitive constraints on the audience helps mitigate the negative effect of skepticism toward the ad creator’s competence. The constrained cognitive resources condition required respondents to memorize an eight-digit number and recall it at the end of the study. In the unconstrained condition, no memorization task was presented. The reported interaction is significant: when cognitive resources are unconstrained, disclosing that a CGA decreases ad evaluations. When cognitive resources are constrained, however, the main effect of source disclosure on ad evaluations is reversed. A distracted audience thus evaluates more favorably ads disclosed to be consumer-generated in comparison to an attentive audience. The interaction effect is also significant on brand evaluations, although in the constrained condition the negative main effect of source disclosure on brand evaluations is mitigated rather than reversed.

*Source disclosure x Executional quality.* Two distinct studies manipulated the executional quality of the ads to test if the audience discounts poor ad quality for consumer-generated sources. Lawrence, Fournier, and Brunel (2013) tested the interactive effect on quality judgment, finding no significant interaction: CGA quality was perceived to be high regardless of the manipulated executional quality. Hauzt et al. (2014) tested the interactive effect on source credibility (trust + expertise) and intended behavior (purchase intentions + word of mouth). Under conditions of low executional quality, CGA sources are perceived to be more trustworthy and expert than corporate sources, whereas this interaction does not hold under high levels of executional quality. The interaction on purchase intentions and word of mouth is not significant.

*Source x Brand loyalty.* Thompson and Malaviya (2013) also tested the interaction between source disclosure and brand loyalty on a number of dependent variables. The interactive effect is significant on ad and brand evaluations: when brand loyalty is low, CGA sources prompt a skeptical mindset leading to less
favorable ad and brand evaluations. When brand loyalty is high, CGA sources serve as identification cues, leading to more favorable ad and brand evaluations. The interactive effect is also significant on skepticism toward ad competence: when brand loyalty is low, respondents report less ad competence for CGAs than for corporate sources. This effect is eliminated when brand loyalty is high. High brand loyalty mitigates the negative effect of disclosing CGA sources on perceptions of ad competence. The interaction is not significant for similarity, trustworthiness, perceived motives of the ad creator, and perceived manipulative intent of the firm.

1.4.3 Taxonomy of source disclosure

Previous studies have used the terms consumer-generated and co-created advertising almost interchangeably (Ertimur and Gilly 2012), despite they evoke different levels of institutional involvement. The specification and validation of a taxonomy reflective of each stakeholder's contribution in ad creation is necessary to fully understand whether and how the audience develops different attributions depending on the disclosed source. No prior study has compared the effects of the full spectrum of ad creative modes on ad evaluations. In this dissertation, Paper 4 deals extensively with this issue, distinguishing between three key sources of ad creation: institution-created, consumer-generated, and co-created between the two.

First, institution-created ads refer to the traditional corporate communications developed by companies to promote their product and services. From a public sector perspective, they refer to public service announcements and institutional messages developed by institutional stakeholders without consumer participation.

Second, consumer-generated ads imply that consumers are the sole ad creators. In the commercial sector, CGAs can be unsolicited, in which consumers autonomously create communication for the brand they love (and hate), or solicited where consumers participate in sponsored contests motivated by different goals (Ertimur and Gilly 2012). From a public sector perspective, I use the term CGA to refer to unsolicited CGAs independently created and shared on social media by consumers or consumer associations. For instance, the consumer association Mothers Against Drunk Driving, which periodically develops its own ads and posts them on social media.
Third, co-created ads imply a collaborative effort between companies/institutions and consumers. In the commercial sector, co-created ads are developed when consumers provide insights and creative inputs under corporate guidance. Similarly, I use the term co-created ads in the public sector to define social and health communications emerging from the collaborative effort between governmental departments and consumer-citizens. In this dissertation, co-created sources are compared against institutional sources (*Paper 3* and *Paper 4*) as well as consumer-only sources (*Paper 4*).
Chapter 2: Research Methods

This chapter presents the epistemological stance adopted in this dissertation, discusses the implications related to the sample used, and delves deeper into the methodological background of the four dissertation papers. The first sub-section introduces the ontological and epistemological stances informing the four dissertation papers. The key tenets of representationalist ontology and positivist epistemology are contextualized to the development of social marketing communications. The second sub-section presents the characteristics of the samples employed in the studies and discusses the validity of Amazon Mechanical Turk as a reliable data source in experimental research. The third sub-section offers a more comprehensive explanation of lesser known techniques to test the significance of indirect effects in mediation analyses. Particular attention is devoted to conditional process analysis and simultaneous mediation analysis using structural equation modeling. The fourth sub-section also introduces novel and innovative techniques used to test the significance of interaction effects in experimental designs. In particular, I review two methods for assessing the significance of interaction effects when one independent variable is categorical and the other continuous (i.e., floodlight analysis), and when a categorical variable interacts with an entire structural model (i.e., test of structural invariance). All the papers included in this dissertation use experimental designs to assess causal relationships between the manipulated independent variables and the measured dependents. Details on each experimental design are available in each dissertation paper.

2.1 Epistemological Stance

Research is based on assumptions. The formalization of these assumptions in terms of research paradigms determine how researchers frame their research questions and select the appropriate methodology to analyze the inquired phenomenon (Guba and Lincoln 1994). The underlying assumption informing this dissertation is that reality exists outside people’s mind and truth can be determined through the verification of predictions (Crotty 1998). Specifically, this dissertation adopts a
positivistic epistemological stance, assuming that “a single, external world existed, that this social reality could be empirically measured by independent observers using objective methods, and that it could be explained and predicted through the identification of universal laws or law-like generalizations” (Brown 1996; p. 247). Knowledge can thus have meaning and significance only when derived from an independent observation of the external reality, which is objectively given and can be codified, understood and brought to order through empirical validation (Easterby-Smith, Thorpe and Lowe 1991).

Following a positivist epistemology, the purpose of this dissertation is to identify causal relationships leading to the formalization of regularities in the audience’s reactions to advertisements dealing with compulsive consumption and consumer well-being. These causal relationships are theorized and systematized in the form of testable hypotheses.

The process of interpretation of objective reality, however, is biased by the inability to directly access reality itself and by the ensuing observer’s ability to only subjectively represent it. As a result the representation of reality is approximate: the noise produced by imperfect measurement instruments and the disturbance produced by subjective interpretation implies that we can know reality only in terms of probability or likelihood that an effect will occur (Thomas 2010).

The recognition of observable facts in this imperfect reality thus requires not only sensorial receptors, but also the appropriate mental schemas to understand them. From a philosophical perspective, this dissertation views communication interventions aimed at creating awareness and changing behaviors associated with unhealthy consumptions as factors contributing to the creation of shared interpretative frameworks. Such frameworks or cognitive schemas can then direct society toward a meaningful and communal interpretation of the effects of compulsive and unhealthy consumptions, facilitating the educational and intervention processes and ultimately having a positive impact on consumer well-being.

With regard to the single advertisements, this dissertation assumes that, in the vast majority of cases, the meaning embedded in a message is crafted by designers and aims to produce a specific reaction. When an individual views the social marketing communication, she or he engages in a process of discovery of message
meaning. This meaning has been purposefully placed within the message, with the aim to raise awareness about a topical issue and produce a behavioral change. Following the segmentation logic derived from social marketing (see Section 1.2. Meso-level positioning), I acknowledge that contextual and dispositional variables may influence the message elaboration process. For instance, having low tolerance for uncertainty will cause consumers to react less favorably to a health narrative ending at its peak, without disclosing the consequences of the characters' actions. Similarly, being deeply involved with a health issue such as cervical cancer may increase emotional reactions to a prevention message dealing with the topic. At the same time, I acknowledge that different interpretative processes triggered by specific dispositional traits and personal experiences can be observed, measured and accounted for in future message designs. Even extreme cases at the end tail of the population distribution — the ones in which a subject interprets the meaning of a message in a radically different way that the one intended by the message creators — offer occasions to reconsider deviant processes of sense-making and incorporate this information in future designs.

The research methods employed in this dissertation directly descend from the principles of reductionism and generalization. This involves reducing a problem to its simplest elements and then analyzing these elements individually to gain a better understanding of the problem itself (Easterby-Smith, Thorpe and Lowe 1991). The dissertation structure in itself reflects this reductionist perspective, with the first block of papers examining the audience's reactions to the message content and the second block examining the audience's attributions about the message source.

2.2 Sample: Validity and Reliability of Amazon Mechanical Turk as a Data Source

The democratization of knowledge enabled by the Internet has lead toward an era of information-based power for consumers (Labrecque et al. 2013). One of the consequences stemming from this democratization process is the surge of online panels and crowd-sourcing platforms for the recruitment of subject pools. All the main studies included in this dissertation are based on samples crowd-sourced from
the most famous of these subject pools: Amazon Mechanical Turk (from now, AMTurk). AMTurk is an online service founded by Amazon in 2005 to crowd-source tasks requiring human intelligence, or HITS (Human Intelligence Tasks). The AMTurk workforce in 2014 includes half a million individuals from 190 countries (Paolacci and Chandler 2014). Requester of tasks can register to the website and post HITS to be completed by workers in exchange for a reward. Requesters can specify a set of requirements that workers must possess in order to view and perform the HIT, for example percentage of previously approved HITs and country of origin (Paolacci, Chandler, and Ipeirotis 2010). Workers that qualify can then accept and perform the HIT requested. Since 2010, AMTurk has prolifically been employed in experimental research. A wealth of recent marketing studies published in top journals such as *Journal of Marketing* (e.g., Roggeveen et al. 2015), *Journal of Consumer Research* (e.g., Durante and Arsen 2015), *Journal of Marketing Research* (e.g., Disatnik and Steinhart 2015) and *International Journal of Research in Marketing* (e.g., Orazi and Pizzetti 2015) are entirely based on samples crowd-sourced from AMTurk.

Notwithstanding its common use, some academics have expressed concern toward the use of AMTurk as a data source, questioning the representativeness of the desired population and overall data quality (Paolacci, Chandler, and Ipeirotis 2010). During the World Marketing Congress 2015 organized by the Academy of Marketing Science, an entire session was dedicated to discussing the threats to validity and generalizability poised by AMTurk data, with several academics inviting a more conservative use of online panels such as Qualtrics. Overlooking the fact that one of the session speakers was associated with a very well-known panel provider, this sub-section reviews a number of studies demonstrating the validity of AMTurk as a data source for experimental research. I highlight how AMTurk data are significantly more reliable than student data and at least as reliable and valid as other web sources (Paolacci, Chandler, and Ipeirotis 2010; Buhrmester, Kwang, and Gosling 2011; Daly and Natarajaian 2015).
2.2.1 Threats to internal validity: Coverage error, sample heterogeneity, non-response error, contamination, multiple responses, motivation, and attentiveness

Little evidence suggests that online data is of poorer quality than data collected from subject pools (Gosling, Vazire, Srivastava and John 2004). Regarding threats to validity, significant evidence supports the notion that online labor markets such as AMTurk actually decrease threats to internal validity (Paolacci et al. 2010). Comparing the tradeoffs of different recruiting methods, Paolacci and colleagues (2010) suggest several advantages of AMTurk in comparison to laboratory and traditional web studies. In comparison to laboratory settings, AMTurk studies (1) are less susceptible to coverage error, (2) present more homogeneous samples across multiple studies, (3) reduce significantly the risk of contamination of the subject pool, and (4) completely avoid the risk of experimenter effects. In comparison to traditional web studies, AMTurk studies (1) are less susceptible to coverage error, (2) present more homogeneous samples across multiple studies, (3) reduce significantly the risk of contamination of the subject pool, (4) reduce non-response error, and (5) reduce the risk of multiple responses by a single subject as each worker is associate to a corresponding, depersonalized ID (Paolacci et al. 2010).

On the opposing side, lower attention levels and systematic bias are cited as potential disadvantages of AMTurk samples (Paolacci et al. 2010). Comparative evidence has insofar debunked such claims. Paolacci, Chandler and Ipeirotis (2010) replicated three economic psychology experiments across AMTurk, a student sample, and an Internet discussion board. Their results confirm that AMTurk samples (1) do not significantly differ from other samples in terms of attention levels and (2) exhibit the same heuristics and biases of other data sources. More recent evidence confirms no attentional differences between AMTurk and other subject pools (Berinsky, Margolis and Sances 2014). Attention can still vary regardless of conscientiousness (Paolacci and Chandler 2014), so attention checks and motivational measures can be introduced in these design to reinforce the baseline attention and motivation levels. Attention checks presented in the form of specific questions related to the experiment (e.g., “Who designed the advertisement you saw at the beginning of the survey?”) can be implemented to verify the
respondents’ attention to experimental manipulations (Oppenheimer et al. 2009). Giving a sense of purpose and thanking respondents for their participation in a meaningful study can also increase their motivation to complete the task to the best of their ability (Chandler and Kapelner 2013). The studies included in this dissertation made use of all these techniques.

2.2.2 Threats to external validity: Representativeness of the sample and country of origin

Regarding the generalizability of AMTurk data, typical concerns include the representativeness of the sample in terms of demographics matching the country of origin and the truthful reporting of the country of origin. In this dissertation, all respondents were recruited from the U.S. subject pool, so the treatise will advance considering the demographic characteristics of U.S. only. With regard to the U.S. population, Paolacci and Chandler (2014) note how AMTurk workers are generally younger, more educated, and underemployed in comparison to the broader U.S. population. This difference, however, is common to all Internet subject pools, and thus taps into the broader discourse around the use of online versus laboratory samples. In that regard, several scholars have already demonstrated that no significant difference exists between online and offline samples with regard to conducting experiments (see Horton, Rand and Zeckhauser 2011).

Regarding gender composition, some scholars find an uneven gender distribution in AMTurk respondents, with approximately 65% of female respondents versus 35% of male respondents (Paolacci, Chandler, and Ipeirotis 2010). Other scholars, however, report a gender split more similar to the real population (55% female, see Buhrmester, Kwang and Gosling 2011). Regarding age, some scholars report an average age of 36 years (Paolacci et al. 2010) whereas others report an average age of 32.8 years (Buhrmester et al. 2011). Motivations for participating in AMTurk studies cited by respondents include both intrinsic (e.g., enjoyment, killing time) and extrinsic motives (e.g., earning money), with consistent evidence that monetary incentives do not represent the main reason for participation (Buhrmester et al. 2011). In this dissertation, the sample distribution of gender and age align with previous studies. Table 2.1 summarizes the sample
demographics of the main studies included in this dissertation (excluding pre-tests). Table 2.1 summarizes the basic sample demographics of the main studies included in this dissertation (excluding pre-tests).

<table>
<thead>
<tr>
<th>Reference</th>
<th>Sample</th>
<th>Gender</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paper 1</strong></td>
<td>Study 1</td>
<td>167</td>
<td>64% male</td>
</tr>
<tr>
<td></td>
<td>Study 2</td>
<td>183</td>
<td>63% male</td>
</tr>
<tr>
<td><strong>Paper 2</strong></td>
<td>Study 1</td>
<td>160</td>
<td>53% male</td>
</tr>
<tr>
<td></td>
<td>Study 2</td>
<td>153</td>
<td>51% male</td>
</tr>
<tr>
<td><strong>Paper 3</strong></td>
<td>Main study</td>
<td>127</td>
<td>56% male</td>
</tr>
<tr>
<td><strong>Paper 4</strong></td>
<td>CFA</td>
<td>525</td>
<td>57% male</td>
</tr>
<tr>
<td></td>
<td>Main study</td>
<td>116</td>
<td>62% male</td>
</tr>
</tbody>
</table>

Another point of criticism regarding the quality of AMTurk data concerns the geographic location of the respondents and its truthful reporting. Most respondents are U.S. based (47%) but a significant amount of Indian workers (34%) are active on the platform (Paolacci, Chandler and Ipeirotis 2010). When the requester publishes a HIT, participation can be restricted to individuals from a particular country to guarantee that the sampled population is geographically homogeneous. This ex-ante restriction significantly reduces the amount of respondents from countries different from the desired ones. If a researcher is interested in testing hypotheses on a U.S. population only, however, the risk that some respondents circumvent geographical restrictions set by AMTurk is still present. For instance, registering a reshipping address in the U.S. is relatively simple. Several American companies sell their products only within the U.S., a phenomenon that has determined the surge of a multitude of reshipping websites offering U.S. addresses to foreign customers interested in receiving those specific products. As the registration to most of these websites are free and customer pay only upon receiving their goods, acquiring a fake U.S. address to register on AMTurk as a U.S. resident is
relatively easy. That being said, several studies report that the IPs of respondents typically match the disclosed location (Rand 2012; Shapiro et al. 2013).

Although the literature supports the general trustworthiness of AMTurk respondents (Paolacci et al. 2010; Rand 2012; Shapiro et al. 2013; Paolacci and Chandler 2014), a number of tactics including location checks were implemented all the studies included in this dissertation. First, each HIT was designed to be visible only to respondents registered in the U.S. Second, a fear appeal tactic was employed to deter respondents from other countries with fake accounts. Each experimental study started with a disclaimer that respondents faking their country of origin are easily discovered and their HIT would not be approved. Third, an actual geolocation control measure was employed. Qualtrics was the platform of choice to host the experimental surveys. Data gathered through Qualtrics report a number of default metrics concerning the respondent, including time of start and end of the survey, IP address, and latitude/longitude of the respondent’s location. North America is approximately located within latitude 30°–50° N and longitude 68°–125° W. The geolocation provided by Qualtrics and a simple Excel macro highlighted which respondents were not residing in the U.S. without violating the privacy of respondents (i.e., avoiding to manually check each latitude/longitude data point and the corresponding exposure of sensitive information such as the address of the respondent). In this dissertation, the percentage of respondents falsely declaring to reside in the U.S. was less than 5% in the first, second, and third paper, and less than 10% in the fourth paper. These responses were listwise deleted from each database prior to the commencement of any analyses.

2.2.3 Concluding remarks on the validity of AMTurk samples

The reported intrinsic motivation and reward system of AMTurk guarantees the diligence of AMTurk workers (Paolacci and Chandler 2014). For experimental studies conducted on AMTurk, threats to internal validity are actually lower in comparison to other alternatives (Paolacci et al. 2010) and can be minimized through rigorous experimental design and attention checks. Threats to external validity can likewise be stifled through a mix of screening requirements, warnings
of misleading information, and checks of respondents’ actual location against reported location.

A concluding consideration is the incentive paid to AMTurk workers. Several researchers tend to use very low incentives, as low as 10 cents for a 3 minutes survey, or US$ 2/hour (Paolacci et al. 2010). As I strongly believe that any payment below the federal minimum wage in the U.S. (i.e., US$ 7.25 as determined by the Fair Labor Standard Act of 24 July 2009, Department of Labor 2015) would be unfair and exploitative, the incentive I used was 12.5 cents per minute, corresponding to an hourly wage of US$ 7.5. Typical estimated durations of experiments ranged from 6 minutes (corresponding to US$ 0.75) to 10 minutes (corresponding to US$ 1.25). Increased incentives do not affect the quality of responses in most psychological studies (Buhrmester, Kwang and Gosling 2011; Paolacci and Chandler 2014).

2.3 Analyses of mediation effects

Mediation analysis aims at identifying whether the relationship between a predictor X and a criterion Y is explained by a third intermediate variable M or mediator. In the experiments included in this dissertation, identifying a mediator allows to understand how the treatment (X) achieves the outcome (Y), yielding insights about the underlying mechanism through which health communications influence cognitive, affective, and behavioral outcomes. For instance, one of the studies included in Paper 2 aims to assess to what extent the effect of the predictor narrative closure on the criterion self-efficacy is mediated by narrative transportation. That is, the study aims to understand to what extent the effect of presenting a story that ends at its peak without a clear finale (i.e., low narrative closure) on individual confidence in performing actions depicted in the story (i.e., story-consistent self-efficacy) is carried over by the feeling of immersion and engagement with the story (i.e., narrative transportation).

Traditionally, mediation analysis in psychology and marketing has been dominated by the causal mediation approach formalized by Baron and Kenny (1986). The Baron and Kenny’s test for mediation implies three steps.
First, the mediator needs to be regressed on the independent variable:

\[ M = b + bX + e \]

Second, the dependent variable must be regressed on the independent variable:

\[ Y = b + bX + e \]

Third, the dependent variable must be regressed on both the independent variable and the mediator:

\[ Y = b + bX + bM + e \]

According to this approach, mediation is established if (a) the path from \( X \) to \( M \) is significant, (b) the path from \( X \) to \( Y \) is significant, and (c) when \( Y \) is regressed on both \( X \) and \( M \), the path from \( X \) to \( Y \) becomes smaller in absolute value and its significance is reduced (partial mediation) or eliminated (full mediation). Notwithstanding the widespread use of the Baron and Kenny’s approach, several scholars have criticized the fundamental assumption that the significance of the main effect is a precondition to assess mediation (Preacher and Hayes 2008; Zhao, Lynch, and Chen 2010).

Zhao and colleagues (2010), in particular, suggest that the only requirement to establish mediation effects should be the significance of the indirect effect. The intuition beyond Baron and Kenny’s assumption is that there is little value in investigating the presence of a mediator if there is no main effect to be mediated. Mathematically, such intuition is incorrect. The total effect of \( X \) on \( Y \) is equal to the sum of the indirect effect (the product of coefficients from \( X \) to \( M \) and from \( M \) to \( Y \)) and the direct effect from \( X \) to \( Y \). When the indirect and the direct effect have the same sign, the total effect will have the same sign and a complementary mediation will be observed (Zhao et al. 2010). When the indirect and the direct effect have opposite signs, however, the total effect can approximate zero even though the competing mediation paths are significant. It is also possible that two mediating paths of opposite sign suppress the main effect, concealing paramount insights. For
these reasons, mediation analyses in this dissertation are conducted using either the product of coefficients approach or structural equation modelling.

2.3.1 Product of coefficients mediation and bootstrapping

The product of coefficients approach considers only the two regression equations from $X$ to $M$ and from $M$ to $Y$ to compute the indirect effect (Figure 2.1). That is, in a simple mediation with an independent variable $X$, a mediator $M$, and a dependent variable $Y$, the indirect effect $ab$ is the product between the path from $X$ to $M$ ($a$) and the path from $M$ to $Y$ ($b$).

**Figure 2.1**

**Depiction of the indirect effect (ab) in a simple mediation relationship**

Once the indirect effect has been computed, it is necessary to test its significance. Baron and Kenny (1986) suggest testing the significance of an indirect effect using the Sobel test. However, Zhao et al. (2010) note how the Sobel test suffers from low power issues, being inadequate for detecting small effects when the sample is smaller than 1,000. The Sobel test is not even ideal to detect moderate effects when the sample size is less than 100. In this dissertation, the significance of the indirect effect is tested using bootstrapping. Bootstrapping is a statistical technique that allows overcoming issues of low power by building confidence intervals on artificially generated distributions of indirect effects (see Preacher and Hayes 2004; Zhao et al. 2010). Bootstrapping emerged as a technique to overcome the assumption that, in mediation, the ratio between the indirect effects and their standard errors follows a normal distribution (Preacher and Hayes 2008). The issue
with this assumption is that indirect effects are computed as a product of the coefficients of the direct effects, thus implying multivariate normality. Differently from univariate normality, multivariate normality is rarely observed unless the sample is very large. To overcome violations of multivariate normality, bootstrapping generates an empirical sample distribution through repeated random sampling with replacement. Starting from the original sample size \( N \), bootstrapping “draws with replacement \( N \) values of \((X, M, Y)\) to create a new sample” (Zhao et al. 2010: 202), where \( N \) is typically 1,000 or 5,000 repetitions. The newly generated distribution of indirect effects allows the estimation of 95% confidence intervals: if said confidence interval does not include zero, the indirect effects analyzed are statistically significant. The statistical packages employed in this dissertation included SPSS 21 with the macro PROCESS and AMOS 21, to allow for the automatic computation of bootstrapped samples. Note that the bootstrapping approach is applicable to both the product of coefficient approach and to its more complex variations, including simultaneous mediation via structural equation modelling.

2.3.2 Simultaneous multiple mediation using SEM

Structural equation modelling (SEM) is “a technique used for specifying and estimating models of linear relationships among variables” (MacCallum and Austin, 2000: 202). SEM uses factor analysis to create latent variables from multiple observed indicators, and then investigates the relationship between latent (or even observed) variables through path analysis, a complex typology of multiple regression analysis. While providing a general overview of SEM is beyond the scope of this section (for a review, see Iacobucci 2009, 2010), it is worthwhile justifying why SEM is used in some of the mediation analyses included in this dissertation.

In the appendix of Paper 4, in particular, I specify a complex causal model of source effects with serial parallel mediations. Testing this model with traditional mediation techniques, although not impossible, would have been less than ideal because of at least three limitations of the product of coefficient approach, namely that (1) estimating multiple mediation models can be extremely complex, (2) “false”
significant effects may be observed due to measurement error, and (3) significant effects may be observed because the mediator lacks discriminant validity.

SEM allows testing mediational hypotheses without incurring in these limitations. First, standard regression requires ad hoc methods to infer indirect and total effects and conventional multivariate regression does not allow testing the relationships between multiple dependent variables (Gunzler, Chen, Wu, and Zhang 2013). SEM enables the simultaneous estimation of all the effects within a model because variables in SEM are treated as exogenous (if they are not caused by any other variable) and endogenous (if they are caused by another variable). That is, while exogenous variable in SEM are conceptually identical to independent variables in regression, endogenous variables are dependent but can also cause one or more variables in the model.

Second, even in the absence of a real direct effect, it is possible to observe a significant direct effect due to the measurement error of the mediator (Birnbaum and Mellers 1979; Zhao et al. 2010). Unless the mediator is measured as a single item, typical regression analyses establish the internal consistency of a scale through the Cronbach’s α and then average the items to form a composite index, assuming that all the items are measured with equal error. The differences in the measurement errors of these variables, which are seldom equal, become then impossible to account for within the residual term associated with the composite index. Instead, the SEM model included in Paper 4 is based entirely on latent variables reflected by multiple, observed indicators with their own residual terms. When testing for mediation, SEM takes into account measurement error for the mediator and thus avoids artifact effects dependent upon the error term (Zhao et al. 2010).

Third, a poorly operationalized mediator risks being not conceptually distinct from the independent or the dependent variables. This is especially true for relatively new constructs whose face validity and operationalization often overlap similar constructs. In the case of poor construct operationalization, the association between the mediator and either the independent or the dependent variable will be the result of lack of discriminant validity, rather than a true effect. SEM allows the estimation of discriminant validity, which is demonstrated when in a correlation matrix the average variance extracted (AVE) of each construct is greater than the
shared variance between that construct and any other construct in the correlation matrix (Fornell and Larcker 1981). In Paper 4, for instance, this technique is applied not only to demonstrate that authenticity significantly mediates the effect of credibility on ad evaluations, but also that authenticity is a different construct from credibility despite prior literature treating the two constructs as interchangeable (see Ertimur and Gilly 2012).

It is also worthwhile mentioning that, contrary to regression, SEM provides fit statistics indicating how plausible the causality of the hypothesized mediational model is. In other words, fit statistics indicate to what extent the matrix of implied variances and covariances specified by a structural model differs from the sampled matrix of variances and covariances. Model fit is achieved when the discrepancy between the matrixes is minimized. For mediation analysis, fit statistics confirm that the causal paths specified are plausible (and we have not, for instance, switched the independent variable with the mediator). The fit statistics employed in this dissertation are described in detail when describing the measurement model employed in Paper 4.

2.3.3 Mediation analysis with multicategorical predictors

Most experimental research typically deals with manipulated variables with one treatment and one control condition (Hayes and Preacher 2014). In the model depicted in Figure 2.1 the indirect effect ab refers to the effect that an increase in one unit in the independent variable X (for categorical predictors, moving from the control = 0 to the treatment = 1 condition) has on the dependent variable Y through the mediator M.

However, some experimental research requires the comparison between three or more experimental conditions. In Paper 4, the author addresses a major gap in consumer-generated advertising literature by (1) specifying a source taxonomy that takes into account institutional, consumer, and collaborative (i.e., institutional + consumers) sources, and (2) testing which source condition leads to the highest perceptions of authenticity (i.e., the mediator) and most positive ad evaluations (i.e., the dependent variable). In this case, it is not possible to estimate the indirect effects using the method described in Section 2.3.1 as there is no single regression equation
representing the effect of X on M and Y because the independent variable has three levels (Hayes and Preacher 2014).

When the independent variable is categorical and has more than two levels (i.e., multicategorical), it is possible to estimate the mean differences by representing the groups with \( k - 1 \) parameters, with \( k \) equal to the number of levels in the multicategorical variable (Cohen, Cohen, West and Aiken 2003). In Paper 4, I estimate a mediation effect with a multicategorical predictor following the three-step procedure described by Hayes and Preacher (2014).

First, indicator coding is used to create \( k - 1 \) indicator variables. With three experimental conditions A, B and C, we will have two resulting indicator variables \( D_1 \) and \( D_2 \). \( D_1 \) will have A coded as 1 and B coded as 0, whereas \( D_2 \) will have A coded as 0 and B coded as 1. C, referred to as the reference group, will be coded as 0 in both \( D_1 \) and \( D_2 \). The reference group C qualifies the parameter differences of \( D_1 \) and \( D_2 \) in reference to C: this means that the choice of the reference group needs to be supported theoretically, as the choice of different reference groups will lead to different results (Hayes and Preacher 2014).

Second, maximum likelihood estimation can be used to specify a multiple regression model with the indicator variables \( D_1 \) and \( D_2 \) as the independent variables. This will result in two regression equations \( a_1 \) and \( a_2 \) describing the effect of \( D_1 \) and \( D_2 \) on the mediator M, two regression equations \( c_1 \) and \( c_2 \) describing the effect of \( D_1 \) and \( D_2 \) on the dependent variable Y, and one regression equation \( b \) describing the effect of the mediator M on the dependent variable Y.

Third, the resulting regression equations are used to compute the indirect effects relative to each \( k - 1 \) indicator variable. This is done following the same procedure described in Section 2.3.1, multiplying \( a_1 \) and \( a_2 \) by \( b \) to obtain the indirect effects \( a_1b \) and \( a_2b \). Once the two relative indirect effects are computed, their significance needs to be assessed. The method used in this dissertation is the construction of bias-corrected confidence intervals (CI) using the PROCESS macro (Hayes 2013) with 10,000 bootstrapped samples. As described in Section 2.3.1, if the CI does not contain 0, the relative indirect effect is significant and evidence of mediation is provided.
2.4 Analyses of moderation effects in experimental designs

One consequence of the structural reductionist approach adopted in this dissertation is that most of studies included investigate the joint effects of two independent categorical variables on the dependent variables of interest. When both independent variables are categorical, analysis of variance (ANOVA) is suitable to assess how the effects of one experimental condition are proportional at different levels of one or more other experimental conditions (Williams 1952). ANOVA is well equipped to handle experimental designs using categorical predictors: it allows articulating specific hypotheses with the null hypothesis being that all treatments are random samples of a population and the alternative hypothesis being that different treatments produce different effects.

At the same time, structural reductionism cannot prescind from the dispositional and behavioral traits of the audience likely to interact with the manipulated structural components of the message. Personal dispositions and behavioral traits, such as tolerance toward uncertainty or body-mass index, are typically measured on continuous scales. Although in the past several scholars engaged in the practice of dichotomizing these continuous variables into low and high levels, recent literature condemns this practice and offers methodological alternatives to investigate the interactive effects between one or more categorical predictors and one continuous predictor (Fitzimons 2008; Spiller, Fitzsimons, Lynch and McClelland 2013). In the following, I provide an overview of lesser known methods for testing interactions in the experimental designs of the dissertation papers.

2.4.1 Floodlight analysis

Experimental researchers trained in the use of analysis of variance (ANOVA) can struggle with the analysis of the interactive effect between one manipulated categorical and one measured continuous variable (Spiller et al. 2013). One of the most common solutions adopted to fit the continuous variable within an ANOVA framework is to dichotomize, or median split, the continuous variable into low (i.e., below the median) and high (i.e., above the median) levels. As reinforced by the fiery
editorial “Death to dichotomizing” opening the first issue of volume 35 of *Journal of Consumer Research* (Fitzsimons 2008), the dichotomization of continuous independent variables is problematic as it leads to a substantial loss of statistical power (Irwin and McClelland 2003; MacCallum, Zhang, Preacher and Rucker 2002). It can also result in spurious significant effects in the case of correlation of the independent variables (Maxwell and Delaney 1993). A more robust approach entails a multiple moderated regression in which the dependent variable \( Y \) is regressed on the manipulated independent variable \( X \), the measured independent variable \( Z \), and their interaction \( XZ \):

\[
Y = a + bX + cZ + dXZ
\]

Once the interaction effect is detected and the researchers are interested in estimating the effects of the manipulated categorical variable at different levels of the continuous moderator, spotlight analysis tests are often performed at plus and minus one standard deviation from the mean of the continuous variable (Spiller et al. 2013). However, the convention of “shining the spotlight” at plus and minus one standard deviation from the mean is completely arbitrary, and leads to two main issues. First, skewed distributions of the continuous moderator will result in one of the two standard deviations being outside the data range. Second, if multiple studies using the same design find radically different means for the continuous moderator, “they appear to fail to replicate one another even when they find exactly the same regression equation in raw score units” (Spiller et al. 2013: 282). Testing effects at meaningful values of the continuous variable generally leads to more relevant theoretical insights (e.g., Body-Mass Index thresholds for normal, overweight and obese people). For instance, if in paper three and four the interaction of measured BMI with the manipulated treatments was significant, a spotlight analysis at the meaningful values of BMI = 25 (normal weight), BMI = 30 (overweight) and BMI = 35 (obese) would have been necessary.

If no values of the continuous variable are meaningful, however, Spiller and colleagues (2013) suggest moving away from a spotlight analysis at meaningful values in favor of what they label a “floodlight analysis”. This analytical technique is based on the work of Johnson and Neyman (1936). Instead of using the two arbitrary
point of plus/minus one standard deviation, a floodlight analysis illuminates the full range of the continuous moderator and indicates at what levels the interaction with the manipulated categorical variable is significant. The point in which the interaction becomes significant is named Johnson-Neyman point, which corresponds to the value of the continuous moderator “at which a spotlight test would reveal a p-value of exactly .05” (Spiller et al. 2013: 282). In this dissertation, floodlight analyses were performed both in Paper 2 and Paper 3. In Paper 2, for instance, I decompose the interaction between the manipulated situational level of narrative closure embedded in a story and the measured dispositional level of need for cognitive closure of the audience. The decomposition of this interaction is necessary to demonstrate the paper’s claim that individual levels of tolerance to uncertainty qualify the persuasive effect of messages with different levels of narrative closure. In Paper 3, I decompose the interaction between the manipulated message source and the measured level of involvement with the issue presented in the advertisement (i.e., unhealthy eating leading to obesity) to demonstrate that more involved audiences react more positively to health messages disclosed to be co-created. Since no meaningful values exist for a 1-7 Likert scale measuring need for cognitive closure or involvement with unhealthy eating, floodlight analyses are preferred over spotlight analyses. All floodlight analyses were performed employing the SPSS macros developed by Hayes (2012).

2.4.2 Tests of measurement and structural invariance

Tests of structural invariance can be considered as a special case of moderation, typically performed in SEM to define to what extent the psychometric properties of the observed indicators can be generalized across different groups. For instance, in the supplementary analyses included in the Appendix of Paper 4, I investigate whether the predictive model for source effects depends only on the latent variables included, such as credibility and similarity, and not on group membership such as gender or body-mass index. For this purpose, the author needs to perform a multigroup comparison to demonstrate that the model is invariant across groups. Two types of invariance need to be assessed: measurement invariance and structural invariance. Measurement invariance broadly indicates that the
measurement model has the same factor structure (i.e., configural invariance), factor loadings (i.e. metric invariance), intercepts (i.e., scalar invariance), and residuals (i.e., residual invariance) across all groups. While extremely important this test only confirms that the constructs of interest are measured in the same way across groups.

Structural invariance, on the other hand, indicates that the structural model has the same latent factor variances, covariances, and means across groups. When a model is not structurally invariant, it means that the grouping variable, which is effectively a moderator, alters some of the relationships between the model factors. Tests for structural invariance are typically performed by imposing specific restrictions to the model (e.g., constraining the factor covariances to be equal across) and then assessing if these restrictions decrease the model fit. This process becomes lengthier and more prone to human error as the model becomes more complex, given that each factor element has to be manually constrained to fixed values. To avoid these issues, in this dissertation structural invariance is tested using the critical ratio for differences approach. AMOS allows the production of a pairwise comparison matrix between every possible parameter in the model compared against each group in terms of z-scores. By checking each individual cell of the pairwise comparison matrix, it is possible to spot the parameters significantly different across groups (i.e., those with z-scores higher than a pre-determined threshold, typically +/- 3). However, the analysis and comparison of each cell for each group can be tedious if the number of parameters to compare is large: for instance, a matrix with 51 parameters will have 2500 (50 x 50) individual cells to analyze. In this dissertation, multigroup comparison tests are performed using a workbook that automatically runs through the pairwise comparison matrix and returns all significant differences between the parameters (Gaskin 2012).
Chapter 3 — Paper 1: The Nature and Framing of Gambling Consequences in Advertising

Davide C. Orazi, Jing Lei, and Liliana L. Bove

Note

Abstract
This research investigates the impact of the nature (material vs. social) and framing (losses vs. gains) of gambling consequences in responsible gambling ads. Two experimental studies were conducted to assess (1) the construal level of gambling consequences, and (2) the influence of the nature and framing of gambling consequences on advertising effectiveness for both recreational and problem gamblers. The results show that, compared to material consequences, social consequences are at a higher construal level and thus more effective in reducing the propensity to gamble. This differential impact of social versus material consequences is stronger among problem gamblers (vs. recreational gamblers) and when the consequences are presented as losses (vs. gains). Implications for public health agencies, social marketers and future research are discussed.

**Keywords:** Advertising, Nature of the consequences, Message framing, Problem gambling, Social marketing.
3.1 Introduction

Compulsive consumption behaviors are persistent and hard to control. The chronic urge to satisfy a short-term goal is one of the major determinants of such behaviors, ultimately leading to negative consequences (Workman and Paper 2010). Problem gambling, for example, is a compulsive consumption behavior characterized by the difficulty in limiting the amount of money and time spent on gambling (Pallesen, Mitsem, Kvale, Johnsen and Molde 2005). The average accumulated debt for problem gamblers in the U.S., albeit highly variable depending on the location, is substantive: for instance, problem gamblers in Wisconsin accumulate an average of US$39,000 debt before seeking help, and figures in Illinois are even higher, with an average debt of US$114,000 (Thompson, Gazel and Rickman 1996). In addition, problem gamblers are predisposed to violent behaviors, divorce (Korman, Collins, Dutton, Dhayananthan, Littman-Sharp and Skinner 2008), and other harmful consumption behaviors, such as smoking, binge-drinking and drug abuse (Hodgins, Peden and Cassidy 2005; Thomas, Piterman and Jackson 2008).

As a means to avoid these undesirable outcomes, social marketing communications are used to raise awareness of the risks associated with compulsive consumptions (Duhachek, Agrawal and Han 2012) and to encourage an attitude of moderation (Scammon et al. 2011). In the context of this research, we consider an attitude of moderation as fruition of the gambling activity in which the gambling behavior does not lead systematically to negative consequences (i.e., recreational gambling: see Ferris and Wynne 2001). But compulsive consumption behaviors are notoriously difficult to change. Their chronic urge for satisfaction impairs self-control (de Ruiter et al. 2009) and hinders the ability to recognize the implicit trade-offs between short-term (e.g., enjoyment) and long-term goals (e.g., financial security), decreasing the likelihood of transition toward moderation (Scammon et al. 2011).

This research examines how this trade-off can be made more salient in the minds of compulsive consumers by leveraging the advertising elements defining the nature and the framing of different behavioral consequences. The nature of the consequences describes which aspect of personal interests (e.g., money, family) will be affected if the consumer performs a specific action. Gambling, for example, may
result in different types of adverse consequences such as financial loss and social embarrassment (Hodgins et al. 2005; Muñoz, Chebat and Suissa 2010). The framing of the consequences defines their presentation as losses or gains (Tversky and Kahneman 1981). For instance, the same responsible gambling message may be framed as a loss (e.g., gambling will lead to a loss up to US$50,000 a year) or as a gain (e.g., refraining from gambling will lead the gambler to save up to US$50,000 a year). Little research has systematically examined how the nature of these consequences influences message effectiveness, or how the effectiveness of such appeals varies depending on the framing of the consequences and for different types of audience (e.g., recreational and problem gamblers).

The present research employs construal level theory (Trope and Liberman 2010) as a theoretical lens to categorize behavioral consequences as high versus low construal ones, depending on the level of cognitive effort required to recall or imagine the consequence. This research starts by examining the relative impact of the nature of the consequences on attitudes toward gambling and intentions to gamble. In particular, this research explores the differential impacts of social and material consequences on different types of gamblers, as the same advertisement may function as both a preventative message for recreational gamblers and a corrective message for problem gamblers (Andreasen 2012). The treatise continues with the contention that the perceived trade-off between short- and long-term outcomes depends on not only the nature of the consequences depicted, but also the framing of these consequences as losses versus gains. Previous research has shown that the effect of message framing largely depends on contextual factors (Block and Keller 1995; Rothman and Salovey 1997; Keller and Lehmann 2008). Similarly, this research contends the nature of the consequences to be such a contextual factor that affects the impact of messages framed as losses or gains.

To test these predictions, two experimental studies are conducted. Study 1 reveals that social consequences are at a higher construal level than material consequences. Study 2 shows that message effectiveness depends on not only the nature of the depicted consequences, but also a) the type of gambling behavior of the audience and b) the way the message is framed. The following sections present first the hypotheses development and then the results of the experimental studies. The paper concludes with a discussion of the implications for social marketers and
3.2 Theoretical development and hypotheses

3.2.1 The construal level and main effect of the nature of the consequences

Messages aimed at changing a compulsive behavior typically motivate a behavioral change by describing the consequences stemming from that behavior. These consequences may be physical such as injury or death, material such as the loss of money or a home, or social as with social disruption and shame (Shehryar and Hunt 2005; Muñoz, Chebat and Borges 2013). Little research, however, has systematically compared the impact of different types of consequences on message persuasiveness. One exception is Shehryar and Hunt (2005), who compare the persuasiveness of death versus non-death-related consequences (e.g., serious injury and arrest) using Terror Management Theory (TMT: Greenberg, Solomon and Pyszczynski 1997). Although befitting the drink-driving context investigated by the authors, TMT is only applicable when death is a realistic outcome of the compulsive behavior.

This research presents a more generalizable classification of behavioral consequences based on construal level theory (Trope and Liberman 2010). Construal level theory contends that people form abstract representations of objects and events that are not readily accessible through sensory perception. The nature of these abstract representations—named construals—depends on their psychological distance, anchored to the individual’s experience and familiarity with the event represented (Bar-Anan, Liberman and Trope 2006). That is, the higher the psychological distance from an object or an event, the higher the construal level required to form an abstract representation of that object or event. Psychological distance can be hypothetical, temporal, spatial, and social (Trope and Liberman 2010). People perceive as psychologically close those events occurring with certainty, immediacy, and in a familiar space (Goodman and Malkoc 2012). Conversely, people perceive as psychologically distant those events occurring with
ambiguity, at a later point in time and in an unfamiliar space (Goodman and Malkoc 2012).

Contextualizing construal level theory to gambling consequences, the psychological distance of a consequence represents the extent to which the audience can identify with a gambling-related outcome. Previous research suggests that material and social consequences are two common outcomes associated with problem gambling (Hodgins et al. 2005; Muñoz et al. 2010). Material consequences refer to the loss or gain of money and properties (Muñoz et al. 2010), whereas social consequences refer to the exclusion (vs. acceptance) or disruption (vs. harmony) of social circles relevant to the individual (Arthur and Quester 2004; Shehryar and Hunt 2005).

We propose that material consequences are at a low construal level, whereas social consequences are at a high construal level. Material consequences are a certain and direct outcome of the gambling behavior, as when you play, you either win or lose. These clear-cut outcomes are usually immediate and fast-paced (Rockloff and Dyer 2007), and mostly take place in the immediate environment of the consumption behavior such as a casino or online gambling website (Kushner et al. 2008). Because psychological distance depends on the individual’s experience and familiarity with the event represented (Bar-Anan, Liberman and Trope 2006), the more the event is perceived as certain, familiar, and immediate, the closer the psychological distance. Consistent with this line of reasoning, we expect gamblers to frequently experience material consequences in the immediate environment of gambling; thus perceiving them as concrete and psychologically close. Conversely, social consequences are an uncertain and indirect outcome of the gambling behavior. The gambling act itself does not produce immediate social consequences and these may take time to develop. Social consequences also take place in settings not necessarily linked to gambling, detaching such consequences from the gambling experience. We expect social consequences to relate to psychological objects that are not part of the common gambling experience (i.e., psychologically distant) and thus perceived as abstract such that:

**H1.** Social consequences are at a higher construal level than material consequences.
Psychological distance influences how people construe events and take decisions (Goodman and Malkoc 2012). Processing events and outcomes that are psychologically distant requires greater cognitive effort than processing those that are psychologically close (Trope and Liberman 2010). In turn, converging evidence shows that greater cognitive elaboration of a message results in greater attitude change (Bohner and Dickel 2011; Muñoz et al. 2010; Muñoz et al. 2013). Hypothesis 1 proposes that material consequences are at a low construal level whereas social consequences are at a higher construal level. Given the higher construal level of social consequences and the associated higher level of cognitive elaboration in comparison to material consequences, we propose that:

**H2.** In comparison to material consequences, social consequences are more effective in reducing a) positive attitudes toward gambling and b) intentions to gamble.

### 3.2.2 Nature of the consequences x Type of gambler

The same responsible gambling message may serve as a preventative or corrective function depending on the targeted audience (Andreasen 2012). We distinguish between recreational and problem gamblers using the Problem Gambling Severity Index (PGSI: Smith and Wynne 2002). Recreational gamblers are those whose gambling behavior does not systematically lead to adverse consequences. In contrast, problem gamblers are those whose gambling behavior systematically creates negative consequences for them, their social networks and society as a whole (Ferris and Wynne 2001).

Little research has examined how different types of gamblers appraise different gambling-related consequences. Hypothesis 2 predicts social consequences are more effective than material ones as the former is perceived at a higher construal level than the latter. We expect the type of gambler to moderate this effect of the nature of the consequences. Since problem gamblers (vs. recreational gamblers) report a higher exposure to the gambling behavior (Lole, Gonsalvez, Barry and Blaszczynski 2014) they are highly experienced with consequences directly related to gambling,
such as material ones (e.g., gain or lose money). This high exposure to material consequences reduces problem gamblers’ sensitivity toward such consequences, decreasing their deterring power. In addition, material consequences are an intrinsic component of gambling. Problem gamblers tend to believe they can always win back what they have previously lost (Smith and Wynne 2002). This perceived ease of recouping lost money may also contribute to the reduction in sensitivity to material losses. We thus expect material consequences to be less effective for problem gamblers (vs. recreational gamblers) because they are more accustomed to the win-loss cycle embedded in gambling.

Social consequences, on the other hand, are not an intrinsic component of the gambling behavior. That is, while each gambling behavior will result in a material win or loss, not all gambling behaviors will incur social consequences. Even if, on average, problem gamblers are more likely to experience social consequences (Smith and Wynne 2002) they may not readily link them to the gambling behavior. Because of the lack of a direct link between behavior and consequences, the frequent gambling behavior characterizing problem gamblers is unlikely to desensitize them to social consequences. Messages employing social consequences should then stimulate a high level of cognitive elaboration for both recreational and problem gamblers, providing a similar deterring effect for both types of gamblers. Formally stated:

**H3.** The impact of material consequences would be smaller for problem gamblers in comparison with recreational gamblers, whereas the impact of social consequences would be similar for the two types of gamblers on a) attitudes toward gambling and b) intentions to gamble.

### 3.2.3 Nature of the consequences x Message framing

Prospect theory (Tversky and Kahneman 1981) states that an individual’s reaction to messages with identical content depends on message framing, namely the presentation of the content in terms of losses versus gains. From a compulsive consumptions perspective, loss frames present the negative consequences of
engaging in a particular course of action, whereas gain frames present the positive consequences of refraining from a particular course of action.

The effect of message framing on persuasion, however, is far from clear. In a meta-analysis of 60 studies, reporting on 584 different experimental conditions, Keller and Lehmann (2008) find message framing has no significant direct effects on persuasion. Notwithstanding this finding, some studies report that messages framed as losses are effective when the audience reports high self-efficacy (Block and Keller 1995) or high involvement with the focal issue (Rothman and Salovey 1997). These findings provide evidence that consumers are generally loss-averse, especially when specific contextual factors are present (e.g., high involvement). For instance, Camerer (2005) suggests that loss aversion is triggered only when the threat of losing something involves psychological objects perceived as relevant.

In line with these findings, we expect that the effect of message framing depends on the nature of the consequences depicted in a message. Because psychologically close consequences (e.g., material losses) are perceived as an intrinsic component of the win-lose cycle, gamblers are less sensitive to such consequences and exhibit a lower level of loss aversion. Conversely, psychologically distant consequences, such as losing family, friends or partner, do not directly stem from the gambling behavior. As argued in Hypothesis 2, gamblers are more sensitive to social consequences and would elaborate more on such consequences than on material ones. The heightened sensitivity to social consequences is expected to trigger a higher level of loss aversion in comparison to material consequences. The perceived hardship to recover a damaged social relationship may also increase the loss aversion for social losses. We thus expect that the effect of loss aversion in message framing is stronger for social consequences than for material consequences. Formally stated:

**H4.** The effectiveness of loss-framed (vs. gain-framed) messages on a) positive attitudes toward gambling and b) intentions to gamble is greater for social consequences than for material consequences.
3.3 Study one: The construal level of the nature of the consequences

Study 1 investigates if the nature of the consequences can be categorized by construal level (H1).

3.3.1 Stimuli design and pre-tests

The first author and a professional designer developed three sets of visual stimuli, labelled as *Table*, depicting a poker table, *Roulette*, depicting a roulette table, and *WC*, depicting a roulette painted in a water closet. Each set included two ads, one depicting material consequences in the form of chips and money, and one depicting social consequences in the form of family pictures and objects recalling social life. The visual elements and written text detailing material consequences were held constant for the three ads depicting material consequences. The same was done for the three ads depicting social consequences. The resulting six ads were pre-tested on a sample of 31 U.S. respondents (*M* age = 32.02, 62.9% male). For each ad, participants were asked to indicate on 5-point bipolar scales whether the consequences depicted were perceived to be familiar or unfamiliar (i.e., familiarity: 1 = Familiar, 5 = Unfamiliar) and material or social (i.e., materiality-sociality: 1 = Material, 5 = Social).

For the three ads depicting material consequences, the results of a repeated measures ANOVA reveal only a significant difference on familiarity (*F*(2, 90) = 3.09, *p* < .05), with *Roulettelm*aterial (*M* = 1.93) depicting the most familiar consequences, followed by *Tablem*aterial (*M* = 2.32) and *WC*material (*M* = 2.71). The difference between the three ads on materiality is not significant (*p* > .10). For the three ads depicting social consequences, the results of a repeated measures ANOVA show a non-significant difference on familiarity (*F*(2, 90) = 1.80, *p* > .10). The difference between the three ads on materiality-sociality is highly significant (*F*(2, 90) = 12.98, *p* < .001), with *Roulettelsocial* (*M* = 4.29) perceived as depicting the most social consequences, followed by *WCSocial* (*M* = 3.64) and *Tablesocial* (*M* = 2.32). Table 3.1 reports the results of the pre-tests.

Additionally, respondents were asked an open ended question: “In your opinion, which of the advertisements you have seen is the most suitable for a
“responsible gambling campaign?” Respondents’ answers were not polarized toward material or social consequences. Only two pairs of ads (WC and Roulette) were cited as conveying the message in a clear manner, regardless of the depicted consequences. Based on the results of the pre-tests and the qualitative assessment, Roulette and WC were selected to be further refined and employed in Study 1.

<table>
<thead>
<tr>
<th>Ad codename</th>
<th>Materiality Mean (SD)</th>
<th>Familiarity Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table_material</td>
<td>2.87 (1.47)</td>
<td>2.32 (1.22)</td>
</tr>
<tr>
<td>Table_social</td>
<td>2.83 (1.00)</td>
<td>3.13 (1.40)</td>
</tr>
<tr>
<td>Roulette_material</td>
<td>2.25 (1.21)</td>
<td>1.93 (1.12)</td>
</tr>
<tr>
<td>Roulette_social</td>
<td>4.29 (1.18)</td>
<td>3.71 (1.07)</td>
</tr>
<tr>
<td>WC_material</td>
<td>2.58 (1.33)</td>
<td>2.71 (1.32)</td>
</tr>
<tr>
<td>WC_social</td>
<td>3.64 (1.17)</td>
<td>3.35 (1.14)</td>
</tr>
</tbody>
</table>

### 3.3.2 Participants and procedure

A total of 260 U.S. adults were recruited from Amazon Mechanical Turk in return for a monetary incentive equal to 70 cents (for an empirical assessment of AMT Turk reliability and validity in experimental research, see Paolacci, Chandler and Ipeirotis 2010). Given the research focus on responsible gambling ads, a screening question of gambling frequency was used to filter out non-gamblers. Only those who gambled at least once a month were included in the sample, as research shows that gambling frequencies less than once every two months lead to nearly identical gambling-related harm as not gambling at all (Currie et al. 2006). The final sample included 183 (M_age = 31.93 (SD = 10.38); 63.4 % male) U.S. gamblers. After the screening phase, participants were randomly assigned to a 2 (Nature of consequences: Material vs. Social) x 2 (Ad replicate: Roulette vs. WC) between-subjects design. The nature of the consequences was manipulated by presenting the participants with an advertisement which focused on either the material or the social consequences of
gambling. Participants were exposed to one of the four ads and then asked to respond to measures on the perceived psychological distance of the consequences.

3.3.3 Measures

Construal was operationalized as the psychological distance from advertising consequences, measuring the construct through explicit associations with three pairs of 5-point scales (1 = feels very close, 5 = feels very distant; 1 = feels very concrete, 5 = feels very abstract; 1 = feels very familiar, 5 = feels very unfamiliar) (Ross and Wilson 2002; Edwards, Lee and La Ferle 2009; van Boven, Kane, McGraw and Dale 2010). The scale achieved both internal consistency ($\alpha = .72$) and unidimensionality (Average inter-item $r = .45$, Range = .38-.56).

Gambling frequency was measured by asking the participants how often they gambled in a month (1 = Less than once a month; 2 = Once a month; 3 = 2-3 times a month; 4 = Once a week; 5 = 2-3 times a week; 6 = Daily).

3.3.4 Results

Manipulation checks were conducted using a bipolar, 5-point scale (1 = material and 5 = social) to assess if the two pairs of advertisements evoked material or social consequences. Manipulation checks were successful for both WC ($M_{material} = 1.95$, $M_{social} = 4.20$; $F (1, 94) = 18.95, p < .001$) and Roulette ($M_{material} = 2.02$, $M_{social} = 4.11$; $F (1, 87) = 19.76, p < .001$).

The results of the ANOVA test with nature of the consequences and ad replicate as the independent factors on construal reveal a significant effect only of the nature of the consequences ($F (3, 179) = 68.39, p < .001$). Participants in social consequence conditions perceive the ads to be of higher construal than those in material consequence conditions ($M_{material} = 1.80$; $M_{social} = 2.78$). Ad replicate has no significant effects on any of the variables of interest ($ps > .10$). When included as covariates, gender and age are neither significant nor do they have any significant impact on the effect of the nature of the consequences. The analyses reported above do not include covariates. These results support Hypothesis 1 in that material
consequences are perceived to be at low construal, whereas social consequences are perceived to be at high construal.

### 3.3.5 Discussion

Consistently with Hypothesis 1, Study 1 demonstrates that consequences that are intrinsically conduclible to the gambling behaviors, such as financial and monetary outcomes (i.e., material), are perceived as psychologically close and easy to construe. In contrast, consequences that do not directly stem from gambling (i.e., social) are perceived as psychologically distant and thus harder to construe. These results are replicated in two different sets of advertisements, providing strong support to Hypothesis 1.

### 3.4 Study two: The effectiveness of the nature of the consequences and its interactions with type of gambler and message framing

Study 2 examines how the nature of the consequences influences attitudes toward gambling and gambling intentions (H2), how the type of gambler moderates the relative effect of the nature of the consequences (H3), and how message framing moderates the relative effect of the nature of the consequences (H4).

#### 3.4.1 Participants and procedure

One-hundred-and-sixty-seven U.S. residents who gambled at least once a month (\(M_{age}= 32.40, 64.1\%\) male) were recruited from Amazon Mechanical Turk in return for US1$, using the same procedures detailed in Study 1. Participants were randomly assigned to a 2 (Nature of the consequences: Material vs. Social) x 2 (Gambler type: Recreational vs. Problem) x 2 (Message framing: Loss vs. Gain) between-subjects design. The nature of the consequences was manipulated by either depicting the consequences as material (i.e., money and chips) or social (i.e., family and friends pictures). Message framing was manipulated by either depicting the consequences
as gains for not gambling or losses for gambling. Figure 1 shows the four stimuli employed in Study 2.

Gambler type was measured and categorized into problem or recreational gamblers using the Problem Gambling Severity Index (PGSI: Smith and Wynne 2002). Recent evidence on the sensitivity of the scale has reported that the original cut-off set at 8+ (Smith and Wynne 2002) can wrongly classify a minority of problem gamblers as recreational gamblers (Walker and Blaszczynski 2011), whereas a cut-off threshold of 5+ better differentiates recreational from problem gamblers (Currie, Casey and Hodgins 2010). Therefore, the sample was divided into two groups, identifying recreational gamblers as those who scored from 0 to 4 and problem gamblers as those who scored 5 or more on the PGSI. Recreational gamblers account for 73.1% (122 participants) of the sampled population, with an average PGSI equal to 1.5. Problem gamblers account for 26.9% (45 participants) of
the sampled population, with an average PGSI equal to 8.5. A two-step cluster analysis using PGSI as the main factor confirmed the validity of the split, obtaining a two-cluster solution with satisfactory values (Coefficient of separation = .8, Ratio of sizes = 2.71).

3.4.2 Stimulus and manipulation checks

A modified version of the stimulus code-named Roulette, which performed the best during the pre-tests phase of Study 1, was used in Study 2. The advertisement was further developed in collaboration with a professional designer to test the joint effects of nature of the consequences and message framing (Figure 3.1).

Before testing for the hypothesized effects, manipulations checks were performed on the nature of the consequences to assess whether each advertisement evoked the corresponding type of consequence. The manipulation checks for consequence type were conducted using a bipolar, 5-point scale (1 = material and 5 = social). The manipulation for the nature of consequences was successful, with participants assigned to the material consequences condition perceiving the consequences to be more material ($M_{\text{material}} = 2.09$) and the participants assigned to the social consequences condition perceiving the consequences to be more social ($M_{\text{social}} = 3.78$; $F (1, 165) = 76.98, p < .001$).

3.4.3 Measures

Gambler type was assessed by using the Problem Gambling Severity Index (PGSI) developed by Ferris and Wynne (2001). This consists of a nine-item, 4-point Likert scale applied to non-pathological populations of gamblers measuring both gambling behaviors and the negative consequences of gambling (Holtgraves 2009). Item examples include “How often have you gone back another day to try to win back the money you lost?” and “How often have you felt guilty about the way you gamble or what happens when you gamble?”. The scale achieved good internal consistency ($\alpha = .88$).

Attitudes toward gambling and intentions to gamble within the next month were measured as dependent variables. Attitudes toward gambling ($\alpha = .84$) were
assessed using a three-item, 5-point bipolar scale (1 = bad/unfavorable/dislike and 5 = good/favorable/like). Intentions to gamble within the next month were measured with a single-item measure, asking participants: “How likely, in the next month, would you gamble?” (1 = not at all likely, and 7 = very likely).

Advertising attitude (α = .92), used as a control variable, was assessed by asking participants to evaluate the advertisements using a four-item, 5-point bipolar scale (1 = bad/unfavorable/dislike/unconvincing, and 5 = good/favorable/like/convincing) adapted from Thompson and Malaviya (2013).

3.4.4 Results

An ANOVA test was conducted to test H2-H4, using the nature of the consequences, gambler type and message framing as fixed factors, and attitudes toward gambling and intentions to gamble as the dependent variables. Diagnostic tests for univariate normality and homogeneity of variances return satisfactory results. When included as covariates, gender, age and advertising attitude are neither significant nor do they have any significant impact on the effect of independent variables. The analyses reported below do not include covariates.

<table>
<thead>
<tr>
<th>Table 3.2</th>
<th>Interaction and direct effects of the nature of the consequences, gambler type and message framing on attitudes and intentions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Attitudes</td>
</tr>
<tr>
<td></td>
<td>F</td>
</tr>
<tr>
<td>Nature of the consequences x Gambler type x</td>
<td></td>
</tr>
<tr>
<td>Message framing</td>
<td>&lt; 1</td>
</tr>
<tr>
<td><strong>Nature of the consequences x Gambler type</strong></td>
<td>5.04*</td>
</tr>
<tr>
<td><strong>Nature of the consequences x Message framing</strong></td>
<td>3.20^</td>
</tr>
<tr>
<td>Gambler type x Message framing</td>
<td>1.66</td>
</tr>
<tr>
<td><strong>Nature of the consequences</strong></td>
<td>16.13***</td>
</tr>
<tr>
<td>Gambler type</td>
<td>1.53</td>
</tr>
<tr>
<td>Message framing</td>
<td>2.61</td>
</tr>
</tbody>
</table>

*Note: Bold indicates hypothesized relationships. ^p < .10; *p < .05; **p < .01; ***p < .001*
The three-way interaction between the nature of the consequences, gambler type, and message framing is not significant for either attitudes toward gambling (F (7, 159) < 1, p > .10) or intentions to gamble (F (7, 159) < 1, p > .10). Table 3.2 reports the interaction and direct effects of the nature of consequences, gambler type and message framing on the dependent variables.

Hypothesis 2 predicts that social consequences are more effective than material ones in reducing positive attitudes toward gambling and intentions to gamble. The main effects of the nature of the consequences are significant both for attitudes toward gambling (F (1, 159) = 16.13, p < .001) and intentions to gamble (F (1, 159) = 12.39, p = .001). Table 3.3 shows that participants report less positive attitudes toward gambling and lower intentions to gamble in the near future when confronted with social rather than material consequences. These results fully support Hypothesis 2.

### Table 3.3
Mean differences in attitudes and intentions for material and social consequences

<table>
<thead>
<tr>
<th></th>
<th>Material Mean (SD)</th>
<th>Social Mean (SD)</th>
<th>t-test (t)</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitudes</td>
<td>3.59 (0.67)</td>
<td>3.25 (0.72)</td>
<td>3.16</td>
<td>p &lt; .01</td>
</tr>
<tr>
<td>Intentions</td>
<td>4.77 (1.58)</td>
<td>4.03 (1.57)</td>
<td>3.01</td>
<td>p &lt; .01</td>
</tr>
</tbody>
</table>

Hypothesis 3 predicts that material consequences are less effective for problem gamblers in comparison with recreational gamblers. The two-way interaction between the nature of the consequences and gambler type is significant for attitudes toward gambling (F (1, 159) = 5.04, p < .05). Post-hoc analyses with planned contrasts show that, for material consequences, problem gamblers report more positive attitudes toward gambling (M_{material-problem} = 3.90) in comparison to recreational gamblers (M_{material-recreational} = 3.49; F (3, 163) = 5.33, p < .05). For social consequences, the difference between problem and recreational gamblers on attitudes is not significant (M_{social-problem} = 3.17, M_{social-recreational} = 3.28, F (3, 163) < 1, p > .10). As the interaction between the nature of the consequences and the gambler
type is not significant for intentions to gamble \((F (1, 159) = 1.95, p > .10)\), Hypothesis 3 is partially supported. Table 3.4 reports the mean differences in attitudes and intentions for the two gamblers segments.

<table>
<thead>
<tr>
<th></th>
<th>RG (n = 122)</th>
<th>PbG (n = 45)</th>
<th>ANOVA</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitudes</strong></td>
<td>Mean (SD)</td>
<td>Mean (SD)</td>
<td>(F)</td>
<td>(p)</td>
</tr>
<tr>
<td></td>
<td>3.39 (0.64)</td>
<td>3.49 (0.87)</td>
<td>0.72</td>
<td>(p &gt; .10)</td>
</tr>
<tr>
<td><strong>Intentions</strong></td>
<td>4.17 (1.64)</td>
<td>5.02 (1.35)</td>
<td>9.59</td>
<td>(p &lt; .01)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td>32.59 (12.79)</td>
<td>31.88 (11.24)</td>
<td>0.10</td>
<td>(p &gt; .10)</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td>% (N)</td>
<td>% (N)</td>
<td>(F)</td>
<td>(p = .061)</td>
</tr>
<tr>
<td>Male</td>
<td>59.8% (73)</td>
<td>75.5% (34)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>40.2% (49)</td>
<td>24.5% (11)</td>
<td></td>
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</tr>
</tbody>
</table>

Hypothesis 4 predicts that loss frames are more effective in reducing positive attitudes toward gambling and intentions to gamble when the depicted consequences are social rather than material. The two-way interaction between the nature of the consequences and message framing is marginally significant for attitudes toward gambling \((F (1, 159) = 3.20, p = .075)\) and significant for intentions to gamble \((F (1, 159) = 4.31, p < .05)\). When gambler type is not included in the general linear model, the interaction becomes highly significant for both attitudes \((F (1, 163) = 6.19, p < .05)\) and intentions \((F (1, 163) = 8.49, p < .01)\). That is, an ANOVA test using only the nature and framing of the consequences as fixed factors returns significant interactions on both attitude and intention to gamble. The results reported in Table 3.5, however, take into account the marginally suppressive influence of the type of gambler on the interaction between the nature of the consequences and message framing.
### Table 3.5

Mean differences and LSD planned contrasts for material and social consequences depending on message framing

<table>
<thead>
<tr>
<th></th>
<th><strong>Material</strong></th>
<th><strong>Social</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Loss Mean (SD)</td>
<td>Gain Mean (SD)</td>
</tr>
<tr>
<td><strong>Attitudes</strong></td>
<td>3.67 (0.63)</td>
<td>3.50 (0.68)</td>
</tr>
<tr>
<td><strong>Intentions</strong></td>
<td>5.07 (1.61)</td>
<td>4.46 (1.50)</td>
</tr>
</tbody>
</table>

**LSD planned contrasts (p-value)**

<table>
<thead>
<tr>
<th></th>
<th>ML</th>
<th>MG</th>
<th>SL</th>
<th>SG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attitudes</strong></td>
<td></td>
<td></td>
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<tr>
<td>ML</td>
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<td>SG</td>
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<tr>
<td><strong>Intentions</strong></td>
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<td>SG</td>
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</tbody>
</table>

*Note: ML = Material loss; MG = Material gain; SL = Social loss; SG = Social gain.*

Post-hoc analyses with planned contrasts (Table 3.5) show that, for material consequences, the difference between gain and loss frames is not significant for attitudes (F (3, 163) = 1.34, p > .10), and marginally significant for intentions (F (3, 163) = 3.21, p = .075). For social consequences, loss frames are significantly more effective than gain frames in reducing positive attitudes toward gambling (F (3, 163) = 5.42, p < .05) and intentions to gamble (F (3, 163) = 5.42, p < .05). Overall, these results support Hypothesis 4.

### 3.4.5 Discussion

Study 2 provides three key findings. First, in full support of Hypothesis 2, this study demonstrates that the more a consequence is perceived as psychologically distant (i.e., social), the stronger its effect on reducing positive attitudes toward gambling and intentions to gamble. Consistent with research showing that psychological distance influences interpretative processes (Trope and Liberman 2010; Goodman
and Malkoc 2012), messages presenting the social outcomes related to gambling are more persuasive than messages focusing on material outcomes.

Second, in partial support of Hypothesis 3, Study 2 provides evidence that the type of gambler moderates the effect of the nature of the consequences on attitudes toward gambling. Material consequences have limited influence in reducing problem gamblers’ attitudes toward gambling and intentions to gamble, in comparison to recreational gamblers. In contrast, social consequences can significantly reduce the positive attitudes of problem gamblers toward gambling, in comparison to recreational gamblers. This interaction effect is not significant for intentions to gamble, potentially because the strong positive relationship between the type of gambler and intentions to gamble in the near future suppresses the effects of the nature of the consequences.

Third, consistent with Hypothesis 4, Study 2 demonstrates that message framing moderates the effect of social consequences on attitudes and intentions. For material consequences, the difference between gain and loss frames is not significant for attitudes toward gambling and a marginally significant for intentions to gamble. For social consequences, messages framed as losses have a significantly higher effect in reducing positive attitudes toward gambling and intentions to gamble, in comparison to messages framed as gains. In addition, messages presented as social losses have the highest deterring power across all conditions.

3.5 Conclusion

Although the actual social cost of gambling in the U.S. is debatable—some scholars estimate such cost at US$10,330 per problem gambler (Grinols 2009), but others question this estimate (Walker 2007; Walker and Kelly 2011)—the saliency of problem gambling as a social issue is witnessed by growing pressure for public policy to address the problem (Lemarié and Chebat 2013). Social marketers and transformative consumer researchers are increasingly calling for message formats that can facilitate consumers’ understanding of the wellspring of their actions and the means to moderate their compulsive consumptions (Scammon et al. 2011). Despite these calls for action, systematic investigations on how to leverage
advertising elements to increase message persuasiveness are still lacking. This paper presents two sequential studies aimed at understanding the interplay between the nature and framing of gambling consequences and their impact on attitudes toward gambling and intentions to gamble. In addition, this research investigates how different types of gamblers react to different gambling consequences.

3.5.1 Theoretical contribution

The contribution of this research to theory is threefold. First, this research advances compulsive consumptions literature in general (Workman and Paper 2010) and gambling literature in particular by focusing on the audience’s reactions to responsible gambling advertisements. The results shed light on how the audience reacts to ads employing different combinations of the nature and the framing of the consequences, and how this reaction differs depending on the type of gamblers. In doing so, we provide additional evidence that reinforces the notion of a reductionist approach to advertising study. That is, studies investigating the effectiveness of social advertisements must reduce the ad to its structural components—such as the nature and framing of consequences examined in this research—to enable a meaningful comparison of effects (LaTour and Rotfeld 1997; Shehryar and Hunt 2005).

Second, this research extends prospect theory by unveiling one contextual factor—the nature of the consequences—which enables loss frames to be more effective. The results support the research stream contending that the effectiveness of message framing, and in particular of loss frames, depends on specific, contextual conditions (Block and Keller 1995; Rothman and Salovey 1997; Lee and Aaker 2004; Keller and Lehmann 2008).

Third, this research provides an application of construal level theory to research on responsible gambling ads and the broader compulsive consumptions literature. Prior work on construal level theory applied to gambling has been limited to the temporal dimension (Liberman, Sagristano and Trope 2002). Study 1 in particular contributes to current understanding of psychological distance by isolating a dimension specific to compulsive consumptions, namely the perceived distance of a
gambling-related consequence from experience. Also, extant frameworks examining the nature of the consequences of compulsive behaviors are often context-specific—for instance, Terror Management Theory (Greenberg, Solomon and Pyszczynski 1997) is only applicable as a categorizing framework when death is a realistic behavioral outcome (Shehryar and Hunt 2005). This research employs construal level theory as a more general framework to categorize the consequences of compulsive behaviors as high versus low construal ones.

3.5.2 Managerial implications

The present research yields relevant insights for social marketers and advertising practitioners involved in the design of responsible gambling ads, as strong theoretical foundations can streamline message design and avoid the inefficiencies of individualized message testing (Fishbein and Cappella 2006). The findings detail which visual and message elements to include in responsible gambling ads depending on the audience profile. In the context of problem gambling, social consequences are more effective than material consequences, especially when the consequences are framed as losses.

In a world where one size does not fit all, however, defining audience segments is paramount for successful social marketing (Lefebvre and Flora 1988). This research also provides converging evidence that the selection of the most effective advertising elements requires a careful examination of the psychosocial traits of the audience. In Study 2, segmenting the audience in recreational and problem gamblers enabled the examination of whether they react differently to responsible gambling ads depicting different consequences. While recreational gamblers are equally sensitive to both material and social consequences, problem gamblers are desensitized to material consequences but highly sensitive to social consequences. These findings caution against the use of visual elements focused upon money and material possessions. Stressing the social consequences of gambling seems more appropriate, especially when presenting the consequences as losses that are likely to prove difficult or impossible to repair.
3.6 Limitations and future research

The results of the two studies need to be considered in the light of their limitations, which offer opportunities for future research in the areas of compulsive consumptions and social marketing. First, the scope of both studies is limited to gambling. Future investigations should assess whether the results presented hold true across different compulsive consumption behaviors, such as smoking and binge drinking. In particular, the specificity of the gambling context drove the definition of the nature of the consequences as material and social. Future studies on compulsive consumptions where negative consequences may conceivably include physical rather than material consequences should investigate if negative (positive) outcomes such as injury (safety) are perceived as psychologically close. Second, the advertisements employed in both studies show images of roulette tables. Given the huge variety of gambling modes, it is possible that the provision of visual elements focused on casino gambling may have been more effective for regular casino gamblers than, for example, instant-win lotteries players or horse race betters. Hence, future research should validate the current findings across multiple gambling modes. Third, in pursuit of considering both the preventive and corrective functions of social marketing, respondents were randomly sampled across the U.S. population and then categorized into recreational and problem gamblers using the PGSI (Ferris and Wynne 2001). Future research should validate the current results on a larger sample of problem gamblers. Fourth, we did not measure the ethnicity and educational level of the respondents. Future research should extend these findings by investigating the differential effect of these socio-demographic factors.
Appendix – High definition stimuli employed in Study 1 and Study 2

Figure 3.2
Study 1 - Roulette, Material consequences

Figure 3.3
Study 1 - Roulette, Social consequences
Figure 3.4
Study 1 - WC, Material consequences

Figure 3.5
Study 1 - WC, Social consequences
Figure 3.6
Study 2 - Framing (loss), Threat (material)

WHAT WILL YOU LOSE BY GAMBLING
- Waste your hard-earned money
- Lose your car and your house

DON’T WASTE YOUR MONEY DON’T GAMBLE

Figure 3.7
Study 2 - Framing (gain), Threat (material)

WHAT WILL YOU GAIN BY NOT GAMBLING
- Save your hard-earned money for something better
- Keep your car and your house

DON’T WASTE YOUR MONEY DON’T GAMBLE
Figure 3.8
Study 2 - Framing (loss), Threat (social)

WHAT WILL YOU **LOSE** BY GAMBLING
- You will be socially excluded
- You will lose control of your life

DON’T WASTE YOUR LIFE
DON’T GAMBLE

Figure 3.9
Study 2 - Framing (gain), Threat (social)

WHAT WILL YOU **GAIN** BY NOT GAMBLING
- You will be socially accepted
- You will retain control of your life

DON’T WASTE YOUR LIFE
DON’T GAMBLE
Chapter 4 — Paper 2: Not All Narrative Thoughts Are Created Equal: Narrative Closure and Counterfactual Thinking in Responsible Drinking Narratives

Davide C. Orazi, Jing Lei, and Liliana L. Bove

Abstract
Inspired by the artful use of uncertainty in entertainment, health narratives often lack closure, implying rather than openly disclosing the negative consequences stemming from the targeted behavior. Over the course of two studies, this paper demonstrates that narrative closure leads to different types of narrative thoughts. Low closure generates conjectures aimed at completing the interrupted narrative. High closure generates counterfactuals aimed at replotting the narrative in search for alternative courses of action that could have prevented the negative outcomes. However, only counterfactuals increase self-efficacy and protective intent. The effect of narrative closure is amplified by the dispositional need for cognitive closure of the receiving audience. The persuasive effect of narrative closure, qualified by need for cognitive closure, is serially mediated by narrative transportation and counterfactual thinking. These findings contribute to narrative theory and to the broader domain of health communications, cautioning against the use of low closure health narratives.

Keywords: Counterfactual thinking, Extended Transportation-Imagery Model, Narrative closure, Need for cognitive closure, Self-efficacy, Transportation.
4.1 Introduction

INT. PUB, NIGHT. SOUND OF LAUGHTER, MUSIC.
Friends meet at a pub and start drinking. After a couple of hours, they decide to take their car to drive to a nearby party.

EXT. PUB, PARKING LOT, TRANSITIONING TO ROAD
One friend suggests taking a cab but is shushed by the others. The car speeds through the night, the drunken friends laughing and joking. Suddenly, they run a red light.

SOUND OF BRAKES SCREECHING, SCREEN FADES TO BLACK, PSA APPEARS "Don't drink and drive".

The video script above articulates a health narrative – a series of connected events revolving around the characters of a story and conveying a non-overt message about a topical issue (cf. Kreuter et al. 2007). Reminiscent of the artful use of uncertainty leveraged in novels and movies to increase curiosity and attention (Madrigal and Bee 2005; Abuhamdeh, Csikszentmihalyi and Baland-Jalal 2015), this narrative in particular lacks closure as it ends without disclosing the final outcome. Other narratives present high closure scenarios in which the actions of the characters unfold in certain negative consequences, providing a clear sense of cause and effect (Dhalstrom 2010). Narrative closure indeed describes the sense of finality that the story has come to a defined end (Carroll 2007; Russell and Schau 2014).

Prior research documents the superior persuasiveness of health narratives over health informational accounts (Braverman 2008; Shen, Sheer and Li 2015). Narrative messages transport the audience, tapping their cognitive resource in the imagery of the narrative world (see van Laer et al. 2014, for a meta-analysis). Once transported, the audience is more likely to internalize the message content without a careful scrutiny of the supporting arguments (Green and Brock 2002), with enduring persuasive effects (Appel and Richter 2007).

The influence of narrative closure on the persuasiveness of health narratives, however, is little understood. When consumers are exposed to a health narrative, which level of narrative closure (low vs. high) is more persuasive? Do dispositional traits of the receiving audience, such as their need for cognitive closure, influence
this effect? And is this effect explained by the cognitive processes associated with different narrative thoughts, an underexplored area of narrative theory (Chang 2009; van Laer et al. 2014)? Answering these questions is necessary to advance our understanding of how to design effective health narratives, since both low and high closure narratives are equally employed in practice.

Our research addresses these questions by investigating the effect of narrative closure on narrative persuasion, the way need for cognitive closure moderates this effect, and the serial mediating mechanism explaining this process. We do so by conducting two sequential experimental studies whose findings answer growing calls for research on narrative persuasion in both consumer research (van Laer et al. 2014) and health communication (Shen et al. 2015). Three key contributions emerge from our findings.

We first contribute to the burgeoning literature on narrative closure (Carroll 2007; Russell and Schau 2014) by describing the persuasive effect of low vs. high closure in health narratives. In this light, Russell and Schau (2014) suggest that high narrative closure fixes the meaning of the narrative and attributes causality to events. We demonstrate the positive effect of narrative closure on persuasion in the context of changing someone’s behavior.

Next, we provide evidence for a nexus between narrative closure and the ensuing narrative thoughts. We demonstrate that low closure leads to conjectures aimed at completing the causal chain of events, whereas high closure leads to counterfactuals about what may have happened if different decisions were made (Byrne 2005; Epstude and Roese 2008). By articulating a typology of narrative thoughts, we both add to narrative theory (Green and Brock 2002; van Laer et al. 2014) and reconcile conflicting findings on the persuasiveness of counterfactuals in health communication theory (Page and Colby 2003; Smallman 2013).

Our final contribution is to isolate the underlying mechanisms explaining the persuasive effects of narrative closure, while at the same time considering how dispositional traits of the receiving audience influence the interpretative process. We find that the effect of narrative closure on persuasion is serially mediated by narrative transportation first and counterfactual thoughts second. Further to this, the effect of narrative closure is contingent on the dispositional need for cognitive closure (see Webster and Kruglanski 1994). In illuminating this serial moderated
mediation, we address a substantial gap in narrative theory literature as to whether narrative thoughts have any persuasive effects (Escalas 2004; Chang 2009; van Laer et al. 2014). We also shed light on the relationship between narrative transportation and self-efficacy proposed by van Laer and colleagues (2014). The corresponding insights on the design of effective health marketing communications hold relevant implications for public policy and practice.

4.2 Conceptual development

4.2.1 Narrative closure as function of the story’s structure

Stories typically present a plot of connected events revolving around the resolution of a conflict for the characters involved (Carroll 2007; van Laer et al. 2014). Van Laer and colleagues (2014) distinguish between stories and narrative: stories are structured sets of information conveyed by the storyteller, whereas narratives unfold as the subjective interpretation of the story by the receiving audience. The structure of most stories, in particular, can be decomposed in the Aristotelian triad of initiation (protasis), peak (epitasis), and release (catastrophe) (Butcher 1907; Cohn 2013). The initiation sets events in motion, creating a context for action to unfold and introducing the conflict. Following the initiation is the peak, which further develops the events and explodes in the narrative climax, disrupting the equilibrium. Finally, the release or finale discharges narrative tension by disclosing the outcomes and wrapping up the events depicted by the story. This paper specifically investigates stories promoting the cessation on undesirable behaviors (i.e., cessation narratives1), a narrative typology for which prior research reports limited persuasive effects (see Shen et al. 2015, for a meta-analysis), presumably because the targeted behaviors are notably hard to change (Snyder et al. 2004). Cessation narratives typically depict series of causally connected events in which

1Two additional typologies exist: prevention narratives (e.g., vaccination PSAs) invite the audience to take precautionary action against an impending threat, whereas detection narratives (e.g., cancer screenings) invite the audience to engage in examinations aimed at discovering a health issue (Shen et al. 2015).
the targeted behaviour, such as drink-driving, causes negative consequences that can be either implied or openly disclosed (Keller and Lehmann 2008).

Inevitably, the absence or presence of the finale influences the level of perceived narrative closure, namely the “phenomenological feeling of finality that is generated when all the questions saliently posed by the narrative are answered” and the climax is resolved (Carroll, 2007, p. 1). Recent consumer research on the topic has distinguished between high and low levels of narrative closure (Russell and Schau 2014). Narratives characterized by high (vs. low) narrative closure do (vs. do not) answer most of the salient questions raised by the narrative (Russell and Schau 2014). Emphasis is placed on the most salient questions since closure can rarely answers all the questions raised by a narrative, or completely eliminate the narratable (Miller 2002). In this paper, we distinguish between low and high narrative closure on the basis of the absence or presence of the release in the structure of the story, as illustrated in Table 4.1.

Low closure health narratives disclose the cause (i.e., misbehavior) but only imply the effect (i.e., negative consequences) by presenting the threat of an impending danger that may occur to the central character. This narrative approach is common practice for many fear appeals (Keller and Lehmann 2008) and mimics

| Table 4.1 | Narrative closure as function of narrative structure |
| --- | --- | --- | --- |
| **Story** | **Example** | **Low closure** | **High closure** |
| **Initiation** | Friends meet at a pub and start drinking. After a couple of hours, they decide to take their car to drive to a nearby party. One friend suggests taking a cab but is shushed by the others. | Yes | Yes |
| **Peak** | The car speeds through the night, the drunken happy friend laughing and joking. Suddenly, they run a red light. | Yes | Yes |
| **Release** | After running the red light, the car collides with a motorcyclist, killing him. | No | Yes |
novels and movies in which lack of closure is used to stimulate curiosity (Madrigal and Bee 2005) and increase the tension of a story (Abuhamedeh, Csikszentmihalyi, and Baland-Jalal 2015). High closure health narratives, on the contrary, disclose both cause and effect in pursuit of creating a stronger associative link between an undesirable behavior and the associated negative consequences.

4.2.2 The persuasive dynamics of narrative transportation

Narratives are highly valued in marketing and health communications for their ability to transport the audience into the narrative world, a process known as narrative transportation (Braverman 2008; van Laer et al. 2014). The extent to which the audience is transported into the narrative mainly depends on empathy – the ability to identify and empathize with the story’s characters – and mental imagery – the ability to picture the fictional world and the unfolding of action (Green and Brock 2002; Slater and Rouner 2002). Dispositional traits of the receiving audience, such as chronic transportability, also influence the interpretation of a story and the resulting level of narrative transportation (for a meta-analysis, see van Laer et al. 2014).

Narrative transportation leads to two distinct cognitive outcomes which have a demonstrated or hypothesized effect on persuasion. First, narrative transportation inhibits critical thoughts (Green and Brock 2002). Critical thoughts arise when the audience is confronted with arguments at odds with their beliefs or habits, with the aim of derogating and countering the evidence contrasting the audience’s beliefs (Moyer-Guse’ and Nabi 2010). Consistent research demonstrates that, since the imaginative process at the basis of narrative transportation is cognitively taxing, a transported audience is less likely to generate critical thoughts and thus more likely to be persuaded (Green and Brock 2002; Green 2008; van Laer et al. 2014).

Second, narrative transportation generates narrative thoughts. Narrative thoughts “are representations of the story’s structure: they contain precise narrative cues, such as characters or objects” (van Laer et al. 2014, p. 804). Proof of the effect of narrative transportation on the generation of narrative thoughts is limited to the work of Chang (2009), with no extant evidence of a significant relationship between narrative thoughts and persuasion. Yet some scholars
demonstrate that narrative transportation leads to the progressive internalization and acceptance of the story’s arguments by reframing the audience’s worldviews in accordance with those presented by the story (Appel and Richter 2007). This finding suggests that specific narrative thoughts focused on the key learning points conveyed by a story may play a pivotal role in influencing narrative persuasion through the reconfiguration of existing beliefs and cognitive schemas.

4.2.3 The effect of narrative closure on narrative persuasion and narrative thoughts

Uncertainty can be amusing and intriguing in narrative fiction (Madrigal and Bee 2005; Abuhamdeh et al. 2015). At the end of Season 5 of Game of Thrones, the audience was hooked in anticipation for nearly one year wondering if Jon Snow was truly dead. On the contrary, uncertainty is appraised as an aversive state when it refers to a potential threat (Hirsh, Mar and Peterson 2012). Psychological entropy theory defines uncertainty as function of the number of potential options available to the individual (Hirsh et al., 2012). A low closure narrative similar to the one presented in Table 4.1 entails multiple negative outcomes. The car may be stopped by the police and the driver may be fined or arrested. The car may get off the road injuring a passenger or crash against another car, killing the driver. The simultaneous activation of multiple potential scenarios (i.e., effect) in reference to a threatening situation (i.e., cause) is likely to trigger a cognitive process aimed at resolving the appraised uncertainty. Since the link between cause and effect is not made salient by the narrative, we expect the audience to engage in causal reasoning in pursuit of completing the causal chain of events. Causal reasoning defines a feature-matching process aimed at establishing a link between cause and effect by contrasting the examined situation against existing knowledge (McGill 1989). In so doing, however, the audience will focus on the completion of the story rather than the internalization of the key takeaways, limiting the influence of the narrative on persuasion. We thus expect that:

**H1a:** High narrative closure leads to higher narrative persuasion, in comparison to low narrative closure.
The cognitive processes enacted by differential levels of narrative closure should generate corresponding story-consistent narrative thoughts (see Escalas 2004; van Laer et al. 2014). Low closure narratives present a weak associative link between behavior and consequences because they do not disclose the outcome. For low closure narratives, we expect the process of mental imagery at the basis of narrative transportation to focus on plausible outcomes (i.e., effects) resulting from the characters' actions (i.e., cause). We use the term *conjectures* to define narrative thoughts aimed at completing the causal chain of events depicted in a narrative by construing one or more potential outcomes.

High closure narratives, on the other hand, present a strong associative link between behavior and consequences by disclosing the finale. Since high closure fixes the meaning of the narrative (Russell and Schau 2014), mental imagery can focus on the generation of narrative thoughts about alternative courses of action (i.e., causes) that could have prevented the negative consequences (i.e., effect). We use the term *counterfactuals* to define narrative thoughts that retrace the causal chain of events to creating “what if” alternatives to events and actions (Epstude and Roese 2008). Specifically, counterfactual thinking theory defines counterfactuals as thoughts about what may have happened in the past if different decisions were taken (Byrne 2005; Epstude and Roese 2008).

Both conjectures and counterfactuals are expected to be causal in nature. Whereas causal thinking focuses on a cause generating an effect, however, counterfactual thinking focuses on the removal of the cause and the imagery of alternatives that could have prevented the effect (McGill 1989; Frosch and Byrne 2012). For instance, the counterfactual assessment of a situation in which a drunk driver caused a fatal car accident would lead to the imagery of alternative causes preventing the event (e.g., “if they only took a cab instead of driving”). The provision of a finale in high closure narratives is thus expected to be at the basis of counterfactual thoughts as it makes available additional information (i.e., the effect) necessary to re-imagine the causal chain of events. The above discussion leads to the formalization of the following hypotheses:

**H1b:** Low narrative closure leads to more conjectures than counterfactuals, in comparison to high narrative closure.
**H1c:** High narrative closure leads to more counterfactuals than conjectures, in comparison to low narrative closure.

### 4.3 Study 1

Study 1 seeks to provide evidence that narrative closure has a positive effect on narrative persuasion. In this study, we operationalize narrative persuasion as the willingness to use an alcohol-monitoring App in response to exposure to a health narrative. In addition, Study 1 aims at providing preliminary evidence that high closure narrative generate more counterfactuals and low closure narratives generate more conjectures.

#### 4.3.1 Stimulus development

The experimental stimulus used in this study is a short story on drink driving. Low (vs. high) narrative closure was manipulated by ending the story with a range of potential negative consequences (vs. one defined negative consequence). Developing the stimulus involved four stages. First, the focal behavior was selected. Drink driving was deemed suitable because of its prevalence in the U.S. Every year more than 10,000 U.S. citizens die and over 25,000 are injured as a result of drink-driving accidents, with an annual public expense of over US$ 1.1 million per single alcohol-related fatality (NHTSA 2010).

Second, a review of existing anti-drunk driving messages was performed on advertising repositories (e.g., AdForum) to familiarize with the prototypical structure of existing drink-driving narratives and the depicted consequences. The thematic analysis focused on videos (N = 10) as representations of unfolding narratives. Most videos (N = 8) presented short stories starting with a night out with friends and ending in (or hinting to) tragedy as a consequence of drink-driving. The experimental manipulations were developed following this structure.

Third, the story was developed in the form of a health narrative based on the guidance provided by the literature (Thompson 2014). Specifically, (1) the story
revolved around a decisional conflict for the characters, and (2) details about the characters, the setting, and the unfolding actions were incorporated in the story. The attribution of blame for both implied and disclosed negative consequences was placed on the protagonists (i.e., making them run a red light while drunk).

Fourth, the story was modified to convey low (vs. high) narrative closure. In the low closure condition, the story ended with the protagonists running a red light and suddenly hearing the screech of brakes. In the high closure condition, the story continued by briefly disclosing that the protagonists impacted a motorcyclist, who died as a consequence of the impact. Multiple iterations ensured that the resulting narrative manipulations were concise, realistic, and easy to understand. The average length of the stories was 190 words (Low narrative closure = 182 words, High narrative closure = 198 words). This situated the stimuli within the low end of the story length spectrum established by prior literature on narrative messages (e.g., Braverman 2008: 480 words; Castano et al. 2008: 200 words). In Study 1, we privileged a short story to ensure that the stimulus was as clean as possible.

4.3.2 Participants, procedure, and measures

Study 1 is a single-factor (Narrative closure: low vs. high) between-subjects design. One-hundred-and-sixty U.S. residents ($M_{age} = 33.01, SD = 7.96$; 47% female) with a valid driver’s license were recruited from a U.S. online panel in exchange for payment. Narrative closure was manipulated as a categorical factor by either implying or openly disclosing the finale of the story. After providing informed consent, participants were first screened for alcohol consumption (“Did you drink any alcoholic beverage in the last six months?”) and possession of a valid driving license.

Participants were randomly assigned to one of the two experimental conditions that differed in terms of narrative closure (low vs. high). The manipulated story revolved around a night out with friends, excessive drinking, and the decision to drive back home. After exposure to one of the two narratives, participants completed a thought listing task and were then presented the focal behavioral intentions measure. This item was a seven-point Likert scale anchored by “very unlikely – very likely” asking respondents to rate their likelihood to use a newly developed
iOs/Android App. The App was described as capable of estimating blood alcohol concentration (BAC) based on the owner's heartbeat and balance and notifying when the BAC is over the legal limit for driving in their country. Then, participants completed manipulation checks for narrative closure and one control measure for perceived realism of the story. Finally, participants provided socio-demographic and consumer information (age, gender, smartphone ownership), and were asked to guess the purpose of the study. Only five participants (3%) reported not owning a smartphone. Most participants believed that the study investigated general perceptions about drinking and driving. No participant guessed the real purpose of the study.

4.3.3 Thought listing task

Counterfactuals and conjectures were recorded through a thought listing task. Thought listing tasks are widely employed in both narrative transportation (Green and Brock 2000), advertising (Escalas 2004), and need for cognitive closure literatures (Klein and Webster 2000) to record the focus of the participants’ cognitive processes. Participants were asked to report as many thoughts as possible on the story they read. Participants were instructed that these thoughts could have referred to (1) the outcome of the narrative, (2) alternative courses of action, (3) arguments against the narrative, (4) arguments supporting the narrative, or (5) any other thought.

These thoughts were coded by two independent judges as counterfactuals, conjectures, counter-arguments, supporting arguments, or other, following an expanded taxonomy of advertising response adapted from Escalas (2004). Inter-coder reliability was high ($r = .78$). Disagreement was resolved by discussion. Two indexes were created for both counterfactuals and conjectures following the guidance provided by social psychology and advertising literatures (Klein and Webster 2000; Escalas 2004). These indexes were, respectively, the ratio of counterfactuals to total thoughts and the ratio of conjectures to total thoughts in response to the narrative. We also controlled for critical thoughts by recoding the

Since the inclusion or exclusion of these participants from the analyses did not significantly alter the results, they were retained in the sample.
ratio between counter-arguments to total thoughts.

4.3.4 Independent sample pre-test

An independent sample pre-test was conducted prior the main experiment to provide more robust evidence as to whether the narrative closure manipulation was effective (Perdue and Summers 1986). In addition, the pre-test aimed at ensuring the comparability of the two manipulations by ensuring if the outcomes imagined by the audience in the low narrative closure condition (i.e., conjectures) were similar to those depicted in the high narrative closure condition (i.e., disclosed fatal accident). Fifty-six U.S. residents ($M_{age} = 35.35, SD = 10.60; 45\%$ female) with a valid driving license were recruited from AMTurk in exchange for payment. Participants were randomly assigned to one of the two experimental conditions and then asked to complete a manipulation check for narrative closure on a five-item, seven-point Likert scale (e.g., “The finale of the story leaves a lot of room for speculation”) anchored by “not at all – very much” adapted from Johnson and Rosenbaum (2014) ($\alpha = .90$). The manipulation for narrative closure was successful: participants in the low narrative closure condition reported that the finale of the story was vaguer and more open to alternatives ($M_{LowNC} = 4.47, SD = 1.12$) than participants assigned to the high narrative closure condition ($M_{HighNC} = 2.65, SD = 1.45$; $t (1, 54) = 5.25, p < .001$). The two stories did not significantly differ in terms of reading time in seconds ($M_{LowNC} = 49.26, SD = 23.40; M_{HighNC} = 55.94, SD = 29.40; t (1, 54) = -0.98, p > .329$). Albeit short and to the point, the manipulations were perceived as very realistic (“Thinking back to the story, to what extent it was realistic?” anchored by “extremely unrealistic – extremely realistic”), with no significant differences across conditions ($M_{LowNC} = 6.24, SD = 1.21; M_{HighNC} = 6.15, SD = 0.95; t (1, 54) = 0.32, p > .751$).

At the end of the pre-test, participants assigned to the low narrative closure condition ($N = 29$) were also asked to report their thoughts about what may have occurred after the story was truncated at its apex. Twenty-six participants imagined the car was involved in a car accident, with the remaining three ones reporting either a near miss ($N = 1$) or being pulled over by the police ($N = 2$).
4.3.5 Results and discussion

Preliminary analyses. Diagnostic tests for homogeneity of variances returned satisfactory results for behavioral intentions. Although variances were non-homogeneous for counterfactuals (Levene’s = 4.85, \( p < .029 \)) and conjectures (Levene’s = 57.53, \( p < .001 \)) at different levels of narrative closure, both the Welch and the Brown-Forsythe tests confirmed the significance of these differences in subsequent analyses.

Intentions. An independent sample t-test on behavioral intentions revealed the main effect predicted by H1a. Participants assigned to the low closure condition reported lower compliance intentions (\( M_{\text{LowNC}} = 4.83, \text{SD} = 1.78 \)) in comparison to the high closure condition (\( M_{\text{HighNC}} = 5.51, \text{SD} = 1.66; t(1, 158) = -2.46, p < .015 \)).

Conjectures. The same t-test on conjectures showed that low narrative closure led to more conjectures (\( M_{\text{LowNC}} = 0.15, \text{SD} = 0.22 \)) in comparison to high narrative closure (\( M_{\text{HighNC}} = 0.03, \text{SD} = 0.09; t(1, 158) = 4.45, p < .001 \)). Both the Welch and the Brown-Forsythe robustness tests confirmed the significance of this difference (St. = 19.47, \( p < .001 \)). Strongly supporting H1b, these results show that low closure narratives lead the audience to complement the story with possible outcomes more so than high closure narratives.

Counterfactuals. The same t-test on counterfactuals revealed that participants assigned to the high closure condition generated more counterfactuals (\( M_{\text{HighNC}} = 0.36, \text{SD} = 0.31 \)) in comparison to those assigned to the low closure conditions (\( M_{\text{LowNC}} = 0.26, \text{SD} = 0.25; t(1, 158) = -2.19, p < .029 \)). Both the Welch and the Brown-Forsythe robustness tests confirmed the significance of this difference (St. = 4.83, \( p < .029 \)). In support of H1c, these results show that narrative closure has a main effect on the generation of counterfactuals, such that increasing the level of closure increases the ratio of counterfactuals over total thoughts reported.

Content analysis of open thoughts. While this research focuses mainly on cognitive outcomes, narrative transportation also leads to affective reactions (van Laer et al. 2014). Arguments can be made for low closure leading to either positive emotions (e.g., hope that nothing bad happened to the characters) or negative emotions (e.g., fear for the worst). Similar arguments can be articulated for high closure leading to either relief or sadness for knowing the final outcome. Literature
on anticipatory and anticipated emotions supports both contentions (Baumgartner, Pieters, and Bagozzi 2008). Content analysis was thus employed to rule out the possibility that low vs. high levels of narrative closure lead to differences in emotional intensity (see Cavenaugh, Bettman and Luce 2015).

Linguistic Inquiry and Word Count (LIWC 2015) was the textual analysis software employed to decompose the open ended thoughts. Emotional intensity was captured by assessing the extent to which a word displays positive or negative affect. No difference was found in positive emotions between low ($M = 2.29, SD = 2.35$) and high narrative closure ($M = 2.02, SD = 2.12, F(1, 136) = p < .452$). Similarly, no difference was found in negative emotions between low ($M = 2.57, SD = 2.52$) and high narrative closure ($M = 3.19, SD = 2.85, p < .165$). These findings rule out alternative explanations based on positive or negative affect as the processes underlying the effect of situational levels of closure on persuasion.

**Discussion.** This preliminary study demonstrates the influence of narrative closure on both persuasion and the emergence of different narrative thoughts. Low narrative closure increased the ratio of conjectures over total thoughts reported, whereas high narrative closure increased the ratio of counterfactuals over total thoughts reported. Results from the content analysis suggest that variations in emotional intensity are unlikely to explain the observed effect. Yet we have still to demonstrate the link between counterfactual thoughts and persuasion while reconciling these preliminary findings with the Extended Transportation – Imagery Model (van Laer et al. 2014).

Tracing backwards the narrative persuasion process, prior research suggests that persuasion is influenced by narrative thoughts, which in turn are an outcome of narrative transportation (Chang 2009; van Laer et al. 2014). No prior empirical evidence or logical intuition supports the contention that narrative closure has a direct effect on narrative transportation. Yet different audiences may feel more transported depending on personal dispositions influencing the interpretative process of the story (van Laer et al. 2014). Whether or how people make causal explanations in response to a stimulus, in fact, depends on not only situational factors such as narrative closure, but also the perspective and dispositional qualities of the audience (McGill 1989; Mayrhofer and Waldmann 2015). Dispositional theories of causation acknowledge that the dispositional traits of participants
involved in a causal process influence the nature of the causal links generated (see Mayrhofer and Waldmann 2015, for a review). Metacognitive theories of consumer judgment corroborate this expectation, as subjectivity and personal traits foundational to individual perspectives “qualify the implications of accessible declarative information” (Schwarz 2004, p.332). Need for cognitive closure (NFCC), in particular, is a relatively stable dispositional trait (Roets and van Hiel 2011) reflecting the motivational need for a clear answer as opposed to ambiguity and uncertainty (Kruglanski 1990; Webster and Kruglanski 1994). High NFCC reflects a need for order and predictability and a higher willingness to establish a clear link between cause and effect in comparison to low NFCC.

First, people high in NFCC are expected to be more transported into narratives with high closure, as they provide a defined causal structure of events to an audience in need for certainty. That is, the high situational level of closure satisfies a corresponding high need for closure of the audience, increasing narrative transportation. Conversely, people low in NFCC are expected to be transported by both the certainty and causal clarity provided by high closure narratives and the uncertainty and anticipation triggered by low closure narratives.

Second, prior research demonstrates that people high in NFCC engage in more counterfactual thinking in situations of normative violations or deviation from the status quo (Manetti, Pierro and Kruglanski 2007). We contend the same mechanism will trigger in a scenario in which negative consequences unfold as the result of an irresponsible action (e.g., crashing as a result of drink driving). As a result, people high in NFCC exposed to high (vs. low) closure narratives will generate more counterfactuals. We anticipate this interactive effect to be carried over counterfactual thinking by narrative transportation, since a transported audience is more likely to generate narrative thoughts.

Third, counterfactual thinking supports decision making and influences the formation of intentions (for a review, see Byrne 2016). The anomalous replotting of unexpected situations at the basis of counterfactuals supports the understanding of how different courses of action could have prevented the negative outcomes. Counterfactual thinking thus enables the creation of organized structures of information called schemas (Paas, Renkl, and Sweller 2003; Young et al. 2014). Schemas can be retrieved at a later stage to guide decision making in analogous
situations (Young et al. 2014). Support for this contention also comes from prior consumer research on narrative transportation, which suggests that “stories often include a key learning point or moral, which story receivers can retrieve to exert control over their behavior consistent with the story’s takeaway” (van Laer et al. 2014, p. 811). These insights also allow us to expand our operationalization of narrative persuasion by taking into account self-efficacy, a construct for which prior narrative transportation research has lamented lack of evidence (van Laer et al. 2014).

Finally, prior research on the link between counterfactual thinking and behavioral intentions in health narratives reports no significant effects (Page and Colby 2003). Studies in social psychology using non-narrative stimuli, however, report a significant effect of the general process of counterfactual thinking on intentions (Smallman 2013). One potential explanation for these conflicting findings comes from the nature of the narrative stimuli employed by Page and Colby (2003): these are all low closure narratives implying that the protagonist may have cancer without disclosing the final outcome. If our predictions are true, such low closure stimuli would have generated conjectures rather than counterfactuals, with limited persuasive effects. We thus address this gap by hypothesizing a positive effect of counterfactual thinking on behavioral intentions, based on Smallman’s (2013) findings. As shown in Figure 4.1, the above discussion leads to the articulation of the following hypothesis:

**H2:** The interactive effect of narrative closure and NFCC on narrative persuasion [(a) self-efficacy, (b) intentions] is serially mediated by narrative transportation and counterfactual thinking.
4.4 Study 2

In addition to replicating the findings of Study 1, Study 2 has two main objectives. First, to test the interactive effect between narrative closure and NFCC on narrative transportation while ruling out alternative explanations based on processing fluency. Second, to test if narrative transportation and counterfactual thoughts serially mediate this interactive effect on narrative persuasion.

4.4.1 Participants, procedure, and measures

One-hundred-and-sixty-five U.S. residents (\(M_{age} = 35.73, \ SD = 11.53; \ 48.5\% \ female\)) with a valid driver's license were recruited from a U.S. online panel in exchange for payment. Study 2 used a 2 (Narrative closure: low vs. high) x 2 (Need for cognitive closure: low vs. high) between-subjects design detailed in Study 1. Need for cognitive closure (NFCC) was measured as a continuous moderator and simple effects tests were performed using a floodlight analysis (Spiller et al. 2013).
Participants were asked to report how often they drank alcohol in a typical week, which alcoholic beverage they typically consumed, and how much they drank in a typical night. Participants then completed a battery of items measuring NFCC on a five-item, seven-point Likert scale anchored by “strongly disagree – strongly agree” ($\alpha = .84$) adapted from Roets and Van Hiel (2011) and were randomly assigned to one of the two experimental conditions. The stimuli employed in Study 2 differed from those used in Study 1 in terms of length and narrative voice. First, they were significantly longer than the ones employed in Study 1. Testing longer stories allowed to control for the possibility that an increase in story length, and thus cognitive processing, would influence the cognitive mediating mechanisms hypothesized. Second, employing first-person rather than third-person narration allowed to control for confound effects stemming from the perceived psychological distance from the narrator (Trope and Liberman 2010).

After exposure to the experimental stimuli participants filled a battery of items recording narrative transportation, counterfactual thinking, self-efficacy and behavioral intentions. Narrative transportation was measured on a five-item, seven-point Likert scale anchored by “strongly disagree – strongly agree” ($\alpha = .72$) adapted from Appel, Gnambs, Richter, and Green (2014). The original item “I wanted to know how the story ended” was omitted as it was expected to correlate heavily with the level of narrative closure. To provide a more objective measure for counterfactual thinking, the thought listing task was substituted by a five-item, seven-point Likert scale adapted from Rye, Cahoon, Ali, and Daftary (2008) anchored by “strongly disagree – strongly agree” ($\alpha = .91$). Self-efficacy was measured on a three-item, seven-point Likert scale anchored by “strongly disagree – strongly agree” ($\alpha = .941$. Responsible drinking intentions was measured on a two-item, seven-point Likert scale anchored by “strongly disagree – strongly agree” ($r = .79, p < .01$). The items for each scale are reported in Appendix 2. Finally, participants completed the manipulation checks for narrative closure, socio-demographic measures (age and gender), and a confound check measuring processing fluency.
4.4.2 Confound check

One common explanation for increased message effectiveness comes from processing fluency, or the ease of elaboration of a stimulus (Jacoby and Dallas 1981). Prior consumer research identifies in processing fluency the key mediating mechanism of matching effects. In a set of studies on promoting positive, White, McDonnell and Dhal (2011) demonstrate that processing fluency mediates the matching effect between message framing (losses for not recycling vs. gains for recycling) and construal level of the coping response provided (how vs. why to recycle). Similarly, processing fluency mediates the matching effect between the appraisals evoked by message framing (loss vs. gain) and different emotions (shame vs. guilt) in an anti-binge drinking communication context (Duhachek, Agrawal and Han 2012). In both studies, processing fluency is the result of a matching effect between two structural elements manipulated within a brief, visual message. Our theory predicts the highest persuasive effect when high narrative closure is matched with an audience high in NFCC. Rather than easing cognitive elaboration, this matching satisfies a dispositional need with a corresponding situational stimulus, leading to greater engagement with the story. We thus deemed narrative transportation to be a more appropriate mediating mechanism. We nevertheless measured processing fluency on two semantic differential items (“difficult to read – easy to read” and “difficult to understand – easy to understand”, Duhacheck et al. 2012) to account for alternative explanations based on fluency. The two items were averaged to form a processing fluency index ($r = .82, p < .01$).

4.4.3 Independent sample pre-test

An independent sample pre-test was conducted with 75 participants prior to the main experiment. Participants were randomly assigned to one of the two experimental conditions and then asked to complete a manipulation check for narrative closure on a five-item, seven-point Likert scale (e.g., “The finale of the story leaves a lot of room for speculation”) anchored by “not at all – very much” adapted from Johnson and Rosenbaum (2015) ($\alpha = .93$). The manipulation for narrative closure was successful: participants in the low narrative closure condition reported
that the finale of the story was vaguer and more open to alternatives ($M_{LowNC} = 4.89, \ SD = 1.25$) than participants assigned to the high narrative closure condition ($M_{HighNC} = 2.89, \ SD = 1.38$; $t(1, 73) = 6.55, \ p < .001$).

In addition, participants assessed the narrative for perceived believability and realism. Believability was measured on a single-item, seven-point scale ("Thinking back to the story, to what extent it was believable?") anchored by "extremely unbelievable – extremely believable". Realism was measured on a single-item, seven-point scale ("Thinking back to the story, to what extent it was realistic?") anchored by "extremely unrealistic – extremely realistic". The two items were collapsed to form a realism index ($r = .93, \ p < .001$). There was no significant difference in terms of perceived realism between low ($M_{LowNC} = 5.85, \ SD = 1.43$) and high narrative closure ($M_{HighNC} = 6.18, \ SD = 1.12$; $t(1, 73) = -1.11, \ p > .10$).

Reading time in seconds was automatically recorded by the experimental software. No significant difference was found between the low ($M_{LowNC} = 116, \ SD = 43.86$) and the high narrative closure conditions ($M_{HighNC} = 118.6, \ SD = 75.56$; $t(1, 73) = -0.18, \ p > .10$). We conclude that the manipulation for narrative closure was effective.

4.4.4 Results

Preliminary analyses. Diagnostic test for homogeneity of variances returned satisfactory results for all the endogenous variables of interest (i.e., narrative transportation, counterfactuals, self-efficacy and responsible drinking intentions). The two experimental conditions did not differ in terms of need for cognitive closure of the participants ($F < 1$), alcohol consumption behavior ($F < 1$), age ($F < 1$), and gender ($F < 1$).

Manipulation checks. The same scale employed in the pre-test was used to check the strength of the manipulation. In the low narrative closure condition, participants reported that the story left room for speculation ($M_{LowNC} = 5.52, \ SD = 0.96$) more so that in the high narrative closure condition ($M_{HighNC} = 2.63, \ SD = 1.24$; $t(1, 163) = 16.58, \ p < .001$). The two conditions did not significantly differ in terms of realism ($p < .865$). We thus conclude that the manipulation was successful.

Confound check. If the interaction of narrative closure and NFCC on processing
fluency is significant, then it is not possible to rule out the explanation that processing fluency mediates the effect over persuasion. A linear regression on processing fluency with narrative closure, NFCC, and the two-way interaction as predictors indicated no significant interactive effect ($p < .582$). Neither of the main effects of narrative closure ($p < .301$) and NFCC ($p < .317$) on processing fluency was significant. Processing fluency is thus ruled out as a potential confound.

**Responsible drinking intentions.** A linear regression on responsible drinking intentions indicated a significant effect for the predicted interaction between narrative closure and NFCC ($\beta = .291$, $F (3, 161) = 8.41, p < .004$). The interaction was decomposed through a floodlight analysis, locating the Johnson-Neyman points at $JN_{Low} = 1.44$ and $JN_{High} = 4.44$ (Figure 4.2). Narrative closure had a positive effect on responsible drinking intentions for any model where need for cognitive closure was smaller than 1.44 ($B_{IN} = -1.08$, SE = .54, $p = .05$) or greater than 4.44 ($B_{IN} = .38$, SE = .19, $p = .05$). The only other significant effect was that of narrative closure ($\beta = .158$, $F (3, 161) = 4.62, p < .033$).

**Figure 4.2**

**Study 2 — Narrative closure by NFCC area of interaction on intentions**
Counterfactuals. A similar analysis was performed on counterfactuals, finding a significant interaction between narrative closure and NFCC ($\beta = .293$, $F(3, 161) = 8.33$, $p < .004$). A floodlight analysis located the Johnson-Neyman point at $JN = 4.24$, such that narrative closure had a positive effect on counterfactuals for any model where NFCC was greater than 4.24 ($BJN = 0.32$, $SE = .16$, $p = .05$) (Figure 4.3). The only other significant effect was the main effect of narrative closure ($\beta = .199$, $F(3, 161) = 7.17$, $p < .008$), such that high closure narrative led to the generation of more counterfactuals in comparison to low closure narratives.

Figure 4.3
Study 2 — Narrative closure by NFCC area of interaction on counterfactuals

Narrative transportation. A linear regression on narrative transportation with narrative closure, NFCC, and the two-way interaction as predictors indicated only a significant interactive effect ($\beta = .336$, $F(3, 161) = 11.05$, $p < .001$). A floodlight analysis located two Johnson-Neyman points at $JN_{Low} = 3.07$ and $JN_{High} = 4.86$, such that narrative closure had a positive effect on narrative transportation for any model where NFCC was smaller than 3.07 ($BJN = -.41$, $SE = .21$, $p = .05$) or greater
than 4.86 (BJN = 0.27, SE = .14, p = .05). Neither narrative closure (p < .306) nor NFCC (p < .905) had a significant effect on narrative transportation (Figure 4.4).

**Figure 4.4**

Study 2 — Narrative closure by NFCC area of interaction on narrative transportation

*Moderated serial mediations.* Hayes's (2013) PROCESS macro with 10,000 bootstrapped samples was used to test the hypothesis that the qualified effect of narrative closure is serially mediated by narrative transportation and counterfactual thinking. As PROCESS currently does not support moderated serial mediation models, we “tricked” the macro as suggested by Hayes (2016). That is, we estimated a serial mediation model (Model 6) imputing the interaction term as the independent variable, narrative closure and NFCC as covariates, narrative transportation and counterfactual thinking as the serial mediators, and self-efficacy and behavioral intentions as the dependent variables. In so doing we were able to estimate the significance of the indirect effect of the interaction term while accounting for the main effects of narrative closure and NFCC.
**DV: Self-efficacy.** The total indirect interactive effect on self-efficacy was significant but negligible ($B = .13, SE = .06, 95\% CI = [.0345, .2808]$). Both the indirect effect passing through narrative transportation and counterfactual thinking ($\text{Ind}_{\text{eff}} = .03, SE = .02, 95\% CI = [.0088, .1020]$) and the indirect effect passing through counterfactual thinking were significant ($B = .07, SE = .04, 95\% CI = [.0001, .1796]$). These results support H2a, with the model explaining a moderate amount of variance for self-efficacy ($R^2 = .15$).

**DV: Responsible drinking intentions.** The total indirect effect of the interaction term on intentions was large and significant ($B = .41, SE = .12, 95\% CI = [.1772, .6653]$). The total indirect effect was the sum of the indirect effect of the interaction term on intentions over narrative transportation ($B = .26, SE = .10, 95\% CI = [.0899, .4905]$), counterfactual thinking ($B = .10, SE = .06, 95\% CI = [.0058, .2554]$), and narrative transportation and counterfactual thinking combined ($B = .05, SE = .03, 95\% CI = [.0122, .1261]$). The full model explains a large amount of variance in intentions ($R^2 = .48$). These results fully support H2b. Figure 4.5 summarizes the overall serial moderated mediation results with standardized estimates and Table 4.2 provides a more detailed account of the unstandardized estimates for the general model.

![Figure 4.5](image)

**Study 2 — Summary of findings**

Notes: *** $p$-value < 0.01; ** $p$-value < 0.05; * $p$-value < .10. Dashed paths in grey represent non-significant relationships. Intermediate mediating paths have been omitted for clarity.
### Table 4.2
Path estimates for full model (Study 2)

<table>
<thead>
<tr>
<th>Specified paths</th>
<th>B</th>
<th>SE</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>NC x NFCC → Narrative transportation</td>
<td>0.34</td>
<td>0.11</td>
<td>***</td>
</tr>
<tr>
<td>NC x NFCC → Counterfactuals</td>
<td>0.28</td>
<td>0.14</td>
<td>**</td>
</tr>
<tr>
<td>NC x NFCC → Self-efficacy</td>
<td>0.06</td>
<td>0.11</td>
<td>*</td>
</tr>
<tr>
<td>NC x NFCC → Intentions</td>
<td>0.10</td>
<td>0.13</td>
<td>*</td>
</tr>
<tr>
<td>Narrative trans. → Counterfactuals</td>
<td>0.37</td>
<td>0.09</td>
<td>***</td>
</tr>
<tr>
<td>Narrative trans. → Self-efficacy</td>
<td>0.10</td>
<td>0.08</td>
<td>*</td>
</tr>
<tr>
<td>Narrative trans. → Intentions</td>
<td>0.73</td>
<td>0.10</td>
<td>***</td>
</tr>
<tr>
<td>Counterfactuals → Self-efficacy</td>
<td>0.26</td>
<td>0.06</td>
<td>***</td>
</tr>
<tr>
<td>Counterfactuals → Intentions</td>
<td>0.35</td>
<td>0.08</td>
<td>***</td>
</tr>
<tr>
<td>NC → Narrative transportation</td>
<td>0.02</td>
<td>0.12</td>
<td>*</td>
</tr>
<tr>
<td>NC → Counterfactuals</td>
<td>0.42</td>
<td>0.15</td>
<td>***</td>
</tr>
<tr>
<td>NC → Self-efficacy</td>
<td>-0.10</td>
<td>0.12</td>
<td>*</td>
</tr>
<tr>
<td>NC → Intentions</td>
<td>0.25</td>
<td>0.15</td>
<td>*</td>
</tr>
<tr>
<td>NFCC → Narrative transportation</td>
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<td>0.08</td>
<td>*</td>
</tr>
<tr>
<td>NFCC → Counterfactuals</td>
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<td>NFCC → Self-efficacy</td>
<td>-0.04</td>
<td>0.07</td>
<td>*</td>
</tr>
<tr>
<td>NFCC → Intentions</td>
<td>0.07</td>
<td>0.09</td>
<td>*</td>
</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < .10

Post-hoc analysis on self-efficacy. We performed additional post-hoc analyses on self-efficacy aimed at isolating (a) the interactive effect between narrative closure and NFCC and (b) the effect of narrative transportation on self-efficacy, as recent meta-analytic work surfaced a lack of evidence on this latter link (van Laer et al. 2014).

First, a linear regression on self-efficacy with narrative closure, NFCC, and the two-way interaction as predictors revealed only a marginally significant interaction between narrative closure and NFCC ($\beta = .188$, $F (3, 161) = 3.10, p < .080$). An observation of the scatter dot matrix revealed a positive trend tampered by a floor effect for which respondents tended to score high in reported self-efficacy, decreasing the observed variance. Both the main effects of narrative closure ($p < .903$) and NFCC ($p < .609$) were not significant.
Second, a simple mediation analysis was conducted on the full sample using PROCESS with 10,000 bootstrapped samples (Model 4). Narrative transportation was employed as the independent variable, counterfactuals as the mediating variable and self-efficacy as the dependent variables. Narrative closure and NFCC were included as covariates. Results confirmed the significance of the indirect effect of narrative transportation over self-efficacy (B = .11, SE = .05, 95% CI = [.0360, .2193]), with narrative transportation having no significant direct effect (B = .063, SE = .07, p < .357). In a narrative context with both low and high closure narratives, narrative transportation has a positive effect on self-efficacy through the generation of counterfactual thoughts.

4.5 General discussion

This research set out to understand how narrative closure influences the persuasiveness of health narratives. Particular attention was devoted to the dispositional boundary conditions moderating this effect and to the underlying cognitive mechanisms explaining the persuasive process. Study 1 provides evidence for differential message effectiveness and generation of narrative thoughts as function of narrative closure. Study 2 identifies in narrative transportation and counterfactual thinking the processes underlying these effects, and in NFCC the dispositional trait moderating them. Specifically, the superior persuasiveness of high (vs. low) closure narratives received by individuals high in need for cognitive closure is driven by narrative transportation and counterfactual thoughts.

4.5.1 Theoretical contributions

This research contributes to narrative theory, counterfactual thinking theory, and the broader domain of consumer health communications. We extend previous research on the effect of narrative closure on persuasion. We add to counterfactual thinking theory by establishing a nexus between narrative closure and counterfactual thinking through narrative transportation. Our research also contributes to the validation of the Extended Transportation – Imagery Model
formalized by van Laer and colleagues (2014) by articulating and testing a typology of narrative thoughts, and by illuminating the positive indirect effect of narrative transportation on self-efficacy through the generation of counterfactual thoughts.

The role of narrative closure in broadening narrative transportation theory. Our first contribution rests on the articulation of narrative closure as a key determinant of persuasion in health narratives. We extend the concept of narrative closure introduced in consumer research by Russell and Schau (2014) from the study of evolving narrative brands to the study of the structure of health narratives. In accordance with the authors’ findings, we demonstrate that closure fixes narrative meaning and endows the story with causality, facilitating cognitive processes aimed at replotting the meaning of the emerging narrative. We also take into account the interpretative processes of the receiving audience by building on the work of van Laer and colleagues (2014) on the role of dispositional traits as interpretative filters. Specifically, we examine the role of need for cognitive closure in interacting with narrative closure to produce different reactions in the receiving audience. Importantly, the isolation of the qualified effect of narrative closure sheds new light on the lack of persuasive effects in cessation health narratives (Shen et al. 2015).

With regard to future research directions, we have ruled out some of the most common alternative explanations for the effect investigated, including processing fluency and emotional intensity. We are confident that both experimental conditions were comparable as we controlled for which type of consequences were imagined in the low closure condition: nearly 90% of participants imagined a fatal car accident. However, Terror Management Theory scholars would call for additional investigations to rule out the explanation that the persuasive effect of high closure narratives are driven by the nature of the consequences disclosed (Shehriar and Hunt 2005). Death is typically construed as a psychologically distant consequence and, as explained in Paper 1, activates a high construal mindset which leads to higher persuasion (Trope and Liberman 2010). At the same time, the promise of ultimate oblivion evoked by making death salient triggers reactance, hindering persuasion (Shehriar and Hunt 2005). These considerations warrant further research aimed at ruling out potential confounds embedded in the nature of the consequences. Future studies should compare multiple high closure conditions ending not only in death but also monetary fines, arrest and injury.
Not all narrative thoughts are created equal: deepening narrative transportation theory through the integration of counterfactual thinking. Recent meta-analytic work (van Laer et al. 2014) has highlighted a lack of investigation around narrative thoughts, namely representations of the structure of the story which contain “precise narrative cues, such as characters or objects (van Laer et al. 2014, p. 804)”. While prior research has mainly focused on the effect of narrative transportation in reducing critical thoughts (Green and Brock 2002), we show that stories can lead to a prevalence of different narrative thoughts. Specifically, we provide evidence for a nexus between different narrative closure and the dominant typology of narrative thoughts generated: low closure narratives generate mainly conjectures whereas high closure narratives generate mainly counterfactuals. In so doing, we provide evidence that not all narrative thoughts are created equal and their typology indeed depends on the story’s structure (see Escalas 2004). In addition, prior research confirms that narrative transportation produces narrative thoughts (Chang 2009). The same research, however, yields limited insights as to whether and how narrative thoughts influence persuasion. We build on this work to show that a particular typology of narrative thoughts, namely counterfactuals, is positively associated with persuasion. These findings add to narrative theory and to the Extended Transportation – Imagery Model by providing a more nuanced classification of narrative thoughts.

Building on prior research on the influence of narrative transportation on self-efficacy. The Extended Transportation – Imagery Model developed by van Laer, de Ruyter, Visconti and Wetzles (2014) presents self-efficacy as a direct consequence of narrative transportation. The authors’ proposed framework clearly depicts a positive direct effect from narrative transportation to self-efficacy and an indirect effect carried over by affective reactions, critical thoughts, narrative thoughts, and beliefs. In this paper, we provide evidence for a serial mediation in which the interactive effect of narrative closure and NFCC is carried over self-efficacy through narrative transportation first and counterfactual thoughts second. Our results shed light on the relationship between narrative transportation and self-efficacy, demonstrating that the anomalous reploting of the story at the basis of counterfactuals leads to the formation of stronger cognitive schemas at the basis of self-efficacy.
Reconciling conflicting findings on counterfactual thinking in health communication. Prior research on counterfactual thinking in the context of health narratives reports no significant effect of counterfactual thinking on behavioral intentions (Page and Colby 2003). Studies in social psychology using non-narrative stimuli, however, report a significant effect (Smallman 2013). Our findings concur with the latter results. These seemingly contradictory findings can be reconciled considering two factors. First, Page and Colby’s (2003) stimuli all depict low closure narratives which imply that the protagonist may have cancer without disclosing the final outcome. Our findings demonstrate that narrative closure has a positive main effect on the generation of counterfactuals, which in turn are part of a serial mediation on intentions. Second, Page and Colby (2003) measure behavioral intentions in undergoing a lung capacity examination test. The perceived barriers of implementation of this behavior (i.e., scheduling the examination, reaching the location, performing the test) may have been higher in comparison to downloading and installing an app on one’s phone. This heightened behavioral barrier, coupled with the low closure stimuli leading to weaker counterfactual thinking, may explain why Page and Colby (2003) do not record a significant relationship between counterfactuals and intentions.

4.5.2 Managerial implications

This research also offers guidance on the design of effective health narratives to public policy and practice. Our findings caution against the use of low closure narratives aimed at hooking the audience and increasing curiosity and attention. Differently from entertainment, the use of low closure proves to be detrimental in a health educational context. Health narratives should have closure, disclosing the negative consequences stemming from the targeted behavior. By fixing the narrative meaning, high closure health narrative strengthen the associative link between behavior and consequences and enable a more nuanced process of narrative re-elaboration, which results in greater confidence with the story’s key takeaways. Our findings demonstrating that the process of counterfactual thinking is positively influenced by narrative transportation point toward the design of highly transporting stories. The inclusion of identifiable characters and attention to
verisimilitude are but two of the key antecedents of narrative transportation that can be manipulated to enhance narrative transportation (van Laer et al. 2014), and thus counterfactual thinking.

The finding that dispositional traits of the audience interact with the story’s content in producing different persuasive effect is particularly relevant in an age of digital technology and micro-segmentation. Cognitive computing and artificial intelligence are currently used to deliver tailored promotions and personalized messages to customers on the basis of psychological profiles developed by artificial intelligences such as Watson (Marketwired 2016). By analyzing consumer-generated data produced on social media and other digital platform of content creation, artificial intelligence is capable to trace an accurate psychological profile of the consumer, tailoring segmentation to meet the individual needs of the customer. Stretching this approach to segmenting health campaign with different levels of closure on the basis of the level of NFCC of the audience is not science fiction. After deriving the level of NFCC of the audience, the tailored campaign may or may not disclose the finale of the story, increasing persuasiveness.
Appendix – Example of narrative stimuli employed in Study 1

Study 1: Low narrative closure

Matt, Carl, Lucy and Jessica meet at the local pub for a few drinks. They play a couple of games of pool and drink about five standard drinks each over two hours. After two hours, Lucy gets a text from a friend and tells the group “Hey guys, Greg is having a party in his new apartment in the city and we are all invited! Let’s go!”. The idea is accepted with enthusiasm and the group walks outside the pub. Carl says “Let’s take my car, we’ll be there in ten minutes”. Jessica objects “Wouldn’t a taxi be a better option? What if they pull you over?”. Carl dismisses Jessica’s concerns “I’m just buzzed, I’m fine!”. In the US, after three standard drinks your blood alcohol concentration is already above the legal limit for driving. The four get into the car and Carl turns the ignition key, speeding out of the parking lot. The music is pumping in the car and the group is singing. Carl runs a red light. Suddenly, the music is drowned out by the screech of brakes.

Study 1: High narrative closure

Matt, Carl, Lucy and Jessica meet at the local pub for a few drinks. They play a couple of games of pool and drink about five standard drinks each over two hours. After two hours, Lucy gets a text from a friend and tells the group “Hey guys, Greg is having a party in his new apartment in the city and we are all invited! Let’s go!”. The idea is accepted with enthusiasm and the group walks outside the pub. Carl says “Let’s take my car, we’ll be there in ten minutes”. Jessica objects “Wouldn’t a taxi be a better option? What if they pull you over?”. Carl dismisses Jessica’s concerns “I’m just buzzed, I’m fine!”. In the US, after three standard drinks your blood alcohol concentration is already above the legal limit for driving. The four get into the car and Carl turns the ignition key, speeding out of the parking lot. The music is pumping in the car and the group is singing. Carl runs a red light. Suddenly, the music is drowned out by the screech of brakes. A crashing sound followed. They had collided with a motorcyclist, who was killed by the impact.
Chapter 5 — Paper 3: Empowering Social Change through Advertising Co-Creation: The Roles of Source Disclosure, Sympathy and Personal Involvement

Davide C. Orazi, Liliana L. Bove, and Jing Lei

Note

Abstract
Despite the emerging trend of adopting co-creative approaches in public and non-profit advertising, research has overlooked participatory approaches in non-commercial settings. This research extends current knowledge on consumer-generated advertising to communications fostering positive social change. The results of an experimental study show that the disclosure of consumer participation in the ad creation process results in positive ad evaluations and reduces positive attitudes toward unhealthy eating. The main effect of source disclosure on ad evaluations is mediated by sympathy toward the ad creator. In addition, floodlight analyses show that the main effect of source disclosure on ad evaluations and attitudes is amplified when the audience is highly involved with the advertised issue. Implications for theory, practice and public policy are discussed.

Keywords: Consumer-generated advertising, Floodlight analysis, Identification, Social empowerment, Source disclosure, Personal involvement, Unhealthy eating.
5.1 Introduction

Public and non-profit organizations dealing with social and health issues are gradually adopting more participative processes of advertising creation (Dibb and Carrigan 2013). For example, the Office for Road Safety of Western Australia recently invited students to participate in a contest for the creation of the best anti drink-driving ads (Office of Road Safety WA 2012). This phenomenon is clearly inspired by consumer-generated advertising (CGA), namely communications designed by consumers with the look and feel of professionally developed commercials (Ertimur and Gilly 2012). Peaking in popularity in 2007, when several companies invited consumers to design commercials to be aired during the Super Bowl, CGA has since been integrated in the media strategy of many successful brand holdings such as Unilever and PepsiCo (Ertimur and Gilly 2012).

To date, however, the effect of disclosing consumer participation in ad creation (i.e., source disclosure effect) remains largely unexplored for communications fostering positive social change (from this point forward, socially empowering ads or SEAs). Previous research has examined the effect of source disclosure in a commercial context, but the results are mixed and difficult to extend to a different domain (Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013). In addition, previous findings in CGA research are also mixed with regard to the effects of the ad creator’s identity, advertising skills and ad creator’s motives (Ertimur and Gilly 2012; Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013).

These results, albeit mixed, point toward the existence of a relationship between source disclosure and the audience’s reactions, both at the evaluative and attitudinal levels. Drawing from literature on source effects (Wilson and Sherrell 1993; Kang and Herr 2006), sympathy in advertising (Escalas and Stern 2003), personal involvement (Zaichkowsky 1994), and consumer responsibilization (Shamir 2008; Giesler and Veresiu 2014), we form our predictions on how source disclosure, sympathy toward the ad creator and personal involvement with the advertised issue interact to affect the evaluations of socially empowering ads (SEAs).

Our research complements and furthers extant knowledge on CGA by isolating the source disclosure effect, the mediating role of sympathy toward the ad creator
and the moderating role of personal involvement with the advertised issue in collaboratively created public communications. In doing so, we add to a growing body of literature on consumer empowerment in social and health care (Giesler and Veresiu 2014; Boivin et al. 2014). Our findings also have relevant implications for advertisers and policy makers, providing guidelines and strategies to design and implement effective co-created SEAs.

The remainder of the paper is organized as follows. First, we review the relevant literature on CGA and identify differences and similarities in the application of this strategy in the private and public sectors. Then, we develop our hypotheses on source disclosure, sympathy and personal involvement. We follow by presenting our methodology and the results of the experimental study. Implications for theory, practice, and public policy are then discussed, along with limitations and avenues for future research.

5.2 Theoretical framework

5.2.1 Consumer-generated advertising

Consumer-generated advertising (CGA) refers to communications designed by consumers to resemble professionally developed commercials "whose subject is a collectively recognized brand" (Berthon, Pitt and Campbell 2008, p. 8). Literature on CGA identifies four main factors influencing the audience’s ad and brand evaluations: the audience’s inferences about (1) the ad creator’s identity, (2) the ad creator’s advertising skills, (3) the ad creator's motives, and (4) the audience’s brand loyalty (Ertimur and Gilly 2012; Thompson and Malaviya, 2013; Lawrence, Fournier and Brunel 2013).

CGA studies on the effects of mere source disclosure – namely how the audience differentially evaluates the same message depending on the disclosure of different message sources – produced mixed results. First, Thompson and Malaviya (2013) found that disclosing that an ad is consumer-generated (vs. company created) triggers a process of identification which positively influences ad and brand evaluations. This positive effect is further amplified when the ad creator is perceived
as similar to the audience and when the audience’s brand loyalty is high. In contrast, Lawrence, Fournier and Brunel (2013) found no significant difference between CGA and company-created ads on the extent to which the audience identifies with the ad creator.

Second, results are also mixed regarding the impact of the ad creator's perceived advertising skills on ad and brand evaluations. Thompson and Malaviya (2013) found that source disclosure also causes skepticism toward the advertising competence of the ad creator. This skepticism, in turn, leads to negative ad and brand evaluations. Conversely, Lawrence, Fournier, and Brunel (2013) found that disclosure of consumer sources helps ad evaluations by lowering the expectations of ad competence of the ad creator and by making the audience value the creativity and authenticity associated with CGA more so than the ad creator's advertising skills (Lawrence, Fournier and Brunel 2013).

Third, although research suggests that the perceived egoistic motives for creating CGA, such as monetary rewards and self-promotion (Berthon, Pitt and Campbell 2008), may trigger negative audience's responses (Ertimur and Gilly 2012; Lawrence, Fournier and Brunel 2013), the existing empirical evidence does not support this contention. Lawrence, Fournier, and Brunel (2013), for example, tested the impact of economic (i.e., monetary reward) and non-economic motives (i.e., ad creator brand loyalty) on the perceived trustworthiness of the ad creator and on ad evaluations, but did not find significant results.

The above results, albeit mixed, highlight how the audience's response to CGA is influenced by the audience's inferences about the ad creator upon source disclosure. For instance, disclosing the identity of the ad creator may lead the audience to infer about the advertising skills and motives of the message source, or to what extent the audience feels similar to the ad creator. Such inferences can be further influenced by individual factors such as the audience’s brand loyalty (see Thompson and Malaviya 2013).

5.2.2 The main effect of source disclosure

The CGA strategy described thus far refers mainly to the private sector, where the labels “consumer-generated” and “co-created” have been used almost
interchangeably to define either solely consumer-generated ads or ads created with the support of the sponsoring brands (Ertimur and Gilly 2012; Thompson and Malaviya 2013). In the public and non-profit sectors, however, both practice and theory are converging toward the adoption of a fully collaborative approach. The invitation of the Office for Road Safety of Western Australia to create anti drink-driving ads (Office of Road Safety WA 2012), for instance, is a practical manifestation of the process of consumer responsibilization investigated by Giesler and Veresiu (2014). Consumer responsibilization calls for a re-definition of social issues from the perspective of an empowered, responsible consumer who becomes the central problem-solver.

While it is true that social messages can be solely generated by consumers deeply involved with a social or health issue (e.g., Mothers Against Drunk Driving), the sensitivity (Guttman and Salmon 2004) and need for informational accuracy characterizing most social issues (e.g., health literacy: Parker and Ratzan 2010) suggest that this is the exception rather than the norm. The negative consequences that may stem from lack of sensitivity or informational accuracy in communications dealing with social, health and environmental issues can be far more disastrous than some loss of brand equity due to a mocking CGA in the commercial sector (e.g., Chevrolet Cameo). Consequently, this research is confined to the application of consumer-driven content in public sector advertising that is supported by institutional or institutionally accredited organizations.

We define co-created socially empowering ads (SEA) as the advertising product of the collaboration between consumers and public or non-profit organizations on issues relevant to the common good (cf. Giesler and Veresiu 2014). Because of the co-creative nature of the process, the awareness of institutional participation lends legitimacy to the contribution provided by the consumer-creators both in terms of information reliability and executional quality. This legitimization should to a large extent reduce the potential skepticism toward the advertising competence of the ad creator (Thompson and Malaviya 2013). Meanwhile, consumer participation in the creation of SEA would make the audience appreciate the ad content as it incorporates the experiences and insights of their own in-group. Therefore, we
expect that disclosing consumer participation in ad creation will have a positive effect on ad evaluations and attitudes toward the advertised issue. Formally stated:

**H1.** The disclosure of consumer participation in SEA creation has a positive effect on a) ad evaluations and b) attitudes toward the advertised issue.

### 5.2.3 The mediating effect of source identification

Research on source effects and social influence (Wilson and Sherrel 1993; Cialdini and Trost 1998) suggests that message recipients tend to be persuaded to a greater extent when they can self-reference to the message source. According to attribution theory (Kelley 1967), sources perceived as similar trigger a process of identification. Identification then guides the audience behaviour as they tend to act more on messages received from someone they can self-reference to. Source effects literature (Wilson and Sherrell 1993; Kang and Herr 2006) identifies two key determinants of the identification process: the source’s physical attractiveness and ideological similarity. While physical attractiveness refers to aesthetic appearance, ideological similarity refers to the audience’s perceptions of “shared interests, feelings, opinions, values or beliefs” with the message source (Kreuter and McClure 2004; p. 443).

In investigating the identification process, celebrity endorsement literature has typically focused on the influence of physical attractiveness on ad and brand evaluations, whereas the CGA literature has focused on ideological similarity. The very nature of celebrity endorsement as an advertising strategy implies an association between an endorsing celebrity and an endorsed brand, often facilitated by the attractiveness of the celebrity (Erdogan 1999; Amos, Holmes and Strutton 2008). In CGA research, conversely, the message source is typically disclosed through a few lines of text providing background information about the ad creator, without relying on visual depictions (see Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013). Therefore, most CGA research employs ideological

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3 The positive effect of source disclosure on attitudes entails both the increase of positive attitudes toward a healthy or desirable behavior and, as it is the case of the current research, the decrease of positive attitudes toward an unhealthy or undesirable behavior.
similarity rather than physical attractiveness to measure the process of identification with the message source. But are a few words describing consumer participation in ad creation sufficient to generate attributions of ideological similarity? Will they be strong enough to trigger the identification process?

The disclosure of consumer participation adds an additional layer of information that must be brief and impactful (cf. Thompson and Malaviya 2013) for message formats whose average gaze duration is typically short (Pieters and Wedel 2004). Given the challenges of displaying succinct content adapted to the format of the ad and brief ad exposures, source disclosure manipulations are often limited to mentioning consumer participation, without including other information necessary to form attributions of ideological similarity.

We contend that sympathy toward the ad creator better captures the identification process for co-created SEA than ideological similarity. In advertising research, sympathy defines a feeling of enhanced awareness of someone's state of mind, feelings and circumstances that does not necessarily entail emotional absorption (Escalas and Stern 2003). Sympathy is cognitive, voluntary and oriented toward an understanding of the other person and his or her perspective and feelings (Escalas and Stern 2003). Sympathy can capture the identification process even when consumer participation is disclosed but little information on the consumer is provided—particularly information that could facilitate the formation of attributions of ideological similarity. Although the related construct of empathy is often cited in advertising, empathy describes emotional reactions congruent to another person or situation's emotional state, mainly configuring itself as absorption in the feelings of another individual (Eisenberg and Strayer 1987).

Sympathy is thus more common response to short ads since the understanding and cognitive elaboration of emotional states (i.e., sympathy) is easier to evoke than emotional absorption (i.e., empathy; Escalas and Stern 2003). We therefore utilize sympathy to capture how the audience consciously evaluates and critically assess the contribution of the ad creator, and how, in the context of social and health issues, this process generates a sense of we-ness between audience and ad-creator that culminates in more positive ad evaluations. Because sympathy has no direct effects at the attitudinal level (Escalas and Stern 2003), we do not extend the mediating role of advertising sympathy to attitudes toward the advertised issue. Formally stated:
H2. Sympathy toward the ad creator mediates the effect of source disclosure on ad evaluations.

5.2.4 The moderating effect of personal involvement

Different operationalizations of personal involvement exist in advertising literature, typically in reference to (1) the advertised product (i.e., product involvement), (2) the advertisement itself (i.e., advertising engagement) and (3) the purchase behavior (Zaichkowsky 1994). In addition to these interpretations, CGA research has conceptualized personal involvement as involvement with the sponsoring brand or brand loyalty (Thompson and Malaviya 2013). In commercial CGA, the operationalization of personal involvement as brand loyalty is managerially relevant since the very definition of CGA identifies the subject in a collectively recognized brand (Berthon, Pitt and Campbell 2008).

In a SEA context aimed at fostering positive social change by influencing attitudes and behaviors, however, it is more relevant to consider personal involvement with the advertised cause – comparable to product involvement – rather than involvement with the public institution – comparable to brand loyalty in the private sector. In line with other advertising research investigating personal involvement with social and health issues (e.g., environmental concern: see D’Souza and Taghian 2005), we define personal involvement as the extent to which an individual considers the advertised issue to be relevant to his or her system of values, beliefs, interests and experiences.

The lion’s share of research on personal involvement in advertising revolves around the elaboration likelihood model (ELM: Petty and Cacioppo 1986). The ELM contends that highly involved individuals process messages following a central route of elaboration, whereas low involved individuals process messages following a peripheral route of elaboration (Petty, Cacioppo and Schumann 1983). Central elaboration is characterized by systematic thinking, careful examination of the message and sensitivity to informational content. Peripheral elaboration is characterized by heuristic thinking, rapid skimming of the message and sensitivity to emotional content (Kirmani and Shiv 1998).
We expect that, for static visual ads, the effect of source disclosure on ad evaluations and attitudes toward unhealthy eating depends on the audience’s level of personal involvement with healthy eating. Highly involved individuals are characterized by a baseline condition of interest and personal relevance toward the advertised issue. When confronted with a message dealing with an issue perceived as important, highly involved individual will be sensitive to informational elements and carefully scrutinize the message. The acknowledgment that the normative message backed up by an involved referent (i.e., the formerly affected consumer-creator) is expected to amplify positive inferences regarding the ad creation process while stifling potential negative inferences about motives and executional quality (see Hypothesis 1). Therefore, for highly involved individuals, a message disclosing the participation of a formerly affected consumer in ad creation will be more effective than a message disclosing a traditional, institutional source. The moderating effect of personal involvement is also expected to hold for the main effect of source disclosure on sympathy, further facilitating the process of self-referencing to the message source. The more the audience is involved with the advertised issue, the stronger the sympathy toward the ad creator will be, since the awareness of similar experiences and interests will facilitate the process of recognition and understanding of the consumer-creator’s experiences, motives and feelings.

Low involved consumers, conversely, are characterized by a baseline state of disinterest and lack of personal relevance toward the advertised issue. When confronted with a message dealing with an issue perceived as not important, uninvolved individuals will quickly skim through the message in search for emotional content (Petty and Cacioppo 1986). Even if they pay attention to the message source, the meanings embedded in the disclosure of a horizontal collaboration between institutions and formerly affected consumers will not resonate. We therefore expect that, under conditions of low involvement, there will be no significant difference between the two source disclosure conditions. Figure 5.1 summarizes the relationships hypothesized thus far. Formally stated, we hypothesize the following interaction effects:
H3. The impact of disclosing a co-created source on a) sympathy b) ad evaluations and c) attitudes toward the advertised issue is stronger under conditions of high personal involvement with the advertised issue.

Figure 5.1
Hypothesized relationships

5.3 Methods

5.3.1 Research design and stimulus

This study aims to assess the main effect of source disclosure on ad evaluations and attitudes toward unhealthy eating, while elucidating (1) the mediating effect of the process of identification with the ad creator and (2) the moderating effect of personal involvement with the advertised issue. To test the associated hypotheses, an online experiment was conducted manipulating source disclosure as a categorical factor and measuring involvement with the advertised issue as a continuous moderator. Source disclosure was manipulated by varying the information provided about the message source. Involvement with the advertised issue was measured on a continuous scale and simple effects tests were performed.
using a floodlight analysis (Spiller et al. 2013). This resulted in a 2 (Source disclosure: Co-created vs. Control) x 2 (Involvement with the advertised issue: Low vs. High) between-subjects design. Real ads targeting unhealthy eating were employed in this study. The advertisement was originally developed by the New York City Department of Health (NYCHD). The logo of the NYCHD was removed. The same advertisement was used in both experimental conditions. In the control condition \((n = 64)\), participants were informed that the ad was created by the Department of Health. In the co-created condition \((n = 63)\), participants were informed that the ad was created by a formerly affected consumer in collaboration with the Department of Health (see stimuli in Appendix 1).

### 5.3.2 Participants and procedure

One-hundred-and-forty U.S. residents were recruited from an online panel in return for a small incentive. Participants were invited to complete a short online questionnaire on the effectiveness of socially responsible ads. On the first page, participants were presented the plain language statement informing them of the goals and methods of the research, and reassuring them about the anonymity of their responses. On the second page, participants were asked to report their involvement with healthy eating, gender, ethnicity, height, weight, age, highest educational degree, and frequency of fast-food consumption. On the third page, participants were randomly assigned to one of the two experimental conditions. None of the participants reported to have seen the ad previously. Ad exposure time was constrained to 30 seconds, after which the survey progressed to the next page. The time allowed to view the ad was longer than the average gaze duration of 2.8 seconds reported by Pieters and Wedel (2004). This was done to allow respondents enough time to read the information about the ad creator. The duration of ad exposure was timed \((M_{Time} = 13.67, SD = 7.86)\) and used in subsequent control tests.

Following exposure to the experimental conditions, participants were presented with a treatment check and asked to indicate if the ad was created by the Department of Health, or by a formerly affected consumer in collaboration with the Department of Health. Of the original sample of 140 respondents, 13 were excluded from the analyses as they failed the treatment check. The final sample included 127
U.S. residents ($M_{\text{Age}} = 39.07; \ SD = 11.97; \ 55.9\% \text{ male})$. After exposure to the experimental condition and ensuing treatment check, participants were asked to answer a battery of questions on identification with the ad creator, ad evaluations and attitudes toward unhealthy eating. The stimulus was not present when participants were asked to complete the dependent variables measures.

### 5.3.3 Measures

Established measures were used for all the variables of interest. Involvement with the advertised issue was operationalized as involvement with healthy eating and measured with a ten-item, 7-point Likert scale (Kähkönen, Tuorila and Rita 1996). Sympathy toward the consumer-creator was measured with a five-item, 7-point Likert scale adapted from Escalas and Stern (2003). Ad evaluations were measured with a five-item, 7-point semantic differential scale (Thompson and Malaviya 2013). Attitudes toward unhealthy eating were measured with a three-item, 7-point Likert scale (Kearney, Hulshof and Gibney 2001). Control variables included time of ad exposure and socio-demographic factors, namely height, weight, age, gender and education. Height and weight were used to compute the body-mass index (Weight in Kgs / (Height in meters)$^2$, World Health Organization 2014). Appendix 2 reports the scales, items, and associated internal consistency indexes.

### 5.4 Results

#### 5.4.1 Main effect of source disclosure

Hypothesis 1 predicts a positive effect of source disclosure on a) ad evaluations and b) attitudes toward the advertised issue. Independent $t$-tests were conducted to test H1. Source disclosure was employed as the fixed factor, and ad evaluations and attitudes toward unhealthy eating as the dependent variables. Diagnostic tests for univariate normality and homogeneity of variances return satisfactory results. The two groups do not significantly differ in terms of gender, ethnicity, body-mass index, age, education, frequency of fast food consumption and involvement with the
advertised issue. The two groups significantly differ in terms of ad exposure time \( (M_{control} = 10.31, M_{Treatment} = 16.70; t (125) = -4.97, p < .001) \). When included in a generalised linear model together with the independent variables and the other control factors, however, ad exposure time neither has significant effects on any of the dependent variables \( (F (8, 115) < 1, p > .10) \), nor does it interact with any of the independent variables. Regarding the direct effects of the other control factors on the dependent variables, body-mass index \( (F (8, 115) = 3.79, p = .054) \), frequency of fast-food consumption \( (F (8, 115) = 90.34, p < .001) \) and age \( (F (8, 115) = 7.20, p < .01) \) have a significant effect on attitudes toward unhealthy eating but do not interact with the independent variables. Therefore, the analyses reported below do not include controls.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control (n = 64)</th>
<th>Co-created (n = 63)</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>37.3 (12.45)</td>
<td>40.87 (11.28)</td>
<td>-1.70</td>
<td>^</td>
</tr>
<tr>
<td>BMI</td>
<td>28.34 (9.23)</td>
<td>27.23 (8.07)</td>
<td>0.72</td>
<td>n.s.</td>
</tr>
<tr>
<td>Frequency</td>
<td>3.64 (2.05)</td>
<td>3.38 (2.08)</td>
<td>0.71</td>
<td>n.s.</td>
</tr>
<tr>
<td>Ad exposure time</td>
<td>10.31 (6.72)</td>
<td>16.70 (7.72)</td>
<td>-4.97</td>
<td>***</td>
</tr>
<tr>
<td>Involvement</td>
<td>4.23 (1.25)</td>
<td>4.41 (1.21)</td>
<td>-0.82</td>
<td>n.s.</td>
</tr>
<tr>
<td>Identification</td>
<td>5.86 (0.75)</td>
<td>6.14 (0.74)</td>
<td>-2.01</td>
<td>*</td>
</tr>
<tr>
<td>Ad evaluations</td>
<td>4.46 (1.15)</td>
<td>5.26 (1.18)</td>
<td>-3.87</td>
<td>***</td>
</tr>
<tr>
<td>Attitudes</td>
<td>4.31 (1.66)</td>
<td>3.73 (1.79)</td>
<td>1.90</td>
<td>^</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>62.5 % (40)</td>
<td>49.2 % (31)</td>
<td>-1.51</td>
<td>n.s.</td>
</tr>
<tr>
<td>Female</td>
<td>37.5 % (24)</td>
<td>50.8 % (32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td>0.62</td>
<td>n.s.</td>
</tr>
<tr>
<td>Caucasian</td>
<td>82.8 % (53)</td>
<td>85.7 % (54)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afro-american</td>
<td>0.0 % (0)</td>
<td>3.2 % (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>7.8 % (5)</td>
<td>3.2 % (2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian</td>
<td>9.4 % (6)</td>
<td>7.9 % (5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td>1.30</td>
<td>n.s.</td>
</tr>
<tr>
<td>High school</td>
<td>37.5 % (24)</td>
<td>50.8 % (32)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College</td>
<td>50.0 % (32)</td>
<td>39.7 % (25)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masters</td>
<td>10.9 % (7)</td>
<td>7.9 % (5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PhD</td>
<td>1.6 % (1)</td>
<td>1.6 % (1)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** p < .001; ** p < .01; * p < .05; ^ p < .10; n.s. = non-significant
For ad evaluations, the difference between the control condition \((M = 4.46, \text{SD} = 1.15)\) and the source disclosure condition was significant \((M = 5.26, \text{SD} = 1.18; t (125) = -3.87, p < .001)\). These results support H1a, suggesting that the disclosure of consumer participation in ad creation returns more positive ad evaluations. For attitudes toward unhealthy eating the difference between the control condition \((M = 4.31, \text{SD} = 1.66)\) and the source disclosure condition was marginally significant \((M = 3.73, \text{SD} = 1.79; t (125) = 1.89, p = .060)\). These results partially support H1b, suggesting that the effect of source disclosure goes beyond ad evaluations, decreasing positive attitudes toward unhealthy eating. Table 5.1 reports the means and standard deviations for all the variables of interest.

### 5.4.2 Mediating effect of source identification

Hypothesis 2 predicts that the positive effect of source disclosure on ad evaluations is mediated by sympathy toward the ad creator. A mediation analysis using PROCESS (Preacher and Hayes 2004) was conducted to test H2. Source disclosure \((0 = \text{Institutional}; 1 = \text{Co-created})\) was employed as the independent variable, sympathy as the mediating factor and ad evaluations as the dependent variable. Standardized estimates were derived using AMOS Structural Equation Modelling. The standardized direct effect of source disclosure on sympathy was significant \((\beta = .19, p < .05)\), the standardized direct effect of sympathy on ad evaluations was significant \((\beta = .18, p < .05)\), and the standardized direct effect of source disclosure on ad evaluations was significant \((\beta = .29, p < .001)\). The standardized indirect effect of source disclosure on ad evaluations was \(\beta_{\text{Indirect}} = .034\). Test of significance of this indirect effect were conducted using bootstrapping procedures with 5,000 repetitions. Unstandardized indirect effects were computed for each of 5,000 bootstrapped samples, and the 95% confidence interval was computed by determining the indirect effects at the 2.5th (LLCI) and 97.5th percentiles (ULCI). The bootstrapped unstandardized indirect effect of source disclosure on ad evaluations was .08 (SE = .06, LLCI = .005; ULCI = .245). Since the unstandardized indirect effect falls within the 95% confidence intervals, which do not contain zero, we can conclude that identification significantly mediates the relationship between source disclosure and attitudes toward unhealthy eating as a complementary
mediation (i.e., the mediated and direct effect both exist and point in the same direction; Zhao, Lynch and Chen 2010). These results support H2.

The same procedure was used to ensure that, as suggested by Escalas and Stern (2003), the mediating effect of sympathy did not hold at the attitudinal level. Source disclosure was employed as the independent variable, sympathy as the mediating factor and attitudes toward unhealthy eating as the dependent variable. The standardized direct effect of source disclosure on sympathy was significant ($\beta = .19$, $p < .05$), the standardized direct effect of sympathy on attitudes toward unhealthy eating was not significant ($\beta = .04$, $p > .10$), and the standardized direct effect of source disclosure on attitudes toward unhealthy eating was significant ($\beta = -.18$, $p < .05$). Test of significance of the standardized indirect effect of source disclosure on attitudes toward unhealthy eating returned non-significant results (SE = .07, LLCI = -0.083; ULCI = .210). Since the unstandardized indirect effect contained zero, sympathy does not mediate the relationship between source disclosure and attitudes toward unhealthy eating, configuring the resulting model as a direct-only nonmediation (Zhao, Lynch and Chen 2010).

5.4.3 **Moderating effect of personal involvement**

Hypothesis 3 predicts that the positive effect of source disclosure on (1) sympathy, (2) ad evaluations and (3) attitudes toward the advertised issue is moderated by personal involvement. With regard to H3a, a linear regression on sympathy with source disclosure (0 = Control; 1 = Source disclosure), involvement with healthy eating ($M = 4.32$, $SD = 1.23$), and the two-way interaction as predictors indicated no significant source disclosure by involvement interaction ($\beta = .03$, $t = 0.29$, $p > .10$). Therefore, H3a is rejected.

With regard to H3b, a linear regression on ad evaluations with source disclosure (0 = Control; 1 = Source disclosure), involvement with healthy eating ($M = 4.32$, $SD = 1.23$), and the two-way interaction as predictors indicated a significant source disclosure by involvement interaction ($\beta = .23$, $t = 2.05$, $p < .05$). Table 5.2 presents the regression models for 1) the direct effects only and 2) the interaction effect.
A floodlight analysis was conducted to decompose this interaction, using the Johnson–Neyman technique to identify the ranges of involvement with healthy eating for which the simple effect of source disclosure was significant (Spiller et al. 2013). The Johnson–Neyman point was located at $J_{N_{involvement}} = 3.48$. The analysis revealed a significant positive effect of source disclosure on ad evaluations for any model where involvement was greater than 3.48 ($B_{JN} = 0.47$, SE = .24, $p = .05$), but not for any model where involvement was lower than 3.48. $B_{JN} = 0.47$ indicates the group difference (unstandardized effect) in terms of ad evaluations between the control and the source disclosure conditions when $X$ (i.e., involvement) equals the Johnson–Neyman point (Figure 5.2). These results suggest that the positive main effect of source disclosure on ad evaluations is enhanced (vs. no effect) under conditions of high (vs. low) involvement with healthy eating. These findings fully support H3b.

With regard to H3c, the same linear regression analysis was performed on attitudes toward unhealthy eating, finding a significant source disclosure by involvement interaction ($\beta = -.31$, $t = -2.66, p < .01$). Table 5.3 presents the regression models for 1) the direct effects only and 2) the interaction effect.
Figure 5.2
Source disclosure by involvement area of interaction on ad evaluations

Table 5.3
Hierarchical regression models on attitudes toward unhealthy eating

<table>
<thead>
<tr>
<th></th>
<th>Dependent variable: Attitudes toward unhealthy eating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Model 1</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td><strong>Main effects</strong></td>
<td></td>
</tr>
<tr>
<td>Source disclosure</td>
<td>- .537</td>
</tr>
<tr>
<td>Personal involvement</td>
<td>- .253</td>
</tr>
<tr>
<td><strong>Moderating effect</strong></td>
<td></td>
</tr>
<tr>
<td>Source disclosure x</td>
<td>-</td>
</tr>
<tr>
<td>Personal involvement</td>
<td></td>
</tr>
<tr>
<td><strong>Model fit</strong></td>
<td></td>
</tr>
<tr>
<td>R² (in %)</td>
<td>6.0</td>
</tr>
<tr>
<td>F-value</td>
<td>3.94</td>
</tr>
</tbody>
</table>

*** p < .001; ** p < .01; * p < .05; ^ p < .10; n.s. = non significant
A floodlight analysis identified the Johnson–Neyman point at $JN_{\text{Involvement}} = 4.40$ (Spiller et al. 2013). The analysis revealed a significant positive effect of source disclosure on ad evaluations for any model where involvement was greater than 4.40 ($B_{JN} = -0.59$, $SE = .30$, $p = .05$), but not for any model where involvement was lower than 4.40. $B_{JN} = -0.59$ indicates the group difference (unstandardized effect) in terms of ad evaluations between the control and the source disclosure conditions when $X$ equals the Johnson–Neyman point (Figure 5.3). These results suggest that the negative main effect of source disclosure on attitude toward unhealthy eating is enhanced (vs. no effect) under conditions of high (vs. low) involvement with healthy eating. These findings fully support H3c.

**Figure 5.3**

**Source disclosure by involvement area of interaction on attitudes**

![Graph showing the Johnson-Neyman Point and the area of interaction on attitudes](image-url)
5.5 Discussion

5.5.1 Summary of findings

Commercial marketers in industries with strong social and health implications, such as food and beverages, use a variety of advertising tactics to reach consumers (Royne and Levy 2015). This study set out to understand if health departments and social marketers can do the same. Within the context of unhealthy eating—a relevant issue leading to increasing obesity rates every year, despite the considerable amount of public money invested in its prevention (Krishen and Bui 2015)—we investigated the effectiveness of co-created advertising in fostering positive social change, a research domain in which the potential benefits of participatory approaches have thus far been neglected. First, the results confirm that disclosing consumer participation in ad creation leads to positive ad evaluations and decreases positive attitudes toward unhealthy eating. Second, the process of identification triggered by perceived sympathy toward the ad creator mediates the main effect of source disclosure on ad evaluations. Third, the effect of source disclosure on ad evaluations and attitudes is enhanced when the audience is highly involved with the advertised issue.

5.5.2 Theoretical contribution

This study offers a first step toward understanding consumer participation in SEA, adding to a growing body of literature on consumer responsabilization and participation in social and health care (Shamir 2008; Giesler and Veresiu 2014; Boivin et al. 2014). In particular, our findings complement and expand to the public health sector extant knowledge of commercial CGA in reference to the source disclosure effect and the identification process (Ertimur and Gilly 2012; Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013). Similar to Lawrence and colleagues (2013), we find that disclosing consumer participation in ad creation positively affects ad evaluations. It is worthwhile noting, however, that this positive effect may be partially driven by the clear specification that consumers and institutions were collaborating in the development of the advertisement. Previous
studies in the commercial sector used manipulations conveying information that did not imply a collaborative effort between consumers and companies (Thompson and Malaviya 2013; Lawrence et al. 2013).

Consistent with the identification path theorized by Thompson and Malaviya (2013), we find evidence of the mediating effect of sympathy toward the ad creator. Acknowledging the issues tackled by the ad creators while understanding their feelings and motivations results in sympathy toward the ad creators, which in turn accounts for a portion of the positive effect of source disclosure on ad evaluations.

Most importantly, our findings demonstrate the moderating role of personal involvement with the advertised issue in co-created SEA. Whereas previous conceptualizations of involvement considered only brand loyalty in the private sector (Thompson and Malaviya 2013), we demonstrate that involvement with a social or health issue moderates the main effect of source disclosure on ad evaluations and attitudes toward unhealthy eating.

5.5.3 Implications for practice and public policy

This study holds relevant implications for advertising practice. First, our findings confirm that the simple disclosure of consumer participation in co-created SEA is enough to cause a variation in terms of ad evaluations and attitudes toward unhealthy eating. This evaluative variation can be prompted with few, impactful lines of text. Specifically, previous research on commercial CGA demonstrates that information about the ad creator conveyed in only 38 words (i.e., a main text of 12-14 words describing the message source plus 24 words of contextual information) is sufficient to cause a significant variation in ad and brand evaluations (Thompson and Malaviya 2013). Converging with existing literature, the 44 words employed in the co-created condition to convey information about the message source (i.e., a main text of 20 words describing the message source plus 24 words of contextual information, see Appendix 1) was effective in changing ad evaluations and attitudes, in comparison to the control condition. Coherently with the constraints faced by the advertising medium employed, advertisers are advised to include “minimum viable information” on the co-created source, balancing the available space with the need to convey a sufficiently powerful description of the source. Second, the moderating
role of personal involvement suggests that targeted messages should be supported by a network of advertising initiatives aimed at increasing the baseline level of involvement in the target audience. While personal involvement with the advertised issue cannot be directly manipulated in the message format, supporting campaigns and programs can be run in parallel to gradually increase the populations’ awareness and interest in specific social and health issues.

This research demonstrates the positive results associated with co-created communications for positive social change and provides preliminary validation of the effectiveness of participative approaches in public sector advertising. At the same time, our findings imply that this advertising strategy requires an infrastructure that can support its implementation in the public sector (Giesler and Veresiu 2014). The creation, implementation and maintenance of an adequate infrastructure would not only enable a horizontal collaboration between consumers, advertisers and institutional bodies, but may even serve to increase the baseline level of personal involvement discussed in the implications for advertising practice. Health departments are already using social media, health apps and interactive websites to share information and policies, and to improve governments’ understanding of public attitudes (Andersen, Medaglia and Henrikensen 2012). The co-creation of SEA would only stretch this online engagement a little further, with the added benefits of enhanced understanding of the target audience and increased message effectiveness. In addition, the broader social media network can be employed to disseminate supporting campaigns, programs, and initiatives aimed at increasing the population’s involvement with relevant social and health issues.

5.5.4 Limitations and future research

This research is not without limitations. First, the results highlight a significant complementary mediation of sympathy on the direct effect of source disclosure on ad evaluations, rather than an indirect-only mediation (Zhao, Lynch and Chen 2010). This result suggests that potential mediators other than sympathy toward the ad creator have been omitted. Literature on CGA points toward other potential mediators such as perceived motives of the ad creator (Berthon, Pitt and Campbell 2008), source credibility (Thompson and Malaviya 2013), executional quality
(Lawrence, Fournier and Brunel 2013) and even advertising authenticity (Ertimur and Gilly 2012). Future research should include these variables in a comprehensive structural model to illuminate the drivers of effectiveness of co-created advertising both in the private and in the public sectors.

Second, the scope of our investigation was limited to unhealthy eating and constrained by the use of a single, static visual ad presented in an attention-getting format (i.e., structured experimental design). Additional research is required to validate the findings reported herein to different contexts within the broader health, social and environmental domains. In addition, as suggested by Escalas and Stern (2003), more engaging ads may leverage narrative transportation and potentially elicit additional cognitive and emotional reactions other than sympathy. Future research should extend this investigation to the audience’s reactions to source disclosure in dynamic media such as interactive ads and videos.

Third, our experiment was constrained by an attention getting design which resulted in longer exposure times in comparison to real life settings. The average exposure time across conditions was more than 10 seconds longer than the average gaze duration (Pieters and Wedel 2004). While controlling for the effect of exposure time returned no significant results for any of the variables of interest, it is likely that the prolonged exposure and the absence of visual distractions (e.g., other surrounding content as typical of print advertising) triggered a higher level of mental processing. The exclusion of respondents failing the treatment check further requires the interpretation of these results as stemming from conditions of high situational attention. Our findings suggest the effectiveness of co-created SEAs in situations of high attention, yet future research is warranted on how to ensure the audience is attentive both to the source and the content of the message.
Appendix 1: Stimuli employed in the experimental design

For each experimental condition (Source disclosure: Control vs. Co-created), participants were provided with the corresponding information on the advertisement’s source, followed by the same message content (for analogous procedures, see Thompson and Malaviya 2013; Lawrence et al. 2013).

Control condition: “The advertisement you are about to see was created by the Department of Health. The Department of Health provided informational support and developed the final advertisement”.

![Advertisement Image]
**Co-created condition:** “The advertisement you are about to see was created by a previously affected consumer in collaboration with the Department of Health. The consumer provided his insights and personal experience on unhealthy eating. The Department of Health provided informational support and developed the final advertisement.”
Appendix 2: Scales, items and Cronbach’s α

<table>
<thead>
<tr>
<th>Scale</th>
<th>Cronbach’s α</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement with healthy eating</td>
<td>α = .86</td>
<td>When thinking about your own health, how concerned are you about the following issues?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1) Getting a lot of salt in my food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2) Getting a lot of fat in my food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3) Getting a lot of sugar in my food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4) Getting many calories</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5) Food additives in my food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6) Risk for high blood pressure</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7) Risk for coronary heart disease</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8) Getting a lot of cholesterol in my food</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9) Gaining weight</td>
</tr>
<tr>
<td>Identification with the ad creator (Sympathy)</td>
<td>α = .74</td>
<td>When thinking about the ad you have seen a moment ago, to what extent do you agree with the following statements?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1) I tried to understand the events as they occurred</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2) I understood what was bothering the ad creators</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3) I tried to understand the ad creators’ motivation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4) I understood what the ad creators were feeling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5) I was able to recognize the problems that the ad creators wanted to address</td>
</tr>
<tr>
<td>Ad evaluations</td>
<td>α = .86</td>
<td>Overall, what is your impression of this ad?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Unfavourable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>−7 = Favourable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Negative</td>
</tr>
<tr>
<td></td>
<td></td>
<td>−7 = Positive</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Dislike</td>
</tr>
<tr>
<td></td>
<td></td>
<td>−7 = Like</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Unconvincing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>−7 = Convincing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = Bad</td>
</tr>
<tr>
<td></td>
<td></td>
<td>−7 = Good</td>
</tr>
<tr>
<td>Attitudes toward unhealthy eating</td>
<td>α = .93</td>
<td>Thinking about your eating habits:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1) I make conscious effort to try and eat a healthy diet</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2) I try to keep the amount of fat I eat to a healthy amount</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3) I do not need to make changes to my diet as it is healthy enough</td>
</tr>
</tbody>
</table>
Chapter 6 — Paper 4: Consumer Responsibilization and Source Effects in Advertising Co-creation

Davide C. Orazi

Abstract
Against a general climate of distrust toward the ability of institutions to tackle social and health issues alone, consumer responsibilization defines a governmental process through which consumer-citizens become the central problem solvers under institutional guidance. This research investigates how disclosing the identity of each stakeholder involved in consumer responsibilization generates specific attributions of trust (i.e., institutions) and similarity (i.e., consumer-citizens). Based on an additive attributional process, I contend that public messages disclosed to be co-created between institutions and citizens are evaluated more positively in comparison to solely institution-created or solely-consumer-generated messages. Perceived message authenticity stemming from horizontal collaboration is identified as the key mediating mechanism underlying this attributional process. Results of a multicategorical serial mediation model confirm the conditional effect of co-created sources on ad evaluations through perceived authenticity. Implications for policy and practice are discussed.

Keywords: Advertising authenticity, Consumer-generated advertising, Horizontal collaboration, P.A.C.T. routine, Source effects.
6.1 Introduction

Recent statistics on citizens’ reactions to public health campaigns paint an alarming picture. Three-quarters of Millennials report they do not trust public institutions to be able to tackle the bigger social and health issues alone (MSLGROUP 2014). More generally, consumers perceive many institutional health campaigns to greatly exaggerate the risks (Cancer Vic 2012). Against this public cynicism, obesity rates are predicted to increase of 33% over the next twenty years (Finkelstein et al. 2012), even though two thirds of the U.S. population are already considered to be either obese or overweight (Ogden et al. 2014).

The participation of individuals in the creation of health communications may prove to be an effective strategy to restore trust in public institutions. Consumer research already theorizes a shift toward consumer responsibilization, through which wicked issues are redefined from the personalized perspective of the consumer-citizen, which becomes the central problem solver under institutional guidance (Giesler and Veresiu 2014). In addition, public health is not new to horizontal and dialogical approaches for the design of health interventions. Community-based participatory research demonstrate how engaging affected individuals in the research process leads to actionable insights and more effective interventions (Jernigan et al. 2015). Only recently, however, have public institutions moved toward collaborative approaches for the creation of social and health campaigns (Dibb and Carrigan 2013; Office of Road Safety 2012).

Collaborative approaches to the creation of communication campaigns (i.e., advertising co-creation) directly descend from the practice of consumer-generated advertising (CGA), namely advertisements with professional look and feels created by consumers (Ertimur and Gilly 2012). Made popular after 2007, CGA has since been integrated in the media strategy of global brands such as Unilever and PepsiCo (Ertimur and Gilly 2012). Marketing research has consistently demonstrated that the evaluations of identical advertisements are more favorable when disclosed to be consumer-generated rather than corporate-created (Thompson and Malaviya 2013; Lawrence, Fournier, and Brunel 2013; Hautz et al. 2014). Previous CGA studies have only compared corporate-created vs. consumer-generated sources (e.g., Thompson and Malaviya 2013; Lawrence, Fournier, and Brunel 2013). Recent investigations in
the public sector, on the other hand, juxtapose institutional vs. collaborative sources without considering the contributions of consumer-citizens alone (Orazi, Bove and Lei 2016).

Against this background, this research sets out to investigate if and why the same institutional message is evaluated differently when it is disclosed to be (1) institution-created, (2) consumer-generated, or (3) co-created. Following a confirmatory factor analysis (CFA) aimed at assessing the discriminant validity of the relevant constructs, the main study tests a multicategorical mediation model of source effects. Particular attention is devoted to the mediating mechanism of perceived message authenticity (Chalmers 2007; Ertimur and Gilly 2012), for which prior research on CGA has produced inconclusive results (e.g., Ertimur and Gilly 2012; Lawrence, Fournier, and Brunel 2013).

This paper contributes to theory in two key respects. First, by developing a multicategorical mediation model of source effects in public communication, this paper bridges consumer responsibilization theory (Shamir 2008; Prothero et al. 2011; Giesler and Vereius 2014) with attribution theory applied to consumer-generated advertising (Ertimur and Gilly 2012; Lawrence, Fournier, and Brunel 2013; Thompson and Malaviya 2013; Hautz et al. 2014). In so doing, this paper empirically validates theories on the moral consumer (Shamir 2008) and the personalization-authorization aspect of P.A.C.T. routine (Giesler and Veresiu 2014) in a collaborative creation context. Second, this research adds to literature on authenticity in general (Chalmers 2007; Beverland et al. 2008) and authenticity in consumer-generated advertising in particular (Ertimur and Gilly 2012) by exploring the conditional effect of source disclosure on message evaluations through perceived authenticity. In so doing, this paper contributes to attribution theory (cf. Wilson and Sherrell 1993) by delving deeper into the attributional process generated by different types of source disclosure and by isolating source credibility and similarity as relevant antecedents of perceived authenticity.
6.2 Theoretical background

6.2.1 Consumer-generated advertising and attribution theory

Consumer-generated advertising (CGA) refers to communications designed by consumers to resemble professionally-created ads (Ertimur and Gilly 2012). The successful use of CGA in the commercial sector has inspired a wealth of studies on source effects (Ertimur and Gilly 2012; Thompson and Malaviya, 2013; Lawrence, Fournier and Brunel 2013; Hautz et al. 2014), consumer appropriation of advertising meaning (Muñiz and Schau 2007), ad engagement (Lawrence, Fournier, and Brunel 2013), and advertising authenticity (Ertimur and Gilly 2012). Appendix 1 provides a general overview of the current state of CGA research.

In the context of CGA research, scholars have used attribution theory (Kelley 1967; Wilson and Sherrell 1993) to explain how messages with identical content but different sources are evaluated differently by the audience (Thompson and Malaviya 2013; Lawrence, Fournier, and Brunel 2013; Hautz et al. 2014). Attribution theory posits that people make sense of the world by attributing traits to and establishing relationships between the objects surrounding them (Kelley 1967; Wilson and Sherrell 1993). This attributional process typically refers to the credibility and the attractiveness of the message source. Source credibility is reflected by perceived expertise (i.e., the audience’s expectation that the message source possesses extensive knowledge about the topic) and trustworthiness (i.e., the expectation that the source is willing to share the truth). Source attractiveness is reflected by the physical attractiveness of the source and the audience’s expectation that the message source shares ideological or identity features with the audience, such as interests, beliefs, and experiences (i.e., ideological similarity, see Wilson and Sherrell 1993; Thompson and Malaviya 2013). Intuitively, messages delivered by sources perceived to be more credible and attractive return more positive ad evaluations than messages associated with less credible and attractive sources (Wilson and Sherrell 1993; Spry, Pappu and Cornwell 2011).

Existing CGA research in the commercial sector provides converging evidence that consumer sources are perceived to be more credible than corporate ones (Lawrence, Fournier and Brunel 2013; Hautz et al. 2014). Results on the effects of
source disclosure on perceived similarity, on the other hand, are less clear, with scholars reporting negative main effects (Steyn et al. 2011), interactive effects based on additional background information on the ad creator (Thompson and Malaviya 2013), and non-significant effects (Lawrence, Fournier and Brunel 2013). In the following, we articulate our predictions reconciling existing findings on CGA effectiveness with consumer responsibilization literature (Giesler and Veresiu 2014).

6.2.2 Stakeholder-based source effects and consumer responsibilization in co-created advertising

The idea that marketing communications and brand assets should be reflective of the stakeholders involved in the process has been adopted in both integrated marketing communication (Ots and Nylasy 2015; Orazi, Spry, Theilacker and Vredenburg 2016) and branding literatures (Payne et al. 2009; Da Silveira et al. 2013; Vallaster and von Wallpach 2013). The roots of this paradigm shift delve deep into stakeholder theory, for which coordinating and serving the interest of all actors involved in a process while recognizing their roles and contributions is of paramount importance for organizational success (Freeman 1994; Freeman et al. 2004). Failure in this endeavour results in loss of information and insights that a collaborative process would have produced (Hatch and Schultz 2010).

The same principle is manifest in CGA literature with regard to source disclosure and the attribution of meaning to a message on the basis of the disclosed source. Prior CGA studies have used the terms consumer-generated and co-created advertising almost interchangeably (Ertimur and Gilly 2012), despite the two terms imply different creative modes and levels of institutional involvement (absent in the first mode, present in the second). The specification and validation of a taxonomy of sources reflective of the role and contributions of each stakeholder is necessary to understand which attributional processes drive the effect of source disclosure. I thus operationalize source in terms of the identity or identities of the stakeholders involved in the ad creation process and distinguish between institution-, consumer-, and co-created sources.
Institution-created messages are created by institutional sources without consumer participation. In the public sector, these messages reflect a governance of social-protectionism in which institutional stakeholders deal with social and health issues through top-down regulations and awareness campaigns. In a domain in which health literacy and topical expertise are necessary to avoid the propagation of inaccurate and potentially harmful information (Parker and Ratzan 2010), the critical nature of health information urges the audience to extensively assess the credibility of the message (Wathen and Burkell 2002). We thus expect that the traditional role of institutions as “protectors” will translate in stronger (vs. weaker) attributions of credibility for institutional (vs. consumer) sources.

Consumer-generated messages are created by consumers alone. In the public sector, these correspond to unsolicited advertisements independently created and shared on social media by consumers or consumer associations involved with a social or health issue (e.g., the consumer association Mothers Against Drunk Driving). Solely-consumer generated messages reflect the individual re-appropriation of meaning and self-expression enabled by information-based power (Labrecque et al. 2013). By providing insights and personal experiences on the problem at hand, consumers become the central problem-solvers. According to social influence literature, information communicated by a peer or a source more similar to the message recipient influences consumer behavior to a greater extent than information communicated by a corporate or institutional source (Andsager et al. 2006; Hilmert, Kulik, and Christenfeld 2006). As suggested by Thompson and Malaviya (2013), this identification process may hold more relevance in the public than in the commercial sector, since message recipients tend to identify more closely with non-commercial sources that they perceive to be more similar to them (Chaiken and Eagly 1983). I thus expect that the sense of kinship toward other fellow consumer-citizens will translate in stronger (vs. weaker) attributions of similarity for consumer (vs. institutional) message sources.

Co-created messages are created through the concerted efforts of institutions and consumers. In the public sector, these correspond to messages in which consumers provide insights and creative inputs and institutional stakeholders endorse the final outcome while ensuring informational and executional quality (e.g., Office of Road Safety WA 2012). I contend that these messages reflect a neo-
liberal perspective of shared responsibility between consumers and institutional stakeholders in which consumers are responsibilized (Giesler and Veresiu 2014). Consumer responsibilization is defined as a governmental process through which “responsibility is shifted away from the state and corporations and reassigned onto the individual agent” (Giesler and Veresiu 2014, p. 843). The overall process of responsibilization, coined the P.A.C.T. routine (Giesler and Veresiu 2014), is broken down in four sub-processes: personalization, authorization, capabilization, and transformation.

*Personalization* implies that social issues are re-defined from the perspective of the responsible consumer (Shamir 2008), who, in virtue of an enhanced moral responsibility, becomes the central problem-solver. For instance, formerly obese consumers may decide to share insights and experiences about their journey by participating in the creation of communications targeting obesity. The personal contribution of the responsible consumer, however, requires legitimization (Giesler and Veresiu 2014). *Authorization* thus defines the process through which institutional stakeholders provide legitimacy to the consumer's contribution by means of endorsement, institutional credibility, and technical knowledge. The personal experiences and insights provided by the consumer may require to be complemented with accurate health information and institutional support, especially when dealing with sensitive social and health issues. At this point, the presence of technological and financial barriers may hinder the collaborative process (Labrecque et al. 2013). To avoid this bottleneck in the responsibilization process, *capabilization* describes the creation of an adequate infrastructure capable of supporting interactions between consumers and institutional stakeholders. In broader terms, this infrastructure entails the products and services necessary to promote the horizontal interaction between consumers and institutions (Giesler and Veresiu 2014). This infrastructure is identified in the diffusion of internet technologies, which enable “the shift in information-based power toward the consumer” (Labrecque et al. 2013, p. 261), while improving institutional understanding of public attitudes and the sharing of information and policies (Andersen, Medaglia, and Henriksen 2012). The continual interaction between consumers and institutional stakeholders, facilitated by a technological infrastructure, ultimately results in a positive *transformation* of the social issue.
Based on the above considerations, I expect that messages disclosed to be co-created between institutions and consumers will combine the positive source effects of institutional-based credibility and consumer-driven similarity. Given that both credibility and similarity have been shown to positively relate to evaluative and attitudinal change (Kelman 1961; Wilson and Sherrell 1993), I expect this additive attribution process to translate in the most positive ad evaluations for co-created messages. Formally stated:

**H1:** Attributions of source credibility are stronger for (a) institution-created and (b) co-created messages than for consumer-generated messages.

**H2:** Attributions of source similarity are stronger for (a) consumer-generated and (b) co-created messages than for institution-created messages.

**H3:** Co-created messages return more positive ad evaluations in comparison to institution-created and consumer-generated messages.

### 6.2.3 Authenticity is the message

Different from source credibility and source similarity, authenticity represents an under-investigated and often misoperationalized construct in CGA literature (Ertimur and Gilly 2012). In general terms, authenticity is defined as the “illusion of the reality of ordinary life in reference to a [...] situation” (Stern 1994, p. 388). Most studies investigating the concept of authenticity in advertising attribute authenticity to the advertised brand or product (e.g., Beverland, Lindgreen, and Vink 2008). The few studies that consider authenticity in reference to the advertisement itself rather than the advertised object tend to use “constructs like authenticity and credibility almost interchangeably” (Ertimur and Gilly 2012, p. 126). In a co-creative context, however, the distinction between the two concepts is relevant because the credibility of the message source is evaluated separately from the outcome of the collaboration (i.e., the message).

I contend that, when evaluating a message, the audience first makes inferences regarding the message source (i.e., credibility and similarity), and then uses these
inferences to inform their evaluation of message authenticity. Inferring that a source (and thus the message) is credible is likely to increase the audience’s perception that the message conveys an accurate and faithful representation of a realistic scenario. In addition, assessments of advertising authenticity are influenced by the extent to which the audience can self-reference to the presented scenario (Ertimur and Gilly 2012). Perceived similarity to the message source is likely to assist this self-referencing process. In a public sector context, knowing that a consumer is also involved in the creative process may convey an experiential narrative that allows the audience to relate to the message, increasing the overall message authenticity. If the additive effect postulated in Hypotheses 1-3 holds, disclosing a creative collaboration between institutions (i.e., authorization lending credibility) and consumer-citizens (i.e., personalization lending similarity) is then assumed to affect the perception that the message itself represents an original and genuine depiction of reality, leading to more positive ad evaluations. Formally stated:

**H4:** Perceptions of authenticity are stronger for co-created messages than for institution-created messages and consumer-generated messages.

**H5:** The effect of source disclosure on ad evaluations is serially mediated by (a) credibility and similarity (first-level) and (b) authenticity (second-level).

### 6.3 Methods

This research starts with a confirmatory factor analysis (CFA) aimed at establishing the discriminant validity of the variables of interest, with particular regard to advertising authenticity. Since advertising authenticity is regarded as an often misoperationalized construct (Ertimur and Gilly 2012) which has received extremely limited empirical validation (see Kovács et al. 2013), an independent sample CFA was necessary to assess the discriminant validity of all measures of interest prior to proceeding to the experimental design. The main experimental study compares the audience’s attributions across the three manipulated sources (institution-, consumer-, and co-created) to provide causal evidence of the more
positive ad evaluations for co-created messages. In addition, the main study aims at understanding if perceived message authenticity mediates the effect of source disclosure over ad evaluations. The relevance of unhealthy eating and obesity as social and health issues informs the choice of the context of investigation. With 68.5% of the U.S. population considered to be either overweight (33.6%) or obese (34.9%) (Ogden et al. 2014), obesity is associated with cardiovascular diseases and type 2 diabetes, contributing to 100,000-400,000 deaths per year and adding up to an annual social cost of $147 billion in preventive and medical treatments (Finkelstein et al. 2008).

6.3.1 Independent confirmatory factor analysis

Participants and procedure

A total of 530 adults residing in the US were recruited from Amazon Mechanical Turk (AMTurk) in return for a monetary incentive equal to US$1 (see Paolacci, Chandler, and Ipeirotis 2010; Buhrmester, Kwang, and Gosling 2011; Daly and Nataraajan 2015 for supporting evidence on the validity and reliability of AMTurk as a data source). Incomplete responses and responses failing an attention check were deleted listwise, leaving a final sample of 525 respondents (\(M_{\text{age}}=36.18\) (SD = 12.03), 57.5% male).

This preliminary study employed a one-group post-test only design for confirmatory purposes, exposing a large sample to the same message disclosed to be collaboratively created between a formerly affected consumer and the Department of Health. Participants were invited to complete an online survey on social marketing campaigns. On the first page, participants were asked to report their age, gender, height, weight, and education. Then, participants were presented with an advertisement targeting unhealthy eating disclosed to be collaboratively created between a formerly affected consumer and the Department of Health. The visual stimulus employed was part of an existing US campaign circulated in the State of New York. The original institutional logo was removed from the stimulus. Previous exposure to the visual stimulus was assessed immediately after. Out of the 525 participants, 67 reported previous exposure to the ad. Since an ANOVA between
the two groups returned no significant difference on any of the measures of interest, all respondents were retained in the sample. Participants were then asked to provide their attributions and evaluations on the constructs of interest.

**Measures**

A total of seven latent constructs where measured: trustworthiness, expertise, similarity, advertising authenticity, ad evaluations, and egoistic and altruistic motives. The constructs were multi-item measures drawn from previously validated scales which were adapted to relate to the unhealthy eating context, with the exception of advertising authenticity. Source credibility was measured as a second-order factor comprised of trustworthiness and expertise, following the guidance provided by the literature. Trustworthiness and expertise were measured using two five-item, 5-point semantic differential scales drawn from Ohanian (1990). Similarity was measured using a three-item, 5-point semantic differential scale (Lawrence, Fournier, and Brunel 2013). Advertising authenticity was measured using a four-item, 5-point Likert scale built drawing from Kovács and colleagues (2013). The primary dependent variable was ad evaluations, which was measured on a four-item, 5-point semantic differential scale adapted from Thompson and Malaviya (2013). Prior advertising research has used ad evaluations as a proxy for advertising effectiveness (MacKenzie, Lutz, and Belch 1986; Metha 2000).

I also controlled for the influence of perceived egoistic and altruistic motives as consumers express concern about the motives that drive other consumers to create ads (Ertimur and Gilly 2012). Institutional sources dealing with social and health issues are likely to trigger attributions of altruism conforming to the traditional role of public institutions as protectors of the common good (McGraw, Schwartz, and Tetlock 2012). Consumer-generated and co-created sources, however, may be perceived as motivated by both egoistic (e.g., monetary reward for their consulting role and self-promotion) and altruistic motives (e.g., help in solving a collective issue, see Fisher, Vandenbosch, and Antia 2008; White and Peloza 2009). In line with prior literature on environmental and green advertising, we conceptualize egoistic and altruistic motives as attributional dimensions that can coexist within the
### Table 6.1
Items, standardized factor loadings and measures of validity

<table>
<thead>
<tr>
<th>Scale and scale items</th>
<th>α</th>
<th>β</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motives</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To what extent the creator of the advertisement was motivated by the following?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Egoistic</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>In exchange for a personal reward.</em></td>
<td>.88</td>
<td>.865</td>
<td>.883</td>
<td>.715</td>
</tr>
<tr>
<td><em>To gain a tangible profit.</em></td>
<td></td>
<td>.851</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Would have not participated if no reward was available.</em></td>
<td></td>
<td>.820</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Altruistic</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>To benefit society.</em></td>
<td>.92</td>
<td>.883</td>
<td>.924</td>
<td>.801</td>
</tr>
<tr>
<td><em>To make a contribution to the common good.</em></td>
<td></td>
<td>.904</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>To help others.</em></td>
<td></td>
<td>.898</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Source credibility</strong></td>
<td></td>
<td></td>
<td>.939</td>
<td>.885</td>
</tr>
<tr>
<td>The source of the health message is:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Trustworthiness</em></td>
<td>.94</td>
<td>.961</td>
<td>.941</td>
<td>.761</td>
</tr>
<tr>
<td><em>Undependable-Dependable.</em></td>
<td></td>
<td>.887</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dishonest-Honest.</em></td>
<td></td>
<td>.854</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Unreliable-Reliable.</em></td>
<td></td>
<td>.918</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Insincere-Sincere.</em></td>
<td></td>
<td>.789</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Untrustworthy-Trustworthy.</em></td>
<td></td>
<td>.907</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Expertise</em></td>
<td>.94</td>
<td>.914</td>
<td>.945</td>
<td>.774</td>
</tr>
<tr>
<td><em>Not an expert-Expert</em></td>
<td></td>
<td>.845</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Inexperienced-Experienced.</em></td>
<td></td>
<td>.882</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Unknowledgeable-Knowledgeable.</em></td>
<td></td>
<td>.880</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Unqualified-Qualified.</em></td>
<td></td>
<td>.912</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Unskilled-Skilled.</em></td>
<td></td>
<td>.879</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Source similarity</strong></td>
<td></td>
<td></td>
<td>.91</td>
<td>.799</td>
</tr>
<tr>
<td>The source of the health message is:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dissimilar from me-Similar to me.</em></td>
<td></td>
<td>.926</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Distant from myself-Close to myself.</em></td>
<td></td>
<td>.907</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Like me-Not like me.</em></td>
<td></td>
<td>.847</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Authenticity</strong></td>
<td></td>
<td></td>
<td>.92</td>
<td>.761</td>
</tr>
<tr>
<td>The ad looks authentic.*</td>
<td></td>
<td>.888</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The message feels genuine.*</td>
<td></td>
<td>.888</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The ad feels real.*</td>
<td></td>
<td>.905</td>
<td></td>
<td></td>
</tr>
<tr>
<td>The scenario depicted is close to reality.*</td>
<td></td>
<td>.807</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ad evaluations</strong></td>
<td>.94</td>
<td>.945</td>
<td>.813</td>
<td></td>
</tr>
<tr>
<td><em>Bad-Good.</em></td>
<td></td>
<td>.878</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Unconvincing-Convincing.</em></td>
<td></td>
<td>.839</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Unfavorable-Favorable.</em></td>
<td></td>
<td>.943</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Dislike-Like.</em></td>
<td></td>
<td>.942</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: $\beta$ = standardized factor loading, CR = composite reliability; AVE = average variance extracted.
individual's identity, measuring each by three items on seven-point Likert scales (Cnann and Goldberg-Glen 1991; Daugherty, Eastin, and Bright 2008). Socio-demographic (gender, age, and education) and context specific control factors (height and weight) were also included. The latter were again used to calculate respondents' BMI as the ratio between weight in kilograms and the squared height in meters (World Health Organization 2014). Table 6.1 provides an overview of utilized items, factor loadings, and average variance extracted for each latent construct.

**Results and discussion**

The CFA was conducted using structural equation modelling (SEM) with maximum likelihood estimation. The comparative fit index (CFI, cutoff > .93) was used to evaluate the incremental fit of the model, the adjusted goodness of fit index (AGFI, cutoff > .90) to evaluate the absolute fit, and the parsimony adjusted normed fit index (PNFI, cutoff > .90) to assess the parsimony of the model. The root mean square error of approximation (RMSEA, cutoff < .05) was used both as an absolute measure of model fit and as a measure of parsimony (Byrne 1994; Iacobucci 2010). Instrument validity tests were conducted to ensure convergent and discriminant validity (Bagozzi and Phillips 1991). Convergent validity is demonstrated when each item loads over .70 on their respective factor and the average variance extracted (AVE) of each factor is greater than .50. Table 6.3 shows that all items and factors satisfy these criteria, providing evidence of convergent validity. Discriminant validity is demonstrated by comparing the shared variance between each pair of constructs against the AVE of each construct (Fornell and Larcker 1981). Since the AVE of each construct is greater than its shared variance with any other construct, evidence of discriminant validity is provided. Notably, advertising authenticity discriminates well from source credibility and from all other variables included in the measurement model. The fit of the measurement model was good ($\chi^2$/df = 659.55/307 = 2.15; AGFI = .89; CFI = .97; RMSEA = .047; PNFI = .83). Table 6.2 reports correlations, shared variance, and AVE for the measurement model.
Table 6.2

Latent variables correlations and discriminant validity

<table>
<thead>
<tr>
<th></th>
<th>EGO</th>
<th>ALT</th>
<th>CRED</th>
<th>SIM</th>
<th>AUTH</th>
<th>ADEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGO</td>
<td>.715</td>
<td>.336</td>
<td>.126</td>
<td>.051</td>
<td>.107</td>
<td>.090</td>
</tr>
<tr>
<td>ALT</td>
<td>-.580</td>
<td>.801</td>
<td>.483</td>
<td>.207</td>
<td>.394</td>
<td>.399</td>
</tr>
<tr>
<td>CRED</td>
<td>-.356</td>
<td>.695</td>
<td>.885</td>
<td>.350</td>
<td>.588</td>
<td>.654</td>
</tr>
<tr>
<td>SIM</td>
<td>-.226</td>
<td>.455</td>
<td>.592</td>
<td>.800</td>
<td>.262</td>
<td>.469</td>
</tr>
<tr>
<td>AUTH</td>
<td>-.327</td>
<td>.628</td>
<td>.767</td>
<td>.512</td>
<td>.762</td>
<td>.617</td>
</tr>
<tr>
<td>ADEV</td>
<td>-.301</td>
<td>.632</td>
<td>.809</td>
<td>.685</td>
<td>.786</td>
<td>.813</td>
</tr>
</tbody>
</table>

Note: r = below the diagonal, r² = above the diagonal in italic; AVE = on the diagonal in bold.
EGO = Egoistic motives; ALT = Altruistic motives; TRUST = Trustworthiness; EXP = Expertise; CRED = Credibility; SIM = Similarity; AUTH = Authenticity; ADEV = Ad evaluations.

A measurement model in which credibility is uncoupled into the two, first-order factors of trustworthiness and expertise was tested to ensure that a model with credibility specified as a second-order factor fitted the data better than an alternative model with trustworthiness and expertise as first-order factors. As shown in Table 6.3, all the constructs employed in the measurement model discriminate well from each other, with the exception of the relationship between trustworthiness and expertise. To provide further support to a measurement model with credibility as a second order factor, the two nested alternatives were compared using a chi-square distribution. In the first model (M₁), the items of trustworthiness and expertise are reflective of credibility as a single, first-order factor. In the second model (M₂), trustworthiness and expertise are reflective, first-order factors of credibility as a second-order factor. With the loss of two degrees of freedom and a chi-square variation of Δχ² = 370.14, the measurement model with source credibility as a second-order factor (M₂: χ²/df = 659.55/307 = 2.15; AGFI = .89; CFI = .97; RMSEA = .047; PNFI = .83) fits the data significantly better than the one-dimensional alternative (M₁: χ²/df = 1029.69/309 = 3.33; AGFI = .81; CFI = .95; RMSEA = .067; PNFI = .82).
Table 6.3

Latent variables correlations and discriminant validity for alternative model

<table>
<thead>
<tr>
<th></th>
<th>EGO</th>
<th>ALT</th>
<th>TRUST</th>
<th>EXP</th>
<th>SIM</th>
<th>AUTH</th>
<th>ADEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGO</td>
<td>.715</td>
<td>.336</td>
<td>.123</td>
<td>.097</td>
<td>.051</td>
<td>.107</td>
<td>.090</td>
</tr>
<tr>
<td>ALT</td>
<td>-.580</td>
<td>.801</td>
<td>.463</td>
<td>.380</td>
<td>.207</td>
<td>.394</td>
<td>.399</td>
</tr>
<tr>
<td>TRUST</td>
<td>-.351</td>
<td>.681</td>
<td>.761</td>
<td>.781</td>
<td>.337</td>
<td>.528</td>
<td>.614</td>
</tr>
<tr>
<td>EXP</td>
<td>-.313</td>
<td>.617</td>
<td>.884</td>
<td>.774</td>
<td>.276</td>
<td>.531</td>
<td>.541</td>
</tr>
<tr>
<td>SIM</td>
<td>-.226</td>
<td>.455</td>
<td>.581</td>
<td>.526</td>
<td>.799</td>
<td>.262</td>
<td>.469</td>
</tr>
<tr>
<td>AUTH</td>
<td>-.327</td>
<td>.628</td>
<td>.727</td>
<td>.729</td>
<td>.512</td>
<td>.761</td>
<td>.617</td>
</tr>
<tr>
<td>ADEV</td>
<td>-.301</td>
<td>.632</td>
<td>.784</td>
<td>.736</td>
<td>.685</td>
<td>.786</td>
<td>.813</td>
</tr>
</tbody>
</table>

Note: r = below the diagonal, r² = above the diagonal in italic; AVE = on the diagonal in bold. EGO = Egoistic motives; ALT = Altruistic motives; TRUST = Trustworthiness; EXP = Expertise; CRED = Credibility; SIM = Similarity; AUTH = Authenticity; ADEV = Ad evaluations.

Providing evidence of both convergent and discriminant validity, this preliminary study confirms the validity of the constructs to be employed in the main experimental study.

6.3.2 Main experimental study

Participants, procedure and measures

Study 2 employed a single-factor (Source disclosure: Institution-created vs. Consumer-generated vs. Co-created) between-subjects design. Source disclosure was manipulated by providing different information about the ad creator in a text box at the bottom of the advertisement stimulus. The stimulus employed in all three experimental conditions was an original health message developed in 2012 by the New York City Department of Health (NYCHD), excluding its institutional logo.

One-hundred-and-twenty U.S. adults were recruited from an online panel following the same procedure detailed in Study 1. Incomplete responses and responses failing an attention check were deleted listwise, leaving a final sample of 116 informants ($M_{age} = 35.14$ ($SD = 11.77$), 62.1% male), who were invited to participate in a brief experiment on social and health communications. On the first page, participants were asked to report their age, gender, height, weight, education,
attitudes toward fast food and frequency of fast food consumption. Then, participants were randomly assigned to one of the three experimental conditions. In the institution-created condition (n = 33), participants were informed that the ad was created by the Department of Health. In the consumer-generated condition (n = 47), participants were informed that the ad was created by a formerly affected individual. In the co-created condition (n = 36), participants were informed that the ad was created by a formerly affected consumer in collaboration with the Department of Health. Immediately after exposure to the experimental treatment, participants were asked about perceptions of source credibility (α = .94), similarity (α = .84), authenticity (α = .86), egoistic motives (α = .89), altruistic motives (α = .91), and ad evaluations (α = .92). The measures were the ones validated in the independent CFA. Age, gender, education, attitudes toward fast foods, frequency of fast food consumption, and body-mass index (BMI) were included as controls.

Results

Diagnostic test for univariate normality and homogeneity of variances returned satisfactory results for all the variables of interest except for authenticity (Levene’s test p < .034). The two experimental conditions did not differ in terms of unhealthy food consumption frequency (F < 1), ethnicity (F < 1), BMI (F < 1), age (F < 1), and gender (F < 1).

Credibility. Hypothesis 1 posited that attributions of source credibility are stronger for messages disclosed to be institution-created and co-created than for those disclosed to be consumer-generated. An analysis of variance (ANOVA) using source disclosure as the main factor indicated a significant effect of source disclosure on source credibility (F (2, 115) = 13.22, p < .001). Planned contrasts analysis performed on source credibility indicated that consumer sources were perceived as less credible (M = 3.42, SD = 0.67) than institutional (M = 3.99, SD = 0.65; F (2, 115) = 14.32, p < .001) and co-creative sources (M = 4.13, SD = 0.68; F (2, 115) = 22.37, p < .001). These results provide full support for H1.

Similarity. Hypothesis 2 posited that attributions of source credibility are stronger for messages disclosed to be consumer-generated and co-created than for those disclosed to be institution-created. Contrary to the expectations, an analysis of
variance (ANOVA) indicated that the effect of source disclosure on source similarity was not significant (F < 1, p > .10). H2 is thus not supported. Planned contrasts showed that attributions of similarity, although not significantly different across the three conditions, were in the predicted direction (Table 6.4).

Ad evaluations. Hypothesis 3 posited that co-created messages are better evaluated than the other two source conditions. An analysis of variance (ANOVA) using source disclosure as the main factor indicated a significant effect of source disclosure on ad evaluations (F (2, 115) = 3.102, p < .05). Planned contrasts indicated that ads disclosed to be co-created (M = 4.06 SD = 0.76) were better evaluated than ads disclosed to be institution-created (M = 3.66, SD = 0.90; F (2, 115) = 3.66, p < .067) or consumer-generated (M = 3.60, SD = 0.94; F (2, 115) = 6.09, p < .05). These results fully support H3.

Table 6.4
Mean differences and planned contrasts for source disclosure

<table>
<thead>
<tr>
<th></th>
<th>Institution Mean (SD)</th>
<th>CGA Mean (SD)</th>
<th>Co-created Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credibility</td>
<td>3.99 (0.65)</td>
<td>3.42 (0.67)</td>
<td>4.13 (0.68)</td>
</tr>
<tr>
<td>Similarity</td>
<td>3.16 (0.99)</td>
<td>3.41 (0.98)</td>
<td>3.43 (0.80)</td>
</tr>
<tr>
<td>Authenticity</td>
<td>3.88 (0.78)</td>
<td>3.82 (0.60)</td>
<td>4.18 (0.44)</td>
</tr>
<tr>
<td>Ad evaluations</td>
<td>3.66 (0.94)</td>
<td>3.60 (0.94)</td>
<td>4.06 (0.76)</td>
</tr>
</tbody>
</table>

Planned contrasts (p-value)

<table>
<thead>
<tr>
<th></th>
<th>Institution</th>
<th>CGA</th>
<th>Co-created</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credibility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CGA</td>
<td>***</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Co-created</td>
<td>n.s.</td>
<td>***</td>
<td>-</td>
</tr>
<tr>
<td>Similarity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CGA</td>
<td>n.s.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Co-created</td>
<td>n.s.</td>
<td>n.s.</td>
<td>-</td>
</tr>
<tr>
<td>Authenticity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CGA</td>
<td>n.s.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Co-created</td>
<td>**</td>
<td>***</td>
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<tr>
<td>Ad evaluations</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>CGA</td>
<td>n.s.</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Co-created</td>
<td>*</td>
<td>**</td>
<td>-</td>
</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < .10.
**Authenticity.** Hypothesis 4 posited that perceptions of message authenticity are stronger for co-created messages than for solely institution-created or solely-consumer-generated messages. Given the unequal variances reported by the Levene's statistic, a test of robustness of equality of means was conducted to ensure that the difference between the three experimental conditions was statistically significant. Both the Welch (F (2, 68.34) = 5.40, p < .01) and the Brown-Forsythe tests (F (2, 82.61) = 3.61, p < .05) confirmed a significant effect of source disclosure on authenticity. Planned contrasts revealed that co-creative sources (M = 4.18, SD = 0.44) were perceived to be more authentic than institutional (M = 3.88, SD = 0.78; F (2, 115) = 4.14, p < .05) and consumer sources alike (M = 3.82, SD = 0.60; F (2, 115) = 6.63, p < .05). These results provide full support for H4. Table 6.4 summarizes these results.

**Mediation analysis.** Hypothesis 5 suggested that it was through the two-stage serial mediation of (1) source credibility and similarity, and (2) perceived authenticity, that source disclosure carried its effects on ad evaluations. Since the manipulated independent variable (i.e., source disclosure) is a three-level categorical predictor, multicategorical mediation tests using structural equation modeling were employed to test this hypothesis and PROCESS (Hayes 2013) was employed to build confidence intervals.

First, the multicategorical variable of source disclosure was reduced to k – 1 parameter estimates as indicated by Cohen, Cohen, West and Aiken (2003). Institutional source was used as the reference group. Indicator coding was used to create the two indicator variables $D_1$ [1 = Consumer-generated, 0 = Institutional-created; Co-created] and $D_2$ [1 = Co-created, 0 = Institutional-created; Consumer-generated] (Hayes and Preacher 2014). That is, $D_1$ codes the consumer-generated condition, $D_2$ the co-created condition, and the institution-created condition works as the reference group receiving a code of 0 in both $D_1$ and $D_2$ (Hayes and Preacher 2014).

Second, AMOS with maximum likelihood estimation was employed to estimate the parameters of interest. Figure 6.1 depicts the multicategorical mediation analysis with source disclosure represented by the two indicator variables $D_1$ and $D_2$, source credibility as the mediator $M_1$, source similarity as the mediator $M_2$, authenticity as the mediator $M_3$, and ad evaluations as the dependent variable $Y$. The
parameters depicted are unstandardized estimates, as they ease the interpretation of the analysis outputs (Hayes and Preacher 2014). The unstandardized direct effects from $D_1$ and $D_2$ to the mediating variables represent the mean differences between the associated manipulation (i.e., either co-created or CGA) and the reference group (i.e., institutional). The resulting matrix of unstandardized indirect effects showed that $D_1$ had a total indirect effect on ad evaluations equal to $B = -0.12$ (SE = .18), obtained by summing all the relative indirect effects depicted in Figure 6.1. On the other hand, $D_2$ had a total indirect effect on ad evaluations equal to $B = 0.30$ (SE = .16), such that participants assigned to the co-created source condition had attitudes that were .30 units more favorable in comparison to those assigned to the institutional source condition.

Third, bias-corrected confidence intervals with 10,000 bootstrapped samples were constructed to test the significance of these indirect effects (Hayes and Preacher 2014). For $D_1$, the total indirect effect was non-significant, with a 95% bias-corrected bootstrap confidence interval containing zero (CI = -0.4769, .0841). The only significant relative indirect effects were those associated to the serial mediations $D_1 \rightarrow$ Credibility $\rightarrow$ Authenticity $\rightarrow$ Ad evaluations (CI = -0.3507, -0.1475) and $D_1 \rightarrow$ Similarity $\rightarrow$ Authenticity $\rightarrow$ Ad evaluations (CI = 0.0048, 0.1475). These results suggest that, compared to institutional sources, consumer-generated sources decrease ad evaluations by reducing perceived credibility, with a small compensating positive effect passing through source similarity. For $D_2$, the total indirect effect was significant (CI = 0.0019, .6070). The only significant relative indirect effect was that of $D_2 \rightarrow$ Authenticity Ad evaluations ($B = .17$, SE = .12, CI = 0.0091, 0.3818). These results suggest that, compared to institutional sources, co-created sources increase ad evaluations by increasing perceived authenticity. Overall, these results provide partial support for H5.

\[^4\] \( [(a_1^*b_1) + (a_1^*d_{31}^*b_{31}) + (a_3^*b_3) + (a_1^*d_{31}^*b_{31}) + (a_2^*b_2) + (a_1^*d_{31}^*b_{31})] \)
Controls. I also controlled for the influence of perceived motives on ad evaluations. An analysis of variance (ANOVA) using source disclosure as the main factor indicated a significant effect of source disclosure on egoistic motives (F (2, 115) = 5.40, p < .01) and altruistic motives (F (2, 115) = 5.79, p < .01). Planned contrasts analysis indicated that consumer sources were perceived as to be moved by egoistic motives (M = 3.36, SD = 1.31) more so than institutional (M = 2.67, SD = 1.30; F (2, 115) = 5.32, p < .05) or co-creative sources (M = 2.50, SD = 1.18; F (2, 115) = 9.86, p < .001). In addition, consumer sources were perceived to be less motivated by altruism (M = 5.59, SD = 0.83) in comparison to institutional (M = 6.01, SD = 0.72; F (2, 115) = 5.58, p < .05) and co-creative sources (M = 6.15, SD = 0.73; F (2, 115) = 10.24, p < .001). Motives were included as controls in the model depicted in Figure 6.1 to understand if they acted as mediators that could provide an alternative explanation to the effect of source disclosure on ad evaluations. None of the indirect effects obtained by multiplying the direct effect of source on motives and the direct effect of motives on ad evaluations were significant. Additional insights on the role of perceived motives are detailed in Appendix 2.
6.4 General discussion and contribution

This research set out to understand (1) whether co-created public messages are better evaluated than solely institution-created and consumer-generated messages, and (2) what attributional processes explain this effect. An independent CFA confirms the discriminant validity of the source effects investigated, in particular authenticity. The main study demonstrates that the disclosure that a message is co-created produces more positive ad evaluations in comparison to the disclosure of other sources. Specifically, collaborative sources are perceived as credible as institutional sources, as similar as consumer and institutional sources, but more authentic than either. Authenticity mediates the effect of source disclosure on ad evaluations. In summary, the findings confirm more positive ad evaluations for co-created messages over institution-created and consumer-generated messages, while explaining this effect through increased perceptions of authenticity.

6.4.1 Theoretical contribution

This research contributes to theory in two ways. First, by bridging the literature streams of consumer responsibilization (Shamir 2008; Giesler and Veresiu 2014) and consumer-generated advertising (Ertimur and Gilly 2012; Thompson and Malaviya 2013; Lawrence, Fournier, and Brunel 2013; Hautz et al. 2014), this research offers an empirical application of the P.A.C.T. routine of consumer responsibilization to an advertising co-creative context. The results confirm that sources reflective of horizontal interaction between consumers and public institutions combine the audience’s attributions commonly associated with either consumers (i.e., personalization) or institutions (i.e., authorization) in a synergistic fashion. In doing so, this research also broadens the scope of CGA research to the public sector, assessing the differential source disclosure effects of institution-created, consumer-generated, and co-created messages on source credibility, similarity, and ad evaluations.

Second, this research yields relevant insights on source disclosure and consumer involvement in advertising creation by complementing empirical findings on source credibility and similarity in CGA (Ohanian 1990; Wilson and Sherrell
with and empirical assessment of the role played by advertising authenticity (see Chalmers 2007; Ertimur and Gilly 2012). The findings extend prior work on advertising authenticity (Chalmers 2007; Ertimur and Gilly 2012) by providing a new perspective on the role and meanings associated with the construct. Deviating from prior research considering authenticity and credibility as aspects reflective of the same construct (e.g., Lawrence, Fournier, and Brunel 2013), this research demonstrates that advertising authenticity can be discriminated from credibility. Most importantly, it is through the intervening mechanism of perceived authenticity that source disclosure influences ad evaluations.

6.4.2 Implications for practice and policy

This research offers some noteworthy implications for public policy and advertising. For public policy, this research supports the call for a shift from centralized, top-down to more distributed structures of public policy where consumers are actively involved in the process of responsabilization (Giesler and Veresiu 2014). The mere mention of a collaborative endeavor between institutional bodies and consumer-citizens is sufficient to generate high attributions of perceived authenticity, which in turns result in more positive evaluations for social and health campaigns. Public institutions are thus invited to move toward a collaborative communication paradigm by creating an adequate infrastructure of services supporting the exchange between institutions and citizens. Within the health context investigated, citizens “increasingly use the internet autonomously to search for health-related information, to be more informed and to become empowered” (Andersen, Medaglia, and Henriksen 2012, p. 464). This empowerment can be facilitated and accelerated by the implementation of social media platforms that offer a more interactive experience during the information search phase while enabling a horizontal conversation with health departments.

A collaborative approach, however, comes with a caveat. Specific topics, such as vaccinations, may elicit very strong attitudes among co-creators, which may manifest in opinions and contents that potentially contradict a health campaign’s overall aim or objective. Hence, while a distributed approach is desirable, a centralized approach is most certainly warranted in situations where individuals
have strong divergent viewpoints. The findings also aid advertising practice by clarifying the underlying drivers of effectiveness for co-created public messages. According to the results, social marketers and health communicators should strongly articulate the narrative of authenticity seemingly inherent in collaborative approaches to ad creation. This narrative could further be emphasized by highlighting how genuine insights and authentic experiences provided by consumers-creators have been used during message development.

6.4.3 Limitations and future research

The findings of this research must be interpreted in light of their limitations, which offer avenues for future research. The findings relate to the specific social and health issue of obesity. To assess their generalizability, future research should investigate if the proposed model holds for different contexts. Campaigns promoting preventative actions (e.g., breast screenings) and corrective campaigns targeting smoking and binge-drinking may significantly differ in terms of perceived costs for compliance (Fishbein and Cappella 2006). In addition, as the main study does not employ a longitudinal design it is not possible to test the predictions on actual behavior. Future research should employ longitudinal designs to assess if and how collaboratively created health messages determine behavioral change. Finally, this research only scratches the surface of collaboratively created health messages as an advertising strategy to increase effectiveness. Part of the investigation is limited to the evaluative variation conditional to disclosing that the same message has been created by different sources (i.e., the mere disclosure effect). Yet, the process of collaborative creation and shared responsibility should be investigated on a broader scale. Future research should complement this study by assessing the actual contribution to message effectiveness stemming from consumer involvement in ad creation and the consequential provision of authentic experiences and narratives of success (i.e., the real effect).
Appendix 1 – Selected empirical studies on consumer-generated advertising

<table>
<thead>
<tr>
<th>Authors</th>
<th>Journal</th>
<th>Themes and variables</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muñiz and Schau (2007)</td>
<td>Journal of Advertising</td>
<td>• Brand communities</td>
<td>Members of the Apple Newton community engage in practices of re-appropriation of brand meaning (e.g., creating their own advertisements) after the product is discontinued. Community members display ad competence in creating their own ads and use advertising tools and jargon comparable to agency professionals.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Consumer appropriation of advertising meaning</td>
<td></td>
</tr>
<tr>
<td>Steyn, Ewing, van Heerden, Pitt, and Windisch (2011)</td>
<td>International Journal of Advertising</td>
<td>• Message source</td>
<td>Source disclosure (CGA vs. agency-created) has a significant positive effect on identification, measured in terms of felt empathy. CGA disclosed to be popular also increases perceived empathy. Perceived motives for ad creation in CGA have no significant effects on ad evaluations.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Relevancy of information</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Motives for ad creation</td>
<td></td>
</tr>
<tr>
<td>Ertimur and Gilly (2012)</td>
<td>Journal of Interactive Marketing</td>
<td>• Message source</td>
<td>CGA solicited by corporate contests are perceived as credible but not authentic, since their creators are typically ad professionals who possess advertising competence but lack brand passion. In contrast, CGA spontaneously designed by consumers (termed unsolicited) are perceived as authentic, due to their originality and lack of profit motives, but not credible, due to a perceived lack of ad competence.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Solicited/unsolicited CGA</td>
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<tr>
<td></td>
<td></td>
<td>• Credibility</td>
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<tr>
<td></td>
<td></td>
<td>• Authenticity</td>
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</tr>
<tr>
<td>Author(s)</td>
<td>Journal Name</td>
<td>Key Findings</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>Thompson and Malaviya (2013)</td>
<td>Journal of Marketing</td>
<td>Disclosing that an ad is consumer-generated has a negative direct effect on ad and brand evaluations, driven by the audience’s skepticism toward the ad competence of the ad creator. This negative effect can be mitigated and even reversed under conditions that attenuate skepticism (i.e., constraining cognitive resources) and increase identification with the message source (i.e., high similarity with the ad creator, high brand loyalty).</td>
<td></td>
</tr>
<tr>
<td>Lawrence, Fournier and Brunel (2013)</td>
<td>Journal of Advertising</td>
<td>Ads disclosed to be consumer-generated are perceived as more trustworthy than those disclosed to be corporate-created. In addition, CGAs lead to higher engagement and purchase intentions. The effect of message source does not hold for perceived similarity. There is no direct or interactive effect of perceived motives on any of the endogenous variables. CGA are also perceived to be of higher quality, particularly in terms of artistic originality and authenticity.</td>
<td></td>
</tr>
<tr>
<td>Hautz, Füller, Hutter and Thürridl (2014)</td>
<td>Journal of Interactive Marketing</td>
<td>CGAs are perceived to be more credible than corporate-created ads. Perceived credibility mediates the relationship between message source (CGA vs. Corporate) and behavioral intentions. High perceived technical quality increases credibility. The interaction between message source and technical quality is significant only under conditions of low technical quality: the audience forgives low technical quality for CGAs but condemns it for corporate sources. When technical quality is high, there is no significant difference.</td>
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</table>
Appendix 2 – Post-hoc structural specification of a source effects framework and tests of invariance for gender and BMI

The primary purpose of the CFA was the assessment of the convergent and discriminant validity of the construct investigated, with particular regard to advertising authenticity. The large sample size employed for confirmatory purposes (i.e., specification of a measurement model), however, represented an invaluable opportunity for delving deeper into more complex relationships between different source effects. Below, I outline a tentative structural model for source effects in co-created advertising, controlling for gender and BMI of the receiving audience. This model was specified at the end of the results of the main study and, as such, is partly data driven. The sole purpose of these supplementary materials is to inspire future research dealing with the specification of a comprehensive source effect framework for co-created advertisements and to extract additional insights that could provide guidance for practitioners and policy makers.

Theoretical antecedents of structural paths

The structural model specified below is based on the arguments supporting the hypotheses of the main paper and on additional insights drawn from literature on perceived motives (Cnann and Goldberg-Glen, 1991; Hassan et al. 2007; Berthon, Pitt, and Campbell 2008). Although some scholars contend that perceived egoistic motives for creating CGA may trigger negative audience’s responses (Berthon, Pitt and Campbell 2008; Ertimur and Gilly 2012), this claim has found no empirical support (Lawrence et al. 2013). Yet in traditional advertising research the lack of vested motives is considered a prerequisite of source credibility (Kelman 1961; Hassan et al. 2007). The structural model thus shows a negative relationship between egoistic motives and both source credibility and similarity.

Identity literature, self-affirmation theory, and personality traits literature all converge in suggesting that perceived motives affect perceptions of source similarity. Identity literature suggests that people tend to evaluate themselves as superior to the average on several dimensions (Vignoles et al. 2006). Self-
affirmation theory contends that individuals aim to preserve their self-integrity through the affirmation of a narrative of positive morality, constructing righteous personae of themselves (for a review, see Cohen and Sherman 2014). Literature on personality traits highlights people’s self-deceptive tendency to feel more agreeable and dutiful than the average (Paulhus and John 1998). As such, a source assumed to be driven by egoistic motives may be perceived as not only less credible, but also as less similar to the audience. Conversely, a source perceived to be moved by altruistic motives may be seen as not only more credible, but also more similar to the audience in virtue of this self-deceiving bias.

The framework is complemented by the reinforcing effect of source similarity on source credibility (Lafferty, Goldsmith, and Newell 2002; Wathen and Burkell 2002), by the already documented positive effect of source credibility and source similarity on ad evaluations (e.g., credibility: Hautz et al. 2014; similarity: Thompson and Malaviya 2013), and by the mediating role of perceived message authenticity hypothesized in the current paper. Figure 6.2 formalizes a hierarchy of source effects likely to influence ad evaluations.

**Figure 6.2**
Source effects framework
Results for structural model

The overall fit of the structural model was good ($\chi^2/df = 675.41/311 = 2.17$; AGFI = .89; CFI = .97; RMSEA = .047; PNFI = .85). Egoistic motives have no significant effects on credibility ($\beta = .05$, $p = .206$) whereas altruistic motives have a strong positive effect on credibility ($\beta = .59$, $p > .001$). Tests for indirect effects using bootstrapping with 5,000 repetitions show a strong positive indirect effect of perceived altruistic motives on ad evaluations ($\beta = .63$, $p < .001$). Similar to the non-significant effect between egoistic motives and credibility, egoistic motives have no significant effects on similarity ($\beta = .06$, $p = .284$). Altruistic motives have a strong positive effect on similarity ($\beta = .49$, $p < .001$). Source credibility has a strong positive effect on message authenticity ($\beta = .73$, $p < .001$). This effect is partly paralleled by the direct effect of similarity on authenticity ($\beta = .08$, $p = .068$). Since the indirect effect of similarity on authenticity, mediated by credibility, is highly significant ($\beta = .25$, $p < .001$), we can conclude that credibility fully mediates the relationship between similarity and authenticity. Authenticity has also a moderate positive effect on ad evaluations ($\beta = .34$, $p < .001$). In addition, credibility has a moderate positive effect on ad evaluations ($\beta = .38$, $p < .001$), and similarity has a mild positive effect on ad evaluations ($\beta = .28$, $p < .001$), and a moderate positive effect on credibility ($\beta = .34$, $p < .001$). Overall, the model explains a considerable amount of variance for ad evaluations ($R^2 = .77$). Table 6.5 summarizes the above results.

The downstream effect of disclosing that a public message is co-created is evident not only in the significance of the paths linking credibility, similarity and authenticity with ad evaluations, but also in the positive relationship between altruistic motives and source effects (i.e., credibility and similarity). The predominant perception that the consumer co-creator of a public message is motivated by altruistic motives enhances the message’s credibility and the audience’s perceived similarity with the message source. Source credibility and similarity contribute positively to the assessment of message authenticity. In contrast to what expected, egoistic motives have no negative influence on credibility and similarity. Since the health message was presented as the expression of a collaborative effort and thus could not be solely attributed to the consumer, the audience may have been less likely to perceive that the consumer-creator was...
motivated by means of self-promotion. In addition, the involvement of affected consumers in a context that is inherently concerned with helping people may be unconducive to attributions of perceived egoism.

Table 6.5

<table>
<thead>
<tr>
<th>Structural model path relationships</th>
</tr>
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<tbody>
<tr>
<td>Specified paths</td>
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<tr>
<td>------------------</td>
</tr>
<tr>
<td>Egoistic motives $\rightarrow$ Credibility</td>
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<td>Altruistic motives $\rightarrow$ Credibility</td>
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<tr>
<td>Egoistic motives $\rightarrow$ Similarity</td>
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<tr>
<td>Authenticity $\rightarrow$ Ad evaluations</td>
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<td>Credibility $\rightarrow$ Ad evaluations</td>
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<td>Authenticity $\rightarrow$ Ad evaluations</td>
</tr>
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</table>
Tests of invariance for gender

A chi-square comparison testing the unconstrained model (χ²/df = 1446.8/840) against the fully constrained model (χ²/df = 1522.6/875; Δχ² = 75.8, p = .000) revealed a significant difference between male and female in the evaluative process of co-created health messages. The influence of altruistic motives on credibility is stronger for females, consistent with literature advocating that women are more empathetic than men (Mestre et al. 2009). The sign inversion in the path linking similarity and authenticity is likely explained by the fact that name of the consumer-creator referred to in the ad was male, with women feeling less similar while men felt more similar to the message source. This may also partly explain why the positive relationship between authenticity and ad evaluations is stronger for males than it is for females. Table 6.6 summarizes the results described above.

Table 6.6
Path differences and z-scores for gender comparison

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
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<th></th>
<th>Male</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>z-score</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>p</td>
<td>Estimate</td>
<td>p</td>
<td>z-score</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Altruistic → Similarity</td>
<td>0.417</td>
<td>0.000</td>
<td>0.380</td>
<td>0.000</td>
<td>0.313</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egoistic → Similarity</td>
<td>0.068</td>
<td>0.274</td>
<td>-0.097</td>
<td>0.132</td>
<td>1.841*</td>
<td></td>
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<td></td>
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<tr>
<td>Altruistic → Credibility</td>
<td>0.601</td>
<td>0.000</td>
<td>0.322</td>
<td>0.000</td>
<td>3.215***</td>
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<td></td>
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<tr>
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<td>0.011</td>
<td>0.784</td>
<td>1.484</td>
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<td></td>
</tr>
<tr>
<td>Similarity → Credibility</td>
<td>0.297</td>
<td>0.000</td>
<td>0.277</td>
<td>0.000</td>
<td>0.264</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Similarity → Authenticity</td>
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<td>0.024</td>
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<td>-2.804***</td>
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<tr>
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<td>0.914</td>
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</tr>
<tr>
<td>Authenticity → Ad evaluations</td>
<td>0.109</td>
<td>0.400</td>
<td>0.378</td>
<td>0.000</td>
<td>-1.829*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credibility → Ad evaluations</td>
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<td>0.000</td>
<td>0.490</td>
<td>0.000</td>
<td>1.208</td>
<td></td>
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</tr>
<tr>
<td>Similarity → Ad evaluations</td>
<td>0.189</td>
<td>0.000</td>
<td>0.229</td>
<td>0.000</td>
<td>-0.554</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < .10
Test of invariance for BMI – healthy weight vs. overweight

A chi-square comparison testing the unconstrained model ($\chi^2/df = 1317.5/840$) against the fully constrained model ($\chi^2/df = 1369.4/875; \Delta \chi^2 = 51.9, p = .033$) revealed a significant difference between healthy weight and overweight people in the evaluative process of co-created health messages. For overweight people there is a weak positive effect of egoistic motives on perceived similarity—overweight people might be most likely to see themselves as potential ad co-creators and hence reflect their motives (for oneself, losing weight could be classified as an egoistic motive) on the message source. For healthy weight people, authenticity is only driven by credibility, whereas for overweight people, authenticity is driven by both credibility and similarity—potentially influenced by feeling a sense of kinship to the creator of the message. This would partly explain why authenticity is a major determinant of ad evaluations for overweight people. Table 6.7 shows these group differences.

| Path differences and z-scores for healthy vs. overweight participants |
|---------------------------------|-------------|-------------|-------------|----------------|
|                                 | Healthy     |             | Overweight  |             |
|                                 | Estimate    | p           | Estimate    | p           | z-score      |
| Altruistic → Similarity         | 0.405       | 0.000       | 0.558       | 0.000       | 1.215        |
| Egoistic → Similarity           | 0.012       | 0.830       | 0.159       | 0.021       | 1.667*       |
| Altruistic → Credibility        | 0.415       | 0.000       | 0.340       | 0.000       | -0.830       |
| Egoistic → Credibility          | 0.030       | 0.384       | -0.018      | 0.685       | -0.859       |
| Similarity → Credibility        | 0.253       | 0.000       | 0.231       | 0.000       | -0.296       |
| Similarity → Authenticity       | 0.009       | 0.851       | 0.127       | 0.021       | 1.588        |
| Credibility → Authenticity      | 0.876       | 0.000       | 0.503       | 0.000       | -3.239***    |
| Authenticity → Ad evaluations   | 0.247       | 0.000       | 0.484       | 0.000       | 1.915*       |
| Credibility → Ad evaluations    | 0.483       | 0.000       | 0.337       | 0.000       | -1.138       |
| Similarity → Ad evaluations     | 0.238       | 0.000       | 0.284       | 0.000       | 0.679        |

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < .10
**Test of invariance for BMI – overweight vs. obese**

A chi-square comparison testing the unconstrained model ($\chi^2/df = 1419.4/840$) against the fully constrained model ($\chi^2/df = 1470.5/875; \Delta \chi^2 = 51.1, p = .039$) revealed a significant difference between overweight and obese people. The weak positive effect of egoistic motives on perceived similarity found in overweight people is not paralleled for obese people. The remainder of differences concern the positive influence of altruistic motives on credibility and similarity, and the positive influence of credibility on authenticity and ad evaluations. It may be possible that obese people perceive themselves as requiring help and are thus more influenced by perceived altruistic motives of consumer-creators. Across all mentioned paths, the effect is stronger for obese people than for overweight people. Table 6.8 summarizes these results.

### Table 6.8

<table>
<thead>
<tr>
<th>Path differences and z-scores for overweight vs. obese participants</th>
<th>Overweight</th>
<th>Obese</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Estimate</strong></td>
<td><strong>p</strong></td>
<td><strong>Estimate</strong></td>
<td><strong>p</strong></td>
</tr>
<tr>
<td>Altruistic → Similarity</td>
<td>0.558</td>
<td>0.000</td>
<td>0.359</td>
</tr>
<tr>
<td>Egoistic → Similarity</td>
<td>0.159</td>
<td>0.021</td>
<td>-0.054</td>
</tr>
<tr>
<td>Altruistic → Credibility</td>
<td>0.340</td>
<td>0.000</td>
<td>0.505</td>
</tr>
<tr>
<td>Egoistic → Credibility</td>
<td>-0.018</td>
<td>0.686</td>
<td>0.069</td>
</tr>
<tr>
<td>Similarity → Credibility</td>
<td>0.231</td>
<td>0.686</td>
<td>0.330</td>
</tr>
<tr>
<td>Similarity → Authenticity</td>
<td>0.127</td>
<td>0.021</td>
<td>0.068</td>
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<tr>
<td>Credibility → Authenticity</td>
<td>0.503</td>
<td>0.000</td>
<td>0.874</td>
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<tr>
<td>Authenticity → Ad evaluations</td>
<td>0.484</td>
<td>0.000</td>
<td>0.358</td>
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<tr>
<td>Credibility → Ad evaluations</td>
<td>0.337</td>
<td>0.000</td>
<td>0.627</td>
</tr>
<tr>
<td>Similarity → Ad evaluations</td>
<td>0.284</td>
<td>0.000</td>
<td>0.184</td>
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</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < .10
Test of invariance for BMI – healthy weight vs. obese

A chi-square comparison testing the unconstrained model ($\chi^2/df = 1337.7/840$) against the fully constrained model ($\chi^2/df = 1382.4/875; \Delta\chi^2 = 44.7, p = .126$) revealed that the model is structurally invariant between overweight and obese people.

Table 6.9

Path differences and z-scores for Healthy weight vs. obese participants

<table>
<thead>
<tr>
<th></th>
<th>Healthy</th>
<th></th>
<th></th>
<th></th>
<th>p</th>
<th>Obese</th>
<th></th>
<th></th>
<th></th>
<th>p</th>
<th>z-score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate</td>
<td>p</td>
<td></td>
<td></td>
<td></td>
<td>Estimate</td>
<td>p</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Altruistic → Similarity</td>
<td>0.405</td>
<td>0.000</td>
<td>0.359</td>
<td>0.000</td>
<td>-0.391</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Egoistic → Similarity</td>
<td>0.012</td>
<td>0.830</td>
<td>-0.054</td>
<td>0.479</td>
<td>-0.699</td>
<td></td>
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<tr>
<td>Altruistic → Credibility</td>
<td>0.415</td>
<td>0.000</td>
<td>0.505</td>
<td>0.000</td>
<td>1.059</td>
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<td></td>
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</tr>
<tr>
<td>Egoistic → Credibility</td>
<td>0.030</td>
<td>0.384</td>
<td>0.069</td>
<td>0.130</td>
<td>0.692</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Similarity → Credibility</td>
<td>0.253</td>
<td>0.000</td>
<td>0.330</td>
<td>0.000</td>
<td>0.996</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Similarity → Authenticity</td>
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<td>0.851</td>
<td>0.068</td>
<td>0.413</td>
<td>0.604</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credibility → Authenticity</td>
<td>0.876</td>
<td>0.000</td>
<td>0.874</td>
<td>0.000</td>
<td>-0.010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Authenticity → Ad evaluations</td>
<td>0.247</td>
<td>0.000</td>
<td>0.358</td>
<td>0.000</td>
<td>0.905</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Credibility → Ad evaluations</td>
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<td>0.000</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Similarity → Ad evaluations</td>
<td>0.238</td>
<td>0.000</td>
<td>0.184</td>
<td>0.009</td>
<td>-0.674</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < .10
Chapter 7: General Discussion

This dissertation provides an integrative framework for the design of messages targeting compulsive consumptions, answering calls for more theoretical integration of social marketing and health communication (Fishbein and Cappella 2006; Reid and Aiken 2011; Dibb 2014). Drawing from meta-analytic work highlighting mixed findings and inconclusive results with regard to source effects and structural components of the message (Keller and Lehmann 2008; Shen et al. 2015), this dissertation specifically focuses on the (1) nature of the behavioral consequences depicted, (2) framing of the message, (3) level of closure (for narrative formats), and (4) the disclosure of different message sources triggering different attributional processes. In the sub-sections below, I first summarize the key findings of the four empirical papers. Next, I detail the contribution to theory, both to the broader discipline of social marketing and to the specific streams of literature upon which each paper is based. Finally, I explain how the dissertation findings can be used to inform the design of more effective communications. Table 7.1 summarizes key findings, theoretical contributions and practical insights.

7.1 Integration of Key Findings

The first two papers of the dissertation investigated the interplay between different structural elements embedded within a message and the personal characteristics of the receiving audience. Paper 1 demonstrates that (1) behavioral consequences can be classified in terms of their perceived psychological distance experienced by the consumer, (2) the psychological distance from a consequence has a main effect on persuasion, (3) the level of problem behaviors interacts with the main effect of psychological distance, and (4) messages framed as losses amplify the persuasive effect of psychologically distant consequences.

First, I operationalize the psychological distance from the depicted consequences as the mental proximity or familiarity the consumer has with the event depicted (Bar-Anan, Liberman, and Trope 2006). More familiar behavioral
Table 7.1
Summary of findings, contributions and implications

<table>
<thead>
<tr>
<th>Findings</th>
<th>Theoretical contribution</th>
<th>Implications for policy and practice</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Paper 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• In terms of psychological distance, material consequences are perceived as close whereas social consequences are perceived as distant</td>
<td>• <strong>Construal level theory:</strong> negative consequences can be categorized in terms of low vs. high construals depending on their psychological distance</td>
<td>• Cautions against the use of visual elements revolving around material possessions and money in responsible marketing</td>
</tr>
<tr>
<td>• Psychological distance has a main effect on persuasion</td>
<td>• <strong>Prospect theory:</strong> identifies in the construal level of the negative consequences an enabling factor for the effectiveness of loss frames</td>
<td>• Offers actionable insights on how to frame a message in terms of social losses that prove to be difficult or impossible to repair</td>
</tr>
<tr>
<td>• The differential impact of social versus material consequences is stronger for messages framed as losses (vs. gains)</td>
<td>• <strong>Problem gambling:</strong> behavioral addiction interacts with the construal level of the consequences, such that high construals are more effective for problem gamblers</td>
<td>• Highlights a relevant behavioral trait (i.e., problem gambling) to take into account when developing responsible gambling messages targeting specific segments</td>
</tr>
<tr>
<td>• The effect of social consequences is stronger for problem gamblers (vs. recreational)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Paper 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• In health narratives, the positive effect of narrative closure on persuasion is qualified by the dispositional need for cognitive closure of the audience</td>
<td>• <strong>Narrative theory:</strong> demonstrates the persuasive effect of narrative closure, qualified by need for cognitive closure</td>
<td>• Health narrative campaigns should clearly disclose the negative consequences stemming from the targeted behaviors, avoiding the common fear appeal tactic of leaving the audience with a cliff-hanger</td>
</tr>
<tr>
<td>• Narrative closure has a differential effect on the type of narrative thoughts generated</td>
<td>• <strong>ETIM:</strong> provides a taxonomy of narrative thoughts and demonstrates the superior persuasiveness of counterfactuals. In addition, it provides evidence of the positive effect of narrative transportation on self-efficacy through counterfactual thinking</td>
<td>• Crafting compelling stories that enable counterfactual thinking and the replotting of the emerging narrative increases the likelihood of compliance with the underlying recommendation or takeaway of the story</td>
</tr>
<tr>
<td>• The interactive effect of narrative closure and need for cognitive closure on persuasion is serially mediated by narrative transportation and counterfactual thinking</td>
<td>• <strong>Counterfactual thinking:</strong> reconciles conflicting findings on the effect of counterfactuals in health communication narratives.</td>
<td></td>
</tr>
</tbody>
</table>
Disclosing that a social message is created by a consumer results in positive ad evaluations and makes unhealthy food less appealing.

Identification with the consumer-creator is the underlying mechanism explaining this effect.

People highly involved in healthy eating and actively combating obesity connect more with the consumer-creator and return more positive ad attitudes when exposed to co-created messages.

**Attribution theory:** provides theoretical foundations on the effectiveness of co-created social marketing communications by illuminating the mediating effect of sympathy toward the consumer-creator.

**Personal involvement:** the dispositional level of involvement with the advertised issue represents a moderating (amplifying) factor for the effectiveness of source disclosure.

**CGA literature:** extends CGA research to health communication theory.

A few lines of text disclosing consumer involvement in ad creation are sufficient to generate more positive ad evaluations, backing up the validity of existing tactics adopted in the public sector.

Supporting campaigns aimed at raising the baseline level of involvement with the advertised issue should be developed before the main campaign starts.

Policy should invest in the creation of an infrastructure that enables and horizontal collaboration between multiple stakeholders.

Messages whose source is disclosed to be co-created are more positively evaluated than messages disclosed to be institution-created or consumer-generated.

Advertising authenticity exists as a separate dimension from advertising credibility.

Advertising authenticity mediates the effects of source disclosure on ad evaluations.

**Attribution theory:** horizontal modes of interaction between consumers and public policy synergistically leverage the positive attributions typically associated with either of the two.

**Authenticity:** authenticity is a construct independent form credibility and largely explains the effect of source disclosure over ad evaluations.

**CGA literature:** develops a more complete source taxonomy taking into account the attributional processes associated with multiple stakeholders involved in the co-creation process.

Provides actionable insights supporting the shift from a centralized, top-down approach to a more distributed structure of public policy for the management of health communications.

Encourages advertisers to articulate narratives of authenticity when disclosing consumer collaboration in ad creation.

Provides a supplementary source effects model that can be used as a design and diagnostic tool to ease the development and testing of co-created campaigns.
consequences are perceived as psychologically close and their construal requires less cognitive elaboration. In contrast, less familiar consequences, detached from the habitual behavioral routine, are perceived as psychologically distant and their construal requires higher cognitive elaboration. The habituality of several compulsive consumptions can lead to behavioral automatism (i.e., repeating actions under the same environmental conditions), rendering the cognitive engagement in compulsive consumptions shallow and repetitive (Verplanken and Wood 2006). Against this background, the depiction of psychologically distant consequences tries to break behavioral automatism by triggering higher-order processes of association between behavior and the consequence, as greater cognitive elaboration results in greater attitude change (Bohner and Dickel 2011; Munoz et al. 2010; Munoz et al. 2013).

Second, the findings demonstrate that perceived psychological distance from the consequences has an effect on reducing propensity to engage in the compulsive behavior. Consistent with research showing that psychological distance influences the interpretative processes of the audience (Trope and Liberman 2010; Goodman and Malkoc 2012), the depiction of social consequences such as the disruption of social bonds is more effective in reducing gambling propensity than the depiction of material consequences such as the loss of money.

Third, the findings show that psychological distance from the depicted consequences is particularly strong in reducing consumption likelihood the more the audience exhibits traits of problematic behavior. The effectiveness of the structural elements of the message, in particular the nature of the depicted consequences, is amplified when the receiving audience scores high in the problem gambling index scale.

Fourth, the findings confirm that messages presenting psychologically distant consequences in terms of losses for not complying rather than gains for complying are more effective. The qualifying effect of message framing is explained by the fact that loss aversion is only activated under conditions of personal relevance (Block and Keller 1995), such as those made salient by depicting social consequences that may prove hard or impossible to repair.

Paper 2 demonstrates that (1) the level of narrative closure determined by the structure of a narrative message influences persuasion, (2) the dispositional need
for cognitive closure (NFCC) of the receiving audience qualifies this effect, (3) narrative closure leads to different narrative thoughts, and (4) narrative transportation and ensuing counterfactual narrative thoughts serially mediate the interactive effect of narrative closure and NFCC on persuasion.

First, I operationalize narrative closure in a health narrative as the presence or absence of a finale (Butcher 1907). A narrative ending without disclosing clear consequences but leaving the audience in a state of suspension is classified as a low closure narrative, whereas a narrative ending with clear consequences is classified as a high closure one. The findings demonstrate that narrative closure has a positive effect on persuasion.

Second, the findings show that the persuasive effect of narrative closure is amplified when received by audiences that are high in need for cognitive closure. People’s explanations for objects or events are influenced by their experiences, perspectives, and dispositional qualities (McGill 1989; Schwarz 2004; Mayrhofer and Waldmann 2015). The satisfaction of a dispositional need (i.e., high need for cognitive closure) through the provision of a corresponding high level of situational closure results in increased persuasion. On the contrary, in a situation in which that need is not present (i.e., low need for cognitive closure) the audience is comfortable with either level of narrative closure.

Third, the findings demonstrate that different level of closure trigger different narrative thoughts, namely “representations of the story’s structure [...] containing precise narrative cues, such as characters or objects” (van Laer et al. 2014, p. 804). Low closure narratives lead to the generation of *conjectures* aimed at completing the causal chain of events interrupted by lack of closure. Conversely, high closure narratives lead to the generation of *counterfactuals* about alternative courses of action (i.e., causes) that could have prevented the negative consequences (i.e., effect). Counterfactual thoughts focus on what may have happened in the past if different decisions were taken (Byrne 2005; Epstude and Roese 2008). That is, rather than imagining the potential effects of a cause, counterfactual thinking focuses on the removal of the cause and the imagery of alternatives that could have prevented the effect (Frosch and Byrne 2012). Importantly, counterfactual thoughts increase perceived self-efficacy and compliance intentions. This effect occurs
because the replotting of a scenario increases the likelihood of understanding how different behaviors could have prevented the negative outcomes.

Fourth, the findings demonstrate that the interactive effect between situational levels of closure established by the narrative and the dispositional need for closure of the receiving audience is carried over persuasion through narrative transportation and counterfactual thinking.

The last two papers of the dissertation investigate the interplay of different source manipulations and the characteristics of the receiving audience. The aggregate findings of Paper 3 and Paper 4 provide evidence that (1) the source of the message carries different attributional processes that can be successfully combined by disclosing a co-creative source, (2) source identification and perceived authenticity are key processes underlying the persuasive effect of source disclosure, and (3) the level of personal involvement with the topical issue amplifies the positive identification effect generated by co-created sources.

First, preliminary findings in Paper 3 confirm that a message disclosed to be co-created between institution and consumer-citizens is better evaluated than the same message disclosed to be created by the institution alone. Building on this finding, Paper 4 expands on the source taxonomy including institutional-created, consumer-generated, and co-created between the two. I use consumer responsibilization theory (Giesler and Veresiu 2014) to justify the different attributional processes engaged by the audience in terms of source credibility related to institutional-authoritative sources and source similarity related to consumer-personalized sources. The findings show that messages disclosed to be co-created are evaluated more positively than institution-created or consumer-generated alternatives.

Second, the findings unearth the processes underlying the persuasiveness of source disclosure. Specifically, Paper 3 identifies in source identification a first mediating mechanism. Knowing that another consumer has contributed to the development of the advertising campaign triggers a sense of identification that carries over the increased message persuasiveness. This identification effect occurs because the audience is persuaded to a greater extent when they can self-reference to the source of the message (Kelley 1967; Wilson and Sherrell 1993). In addition,
Paper 4 identifies in perceived message authenticity another process explaining the superior persuasiveness of co-created messages.

Third, the findings show that the positive effect of source disclosure is amplified when the receiving audience is highly involved with the topical issue. Perceiving that a fellow consumer has contributed to the creation of a communication that is already resonating with the audience strengthens the self-referencing process at the basis of the identification process. Paper 3 specifically shows how this identification is captured by sympathy toward the ad creator in terms of awareness of similar experiences, beliefs and interests.

7.2 Contributions to Theory

This dissertation provides important theoretical contributions to streams of literature as diverse as advertising, social marketing, health communication, social psychology and narrative theory. At the macro- and meso-levels, this dissertation provides compelling evidence on the need to reduce advertisements to their fundamental components to enable meaningful comparisons of effects. In contributing and validating theories of structural reductionism (LaTour and Rotfeld 1997; Shehryar and Hunt 2005), I articulate an integrative communication framework that investigates how the persuasive process is influenced by the main and interactive effects of the message source, the structural components of the message, and the characteristics of the receiving audience. The reconciliation of the empirical findings with selected theoretical frameworks provides a theoretical rationale for why a source or message element causes a specific persuasive effect. The resulting overarching framework aligns with the call for strong theory grounding in health communication to facilitate replication while enabling theory refinement (Fishbein and Cappella 2006; Reid and Aiken 2011).

At the micro-level, the contributions to specific streams of literature are detailed in the concluding sections of each dissertation paper. This sub-section provides a general summary of these contributions.

The construal level and message framing of negative behavioral consequences. This dissertation proposes and tests construal level theory (Trope and Liberman
as a generalizable framework to categorize the negative consequences of a behavior in terms of perceived psychological distance. In addition to extending current understanding of psychological distance to the domain of behavioral consequences, this dissertation expands prior work on construal level theory in a gambling environment. Prior research considering the application of construal level theory in the gambling domain considered only the temporal dimension of psychological distance (Liberman, Sagristano and Trope 2002). The current work seeks to increase understanding about the hypothetical dimension of psychological distance, herein conceptualized in terms of familiarity and likelihood of occurrence of gambling-related consequences.

In addition, this dissertation contributes to prospect theory and literature on message framing by identifying the psychological distance of the depicted consequences as a qualifying factor activating loss aversion. In isolating the interactive effect between psychological distance of the depicted consequences and message framing, this work contributes to the stream of consumer research and health communication literature arguing for an activation of loss aversion under conditions of personal relevance (Block and Keller, 1995; Rothman and Salovey 1997; Lee and Aaker 2004; Keller and Lehmann 2008). For instance, the targeted audience reacts positively to messages framed as losses only when the topical issue is perceived as important. Similarly, loss frames become more effective when the negative consequences of a behavior are perceived as psychologically distant. This effect differs from fit from construal (White, McDonnell and Dahl 2012), which contends that the effectiveness of a message prescribing behavioral compliance is enhanced when the structural component of the message are at the same construal level.

Broadening and deepening narrative theory and the Extended Transportation – Imagery Model. This dissertation contributes to narrative theory and consumer research by broadening and deepening the Extended Transportation – Imagery Model (ETIM) developed by van Laer and colleagues (2014). The integration and understanding of the main effect of narrative closure as a manifestation of the story’s structure constitutes a contribution in itself. In addition, this dissertation illuminates how dispositional traits of the audience triggered by the story’s structure qualify the main effect of narrative closure. Prior research focused mainly
on the effect of stable dispositional traits that are always “active” (van Laer et al. 2014). For instance, an individual high in chronic transportability will always be more transported in a story than one low in the same dispositional trait, regardless of the story’s structure and elements. By investigating the interplay between narrative closure and need for cognitive closure on narrative transportation and narrative persuasion, this dissertation extends knowledge on the role played by dispositional traits as relevant interpretative filters which leads to different transportation and persuasion outcomes.

This dissertation also deepens narrative theory and the Extended Transportation – Imagery Model (ETIM: van Laer et al. 2014) by illuminating the persuasive role played by narrative thoughts and by shedding light on the relationship between narrative transportation and self-efficacy. Prior research on the effect of narrative transportation on narrative thoughts is limited to one single study (Chang 2009). While establishing a nexus between narrative transportation and narrative thoughts, Chang’s work details neither the nature of the narrative thoughts generated, nor their effect on persuasion. By developing and testing a typology of closure-consistent narrative thoughts (i.e., conjectures and counterfactuals) this dissertation deepens existing knowledge on the nature and function of narrative thoughts (van Laer et al. 2014). Specifically, this dissertation provides evidence that not all narrative thoughts are created equal and their typology depends on the story’s structure (see Escalas 2004). In addition, this dissertation advances existing knowledge on the effect of narrative transportation on self-efficacy. The ETIM (van Laer et al. 2014) presents self-efficacy as a direct consequence of narrative transportation, yet no prior evidence demonstrates this association. This work deepens the ETIM by demonstrating that the effect of narrative transportation over self-efficacy is mediated by counterfactual thoughts, as the anomalous replotting of the story at leads to the formation of stronger cognitive schemas.

Deepening consumer-generated advertising literature. This dissertation contributes to CGA literature by extending knowledge on the persuasive effect of source disclosure in commercial contexts to the public health sector (Ertimur and Gilly 2012; Thompson and Malaviya 2013; Lawrence, Fournier and Brunel 2013). In particular, this work answers previous calls for a more nuanced classification of
source disclosure modes (Ertimur and Gilly 2012) by comparing the source effects generated by institutional, consumer, and co-creative sources. The findings contribute to advertising literature by isolating the effects of source disclosure on perceived motives (Cnann and Goldberg-Glen, 1991; Hassan et al. 2007; Berthon, Pitt, and Campbell 2008), source credibility and similarity (Ohanian 1990; Wilson and Sherrell 1993), and advertising authenticity (Chalmers 2007; Ertimur and Gilly 2012). In particular, this dissertation demonstrates that authenticity is a construct that possesses nomological and discriminant validity even when considered in reference to the advertisement rather than the advertised object (cf. Beverland et al. 2008). Deviating from prior research considering authenticity and credibility as aspects reflective of the same construct (cf. Lawrence, Fournier, and Brunel 2013), this dissertation solves one relevant issue raised by CGA scholars lamenting the use of authenticity and credibility as interchangeable constructs (Ertimur and Gilly 2012). Most importantly, the findings contribute to CGA and advertising authenticity literatures by demonstrating that it is through the intervening mechanism of perceived authenticity that source disclosure influences persuasion.

**Deepening consumer responsibilization literature.** This dissertation also deepens consumer responsibilization theory (Shamir 2008; Giesler and Veresiu 2014; Boivin et al. 2014) through the integration of stakeholder theory (Freeman 1994), attribution theory (Kelley 1967) and the broader consumer-generated advertising literature (Ertimur and Gilly 2012; Thompson and Malaviya 2013; Lawrence, Fournier, and Brunel 2013; Hautz et al. 2014). The social-protectionist stance of institutional authorization is reflected in attributions of trust and expertise, whereas the democratic and self-expressive stance of consumeristic personalization is reflected in attributions of similarity. By demonstrating that different sources produce audience’s attributions reflective of the role and contributions of each stakeholder involved, this dissertation offers an empirical application of the P.A.C.T. routine of consumer responsibilization (Giesler and Veresiu 2014) to the advertising co-creation domain.
7.3 Implications for Practice and Public Policy

This dissertation makes a relevant contribution to both practice and public policy. The aggregate findings provide several guidelines that can assist advertisers, social marketers and policy makers in designing more effective communications targeting compulsive consumptions, avoiding the inefficiencies stemming from individual message testing (Fishbein and Cappella 2006). Specific recommendations for each stage of the communication process are detailed below.

Message design. First, attention should be paid to the selection of the behavioral consequences to be depicted in the message. Consequences that are perceived as more detached from the behavior trigger higher cognitive elaboration, which in turn increases the likelihood to breach through the cognitive barriers established by consumption behaviors that are either habitual or compulsive. The findings of this dissertation prove that, in a gambling context, depicting negative social consequences instead of monetary losses results in more positive attitudes and intentions toward responsible gambling.

Second, when depicting psychological distant consequences that trigger higher cognitive elaboration, the use of loss frames rather than gain frames is preferable. Copy texts detailing what the consumer loses by engaging in the undesirable behaviors are more persuasive when referencing relevant aspects of the consumers’ life. In particular, articulating a narrative of social losses and familial disruption proved to be a viable strategy to persuade problem gamblers to reduce their gambling intent.

Third, when employing narrative formats to convey behavioral recommendations, providing closure (i.e., clearly disclosing the behavioral outcome stemming from the targeted behavior) helps fix the meaning of the story. In so doing, the associative link between behavior and consequences is strengthened and the audience is able to engage in counterfactual thinking, muddling about alternative courses of action that could have prevented the negative consequences. This cognitive process results in greater understanding of the story’s takeaways that manifest in increased self-efficacy and compliance intentions.

Message source. The source of a message generates powerful attributions on the basis of the information about the source, being either provided or inferred. One
tactic to leverage these inferential processes is to engage into the co-creation of health and social communications and then disclose to the broader audience the co-creative nature of the resulting messages. A few lines of text disclosing that the advertisement is the result of a collaborative endeavour between public policy and consumer-citizens are sufficient to trigger a positive audience response, driven by a sense of identification with the source and perceived authenticity of the message. The persuasive effect of source disclosure investigated in this dissertation captures only the evaluative difference conditional to manipulating the message source while keeping the message content constant. However, much more can be gained by engaging in actual programs of collaborative message creation in which institutional bodies collaborate with citizens in better understanding the topical issues and provide the means to create compelling campaigns. The implementation of co-creative approaches in ad creation is indeed in line with the principle of formative research detailed in social marketing (Andreasen 2012) and the idea of consumer-centric design formalized by design thinking (Brown 2008). In addition, social marketers and health communicators should strongly articulate the narrative of authenticity seemingly inherent in collaborative approaches to ad creation. This narrative could further be emphasized by highlighting how genuine insights and authentic experiences provided by consumers-creators have been used during message development.

Characteristics of the receiving audience. The characteristics of the audience being targeted can function as interpretative filters altering the persuasiveness of the message. This dissertation demonstrates that behavioral patterns (e.g., problem gambling) and stable dispositional traits (e.g., need for cognitive closure) concur in producing differential persuasive effects on the basis of their interplay with the structural components and the source of the message.

First, the level of problem behavior or compulsion can hinder the persuasive process when typical negative consequences associated with the behavior are disclosed. At the same time, the inherent resistance developed by compulsive consumers may be circumvented when less common consequences are presented, disrupting their cognitive schemas.

Second, dispositional needs for closure of the audience greatly affect the persuasive effect or providing (vs. not) clear cut behavioral consequences. For
instance, audiences low in need for cognitive closure have similar reactions to both narratives disclosing (vs. not) the behavioral outcomes, whereas audiences high in need for cognitive closure require their need to be matched by a corresponding situational level of closure. In addition, audiences deeply involved in the topical issue are more easily persuaded when evaluating messages disclosed to be co-created by fellow consumers. These findings are particularly relevant in an age of digital technology and machine learning. The dream of a micro-segmentation approach and individually tailored communications is now a reality thanks to cognitive computing and artificial intelligence capable of deriving the psychological profile of the target user through textual analysis of social media and other user-generated content (Marketwire 2016). As a result, different campaigns can now be developed and communicated to selected users on the basis of information gathered and codified from social media such as Facebook, Twitter and YouTube. In addition, the finding that personal involvement amplifies the positive effect of source disclosure on persuasion suggests that advertising campaigns disclosing co-creative sources should be preceded by supporting programs aimed at raising the baseline level of involvement with the advertised issue to maximize the persuasive effect.

Third, the aggregate findings of Paper 3 and Paper 4 reveal that the disclosure of co-creative sources strongly resonates in the receiving audience, leading to more positive ad evaluations. These positive ad evaluations are function of an additive attribution effect, which is a mere disclosure effect. That is, the positive evaluative variation measured within the investigated sample is conditional to keeping the message content constant while manipulating the message source. The actual engagement of involved consumers in the co-creative process may prove to be even more beneficial, yielding relevant insights that may resonate even more strongly within the target audience. This prospect echoes Giesler and Veresiu (2014) on the necessity of a technological infrastructure that may enable the implementation of a collaborative approach. But, as they say, this is a story for another time...
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