



PERSUASIVE EFFECTS OF TWO-SIDED SOCIAL MARKETING MESSAGES

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“Real knowledge is to know the extent of one’s ignorance”

— Confucius —

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Nederlandstalige Samenvatting

Dit proefschrift onderzoekt de effectiviteit van tweezijdige boodschappen voor sociale marketingcampagnes. Sociale marketing omvat *“het gebruik van commerciële marketingtechnieken om gedragsverandering te promoten, met als doel om de gezondheid of het welzijn van individuen of de maatschappij als geheel te bevorderen”* (Weinrich, 1999). Ongezond of sociaal onverantwoord gedrag is wereldwijd verspreid. Voorbeelden van dit gedrag zijn binge drinken, roken, zonnebaden, niet sporten of geen ethische producten consumeren. Dit gedrag kan nefaste gevolgen hebben, zowel voor het individu zelf als voor de maatschappij. Zo is roken bijvoorbeeld de voornaamste vermijdbare doodsoorzaak in de Verenigde Staten (Haire-Joshu et al., 2004). Zonnebaden verhoogt het risico op huidkanker en huidveroudering (Hoegh et al., 1999; Hwang, Cho et al., 2012; Turrisi et al., 1998). Een gebrek aan lichaamsbeweging kan leiden tot psychisch ongemak (McHugh & Lawlor, 2012), obesitas, en diabetes type 2 (Wilson et al., 2012). Al deze negatieve gevolgen kunnen grotendeels vermeden worden wanneer het juiste gedrag wordt gesteld.

Communicatiecampagnes kunnen helpen om mensen bewust te maken van het probleem. Bewustmakingscampagnes zijn echter niet altijd effectief gebleken. Veel mensen zetten ongezond of sociaal onverantwoord gedrag verder, ook al zijn ze zich bewust van de negatieve gevolgen ervan (Fisher & Misovich, 1990). Studies inzake zonnebaden hebben unaniem aangetoond dat de meeste mensen zich bewust zijn van de gezondheidsrisico's van zonnebaden, maar dat dit bewustzijn hen niet altijd motiveert om zich te beschermen tegen UV licht (Arthey & Clarke, 1995). Ook is het zo dat de meeste studenten de gevaren van binge drinken kennen, maar toch excessieve hoeveelheden alcohol blijven drinken (Berger & Rand, 2008). En hoewel op de verpakking van sigaretten in de Europese Unie expliciet de melding “Roken is dodelijk” gedrukt staat, is het tabaksgebruik in Europa toch hoger dan elders ter wereld (World Health Organization, 2013).

Deze voorbeelden tonen aan dat ongezond of sociaal onverantwoord gedrag nog steeds voorkomt, ongeacht het bewustzijn van de negatieve gevolgen ervan. Blijkbaar zijn voorgaande gezondheidspreventiecampagnes niet altijd succesvol geweest in het bereiken van gedragsverandering (DeJong & Atkin, 1995; Foxcroft et al., 2003). Daarom is het van belang dat er verder onderzoek gedaan wordt naar de effectiviteit van verschillende communicatiestrategieën in sociale marketing.

De reden waarom mensen ongezond of sociaal ongewenst gedrag stellen, kan te wijten zijn aan de gepercipieerde voordelen van dat gedrag. Mensen wegen de voordelen van het ongezonde of sociaal ongewenste gedrag af tegenover de nadelen ervan. Zonnebaden wordt bijvoorbeeld vaak gedaan omdat mensen ervan houden om een gebruinde huid te hebben. Mensen kiezen er soms voor om geen fair trade producten te kopen omdat ze deze producten te duur vinden (De Pelsmacker et al., 2006). Met andere woorden, de meeste mensen schrijven bepaalde voordelen toe aan ongezond gedrag, of bepaalde nadelen aan het stellen van sociaal wenselijk gedrag. Deze factoren verhinderen gedrags- of attitudeverandering.

Gezien het belang dat mensen toeschrijven aan deze gepercipieerde voordelen van ongezond of sociaal ongewenst gedrag, zou het effectiever kunnen zijn om een communicatiestrategie te gebruiken die deze gepercipieerde voordelen in acht neemt, naast de negatieve gevolgen van het ongezond of sociaal onwenselijk gedrag. Daarom onderzoeken wij in dit doctoraat de effectiviteit van tweezijdige boodschappen.

Tweezijdige boodschappen zijn *“boodschappen waarin de zender beide kanten van een issue of product bespreekt, terwijl hij/zij eigenlijk één kant favoriseert”* (Hovland, 1954). Een tweezijdige boodschap biedt de argumenten voor een bepaald standpunt, maar neemt ook de argumenten tegen dat standpunt in acht (Allen, 1991). Een eenzijdige boodschap daarentegen is *“een boodschap die alleen de argumenten voor een bepaalde stelling aanbiedt”* (Allen, 1991), en daarbij dus mogelijke counterargumenten negeert.

Tot nu toe werden tweezijdige boodschappen voornamelijk gebruikt als persuasieve communicatiestrategie voor commerciële reclame. Op enkele belangrijke uitzonderingen na (e.g., Belch, 1981; Ford & Smith, 1991; Ley et al., 1977) zijn tweezijdige boodschappen nog niet voldoende getest in een sociale marketingcontext. Er is nochtans nood aan om de strategie van tweezijdige boodschappen uit te breiden naar niet-commerciële communicatie, zoals bijvoorbeeld informatieve campagnes of non-profit campagnes (Eisend, 2007).

Bovendien zijn de randcondities van de effectiviteit van tweezijdige boodschappen nog onvoldoende gekend, ondanks de lange traditie van onderzoek naar tweezijdige boodschappen. Voorgaand onderzoek heeft enkele cruciale onderzoeksvragen onbeantwoord gelaten. Ten eerste heeft voorgaand onderzoek niet bestudeerd wat de impact is van enkele belangrijke modererende variabelen (zoals verschillende argumenten, verschillende issues, en verschillende contexten) op de effectiviteit van tweezijdige boodschappen. Ten tweede heeft voorgaand onderzoek tegenstrijdige resultaten geleverd inzake de nood aan weerlegging van de argumenten in tweezijdige boodschappen. Sommige studies hebben namelijk gevonden dat weerlegging in tweezijdige boodschappen nodig is voor een optimale effectiviteit, terwijl andere studies aantoonen dat de aan- of afwezigheid van weerlegging in een tweezijdige boodschap geen verschil maakt voor de effectiviteit van de boodschap (e.g., Golden & Alpert, 1987; Kamins & Assael, 1987; Smith & Hunt, 1978). Het doel van dit proefschrift is om deze hiaten in voorgaand onderzoek te dichten. Bovendien tracht dit proefschrift een bijdrage te leveren aan het theoretisch kader omtrent tweezijdige boodschappen in sociale marketing.

Om deze doelstellingen te halen, bevat dit proefschrift vijf empirische hoofdstukken. Elk van deze hoofdstukken bevat één of meerdere studies. Deze studies bestaan uit experimentele designs met één of meerdere factoren, waarbij elke factor gemanipuleerd is op twee of drie niveaus.

Hoofdstuk twee, “*Being healthy or looking good? The effectiveness of health versus appearance-focused arguments in two-sided messages*”, bevat twee experimentele studies die de effectiviteit testen van gezondheid- versus uiterlijk-gefocusste argumenten in tweezijdige boodschappen. De eerste

studie in hoofdstuk twee focust op het afremmen van overmatig zonnebaden. De resultaten van deze eerste studie tonen aan dat tweezijdige boodschappen meer aandacht trekken en een hogere graad van inhoudelijke herinneringen genereren dan eenzijdige boodschappen. Verder werd gevonden dat voor tweezijdige boodschappen om overmatig zonnebaden af te remmen, uiterlijk-gefoceerde argumenten effectiever zijn dan gezondheid-gefoceerde argumenten. Studie twee gaat dieper in op het onderliggende mechanisme dat de effectiviteit van gezondheid- versus uiterlijk-gefoceerde argumenten drijft. Om de resultaten te kunnen generaliseren, onderzoekt deze tweede studie een ander issue, namelijk het promoten van lichaamsbeweging. De resultaten tonen aan dat de effectiviteit van gezondheid- versus uiterlijk-gefoceerde argumenten in tweezijdige boodschappen afhangt van de motivatie van de ontvanger: voor individuen die meer gefocust zijn op hun gezondheid, zijn gezondheid-gefoceerde argumenten effectiever, terwijl voor mensen die meer gefocust zijn op hun uiterlijk, uiterlijk-gefoceerde argumenten effectiever zijn. Dit effect werd gemedieerd door de relevantie van de argumenten.

Hoofdstuk drie, “*Regulatory congruence effects in two-sided advertising: The mediating role of processing fluency and processing depth*”, bevat eveneens twee experimenten. In dit hoofdstuk wordt het principe van regulatory congruentie getest in tweezijdige sociale marketing boodschappen. Studie één toont aan dat, bij tweezijdige boodschappen, het effect van regulatory congruentie afhangt van de individuele self-regulatory focus. Een congruentie effect werd namelijk alleen gevonden bij promotie-georiënteerde mensen. Dit congruentie effect wordt gedreven door de vlotheid waarmee de boodschap verwerkt wordt. Het tweede experiment exploreert de afwezigheid van een regulatory congruentie effect bij preventie-georiënteerde individuen. De resultaten van dit tweede experiment tonen aan dat, bij preventie-georiënteerde mensen, de mate waarin de boodschap verwerkt wordt een invloed heeft op regulatory (in)congruentie effecten in tweezijdige boodschappen. In geval van perifere verwerking hebben preventie-georiënteerde mensen een voorkeur voor congruente tweezijdige boodschappen. In geval van centrale verwerking, daarentegen, hebben preventie-georiënteerde mensen een voorkeur voor incongruente boodschappen.

Hoofdstuk vier, *“Two-sided messages for health risk prevention: The role of argument type, refutation and issue ambivalence”*, eveneens bestaande uit twee experimenten, test de rol van argument type, weerlegging, en ambivalentie van het issue op de effectiviteit van tweezijdige anti-binge drinking en anti-marihuana boodschappen na groepsdruk. De resultaten van de eerste studie tonen aan dat tweezijdige boodschappen als nieuwer gepercipieerd worden, en meer aandacht trekken dan eenzijdige boodschappen. Bovendien werd de voorkeur gegeven aan affectieve argumenten in plaats van cognitieve argumenten, omdat die meer relevant zijn voor het issue zelf. De tweede studie bouwt voort op de eerste studie. De resultaten tonen dat wanneer het issue univalent is, weerlegging in de tweezijdige boodschap niet nodig is. Wanneer het issue echter ambivalent is, dan is weerlegging van de argumenten effectiever dan geen weerlegging.

Hoofdstuk vijf, *“The impact of message sidedness on adolescents’ binge drinking intentions after peer pressure: The moderating role of issue involvement”*, onderzoekt het effect van drie verschillende anti-binge drinking boodschappen (nl. eenzijdig, tweezijdig zonder weerlegging, en tweezijdig met weerlegging) op de binge drinking intenties van hoog en laag betrokken tieners na blootstelling aan groepsdruk. Een steekproef van 185 tieners tussen vijftien en negentien jaar oud nam deel aan het experiment. Voor hoog betrokken tieners resulteert een tweezijdige boodschap (ongeacht deze boodschap een weerlegging bevat of niet) in lagere binge drinking intenties dan een eenzijdige boodschap. De binge drinking intenties van laag betrokken tieners worden echter niet beïnvloed door de boodschappen.

Hoofdstuk zes, *“Credibility effects of (non-)refutational two-sided health messages: The moderating role of issue ambivalence and argument type”*, onderzoekt de impact van de aan- of afwezigheid van weerlegging in een tweezijdige boodschap op de geloofwaardigheid van de bron, de geloofwaardigheid van de boodschap, de attitude ten opzichte van de boodschap, de attitude ten opzichte van het issue, en de gedragsintenties. De mate van ambivalentie van het issue en het argument type spelen hierbij een modererende rol. De resultaten van dit experiment tonen aan dat, in de context van gezondheidspreventie, een tweezijdige boodschap met weerlegging doorgaans geloofwaardiger

is dan een tweezijdige boodschap zonder weerlegging. Echter, de nood aan weerlegging hangt verder ook af van twee modererende variabelen, namelijk de ambivalentie van het issue en het argument type.

Tot slot bevat hoofdstuk zeven een samenvatting van de voornaamste resultaten van dit proefschrift, alsook een bespreking van deze resultaten in het licht van het ruimer theoretisch kader omtrent tweezijdige boodschappen. In dit laatste hoofdstuk wordt ook de theoretische toegevoegde waarde van dit proefschrift weergegeven, gevolgd door praktische aanbevelingen. Vervolgens worden de beperkingen van ons onderzoek aangehaald, gekoppeld aan suggesties voor verder onderzoek.

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Chapter 1

Introduction

1 /

General Aim Of The Dissertation

This dissertation tests the effectiveness of two-sided messages for social marketing campaigns. To date, two-sided messages have mainly been used as a persuasive message strategy for commercial advertising. Apart from a few notable exceptions (e.g., Belch, 1981; Ford & Smith, 1991; Ley et al., 1977), two-sided messages have not been extensively tested in a social marketing context. Yet, there is a strong need to extend the two-sided message strategy for non-commercial purposes, such as informative and pro-social communication (Eisend, 2007).

Moreover, despite the long research stream on two-sided messages in (commercial) advertising, little is known about the boundary conditions of their effectiveness. Previous literature left a few crucial research questions unresolved. First, previous literature did not address certain important moderating factors of the effectiveness of two-sided messages, such as the impact of different arguments, different issues, and different situational contexts. Second, prior research delivered mixed results on the need for refutation in two-sided messages. Some studies found beneficial effects of refutational two-sided messages over non-refutational ones, while other studies showed no different effects due to refutation (e.g., Golden & Alpert, 1987; Kamins & Assael, 1987; Smith & Hunt, 1978). This dissertation aims to fill these research gaps and contribute to a broader and more solid theoretical framework of two-sided messages in social marketing.

First, in order to define the context of the research topic addressed in this dissertation, we will discuss

the relevance of social marketing, as well as its traditional communication strategies, such as threat appeals. Subsequently, two-sided messages will be introduced as an alternative communication strategy. Next, we will delineate the origin of two-sided messages in the field of rhetoric, followed by an overview of the main theoretical frameworks used to clarify two-sided messages' effects. This theoretical overview results in a number of research questions forming the starting point of this dissertation. At the end of this introductory chapter, we offer an overview of the empirical chapters in this dissertation.

2 /

Social Marketing

2.1 Relevance

Every day, worldwide, people engage in unhealthy or socially irresponsible behavior, such as binge drinking, smoking marijuana, suntanning, not exercising and not consuming ethical products. These behaviors can have dire consequences, either for the individuals themselves, society as a whole, or both. For instance, smoking is the leading cause of preventable morbidity in the United States (Haire-Joshu et al., 2004). Suntanning increases the risks of skin cancer and photo-aging (Hoegh et al., 1999; Hwang, Cho et al., 2012; Turrisi et al., 1998). Lack of exercise can result in psychological distress (McHugh & Lawlor, 2012), obesity, and type 2 diabetes (Wilson et al., 2012). Not buying ethical products such as fair trade products leads to the impoverishment of local farmers in developing countries. All of these negative consequences can be avoided if the right behavior is performed.

Most governments take legal action against unhealthy or socially irresponsible behavior. For instance, in most countries, the use of illicit drugs, driving under the influence of drugs, alcohol use among minors, or tax evasion is prohibited by law. The consequences of illegal acts include financial penalties, imprisonment, or civil penalties, although specific penalties can vary in different countries. In fact, financial penalties such as speeding fines are often an effective way to reduce the unwanted behavior (European Commission, 2008). However, most unhealthy or unwanted behavior cannot be regulated by law. For instance, people cannot be

prohibited to sun tan or to eat junk food, and people cannot be legally forced to engage in some daily physical exercise or to buy fair trade products. Ethical consumption is chosen freely by an individual consumer (Doane, 2001).

Therefore, besides prohibiting or enforcing certain behaviors by law as a 'hard' tool, communication campaigns can serve as a 'soft' tool to inform and influence people's behavior (Punnahitanond, 2008). This use of communication is the core of social marketing. Ironically, although communication is considered a 'soft' tool, it can sometimes have stronger effects on actual attitude or behavior change than mere repression or law enforcement. A reason why soft tools such as communication are often beneficial, lies in the fact that people are naturally averse to threats to their freedom (Burgoon et al., 2002; Rains & Turner, 2007). When something is strictly prohibited, the forbidden behavior often becomes more attractive (Brehm, 1966). Hence, there is a strong need for adequate communication campaigns aiming at health risk prevention or the promotion of socially responsible behavior.

According to the U.S. Department of Health and Human Services (2006) the key to reducing unhealthy behavior or to making people act socially responsible, is to increase awareness of the problem and its consequences (Berger & Rand, 2008). However, awareness does not always lead to compliance. Many people continue to engage in unhealthy or socially irresponsible behaviors, even when they are aware of the negative consequences (Fisher & Misovich, 1990). For instance, regarding suntanning, studies consistently show that most people are aware of the health risks, but this awareness does not always motivate them to limit their UV exposure (Arthey & Clarke, 1995). Likewise, most college students know the dangers of binge drinking but continue to drink excessive amounts of alcohol (Berger & Rand, 2008). Similarly, cigarette packages in the European Union explicitly say, "Smoking Kills," yet Europeans are the world's biggest smokers (World Health Organization, 2013).

These examples show that unhealthy or socially irresponsible behavior still occurs, irrespective of people's awareness of the dire consequences. Apparently, previous awareness campaigns have not always been effective at changing people's behaviors (DeJong & Atkin, 1995; Foxcroft et al., 2003).

Thus, the social marketing field would benefit from further investigation into the adequacy of different communication strategies, in order to facilitate attitude and behavior change.

The reason why people continue to act unhealthily or irresponsibly, might be the perceived benefits attached to the behavior. People weigh the benefits of the unhealthy or irresponsible behavior versus the disadvantages of performing the healthy or responsible behavior. For instance, suntanning is often done because people like to have a tanned skin. People choose not to buy fair trade products because they find these products too expensive (De Pelsmacker et al., 2006). In other words, most individuals ascribe certain benefits to unhealthy behavior, or certain disadvantages to perform socially responsible behavior. These factors can inhibit a positive attitudinal and behavioral change.

Given the importance that individuals attach to these perceived benefits of unhealthy or socially undesirable behavior, it might be effective to use a message strategy that takes these perceived benefits into account, alongside the negative consequences of the unhealthy or undesirable behavior. Therefore, in this dissertation, we test the persuasive effectiveness of two-sided messages for social marketing issues. First, we elaborate on a more commonly used communication strategy in social marketing, that is, threat appeals.

2.2 Threat appeals

A wide range of communication strategies is used in the field of social marketing. For instance, threat, guilt, and shame are three common social marketing appeals (Brennan & Binney, 2010). Typically, these communication strategies focus on motivating or discouraging individuals to carry out certain behavior. However, this typical approach can evoke deleterious side effects (cf. *infra*), resulting in a decline of the effectiveness of these social marketing strategies. This problem has mainly been documented in threat appeal research. Threat appeal theories are one of the most widely used and researched communication strategies in social marketing. Therefore, we discuss threat appeals more in-depth.

Traditionally, communication strategies to prevent health risks or to promote socially responsible behavior have often used **threat appeals** (Hale & Dillard, 1995; Hastings et al., 2004). Threat appeals are “*persuasive messages designed to scare people by describing the terrible things that can happen to them if they do not do what the message recommends*” (Witte, 1992, p.329). Threat appeal theories state that fear motivates individuals to take action to reduce their apprehension about certain issues (Witte, 1992). Traditionally, a threat appeal consists of a threatening message combined with a relief aspect, that is, a solution or recommended behavior in order to deal with the threat.

Threat appeal theories and research have a long history. Several theoretical threat appeal models have been developed as a reactance to defaults of earlier models. Later, Witte (1992) integrated earlier models into the ‘Extended Parallel Processing Model’ (EPPM). This model is based upon two main dimensions of the message: perceived threat (composed of perceived susceptibility and perceived severity of the threat) and perceived efficacy (composed of self-efficacy and response efficacy). According to the EPPM, as long as people’s perceived efficacy is higher than their perceived threat, the message will be accepted. However, when people perceive they cannot protect themselves from a certain threat, the message will be rejected. Thus, the critical point occurs when perceived threat exceeds perceived efficacy. This point is where message rejection dominates over message acceptance (Witte, 1992).

Although studies have shown that threat appeals, if used correctly, can be successful in diminishing unwanted behavior (Witte, 1992), there are a number of serious drawbacks. Threat appeals could entail deleterious effects, also called ‘backfiring’ or maladaptive responses (Witte & Allen, 2000; Hastings et al., 2004). Maladaptive responses are inherently hazardous because they reduce the experienced threat without reducing the actual risk or danger (Schoenbachler & Whittler, 1996). For instance, research has looked into smokers’ reactions to warnings on cigarette packs, and demonstrated that smokers become accustomed to those warnings over time and are adept at screening them out (Devlin et al., 2002). Consequently, if threat appeal messages are ignored, they will miss their point.

Another reason why threat appeals can fail, is reactance. Reactance is a motivational response that acts as a counterforce to a perceived threat or elimination of freedom (Brehm, 1966). Ample research has shown that the failure of many persuasive health campaigns, such as anti-drinking campaigns among adolescents, can be attributed to reactance (Ringold, 2002; Backer, Rogers, & Sopory, 1992; Hornik, 2002; Salmon & Murray-Johnson, 2001). Interventions such as educational efforts, threatening warnings, and legal restrictions have produced boomerang effects (Rains & Turner, 2007). Generally, messages that use explicit threat in advocating a position are likely to elicit greater reactance among the target audience than messages leaving the threat implicit (Burgoon et al., 2002).

Thus, despite the wide use of threat appeals in social marketing, they might not always be the best strategy for persuasive aims. Message strategies curbing individuals' freedom contribute to the failure of persuasive health campaigns (Backer et al., 1992; Hornik, 2002; Rains & Turner, 2007; Salmon & Murray-Johnson, 2001). Therefore, in this dissertation, we propose an alternative communication strategy in the field of social marketing, that is, two-sided messages.

3 /

Message Sidedness Research

3.1 Defining two-sided messages

Two-sided messages are “*messages in which the communicator takes into account both sides of an issue or product, but actually still favors one side*” (Hovland, 1954). A two-sided message present the arguments in favor of a proposition, but also considers the opposing arguments (Allen, 1991). A **one-sided message**, on the other hand, is defined as “*a message that presents only those arguments in favor of a certain proposition*” (Allen, 1991). It differs from a two-sided message in that only one side of an issue is mentioned, ignoring possible counterarguments. In particular, a one-sided message offers the side advocated by the communicator or the side supporting the idea of which an audience is to be persuaded.

Two-sided messages are generally further categorized based on their message structure, that is, whether they contain a refutational statement or not. Hence, a distinction is made between refutational and non-refutational two-sided messages. A **non-refutational two-sided message** is a two-sided messages that merely offers both sides of a proposition (i.e., one side advocating the position of the communicator and the other side opposing or countering the communicator’s position), while not refuting the opposing argument(s) in the message itself (cf. Figure 1). Hence, this type of two-sided messages solely offers both the arguments in favor and against a certain proposition. A **refutational two-sided message**, on the other hand, does include a refutational statement in the message itself.

The intent is to introduce an opposing view, and subsequently demonstrate why this opposing view is inferior to the view of the communicator (Allen, 1991). The rhetorical advantage of this way of arguing stems from its anticipatory character consisting of mentioning and then refuting a counter-argument in advance (Amjarso, 2010).



Figure 1: A non-refutational two-sided message. W. K. Buckley Limited has become one of the leading brands of cough syrup in Canada by using a blunt two-sided slogan, “Buckley’s Mixture. It tastes awful. And it works” (Belch & Belch, 2004).

(Image retrieved from <http://worldtodiscover.wordpress.com/2009/04/26/advertizing-your-defects/>)

3.2 Background of two-sided messages

The idea behind two-sided messages stems from the psychological literature on reactance. Psychological reactance theory (Brehm, 1966) describes individuals’ aversive reactions when they are confronted with regulations or impositions that limit their freedom or decisional autonomy (Brehm, 1966, 1972; Brehm & Brehm, 1981; Burgoon et al., 2002; Wicklund, 1974). When an individual’s perceived freedom is threatened (e.g., when they feel forced to adopt a certain proscribed attitude or behavior), the individual will experi-

ence a motivating inner pressure to restore the threatened freedom (Heilman & Toffler, 1976). This inner pressure typically manifests itself in aversive reactions (Brehm, 1966, 1972, Brehm & Brehm, 1981; Wicklund, 1974). Hence, restricted freedom often leads to aversive reactions, such as engaging in the forbidden behavior (Brehm, 1966). This is in line with the negative reactions that threat appeal can evoke (cf. *supra*).

Previous research has shown that specific communication (e.g., threat appeals) can ignite or inhibit reactance. More specifically, some linguistic elements induce the impression that freedom or autonomy is curtailed, such as dogmatic language (e.g., imperatives, threatening warnings, absolute allegations, or derision toward other opinions) (Bushman, 1998; Miller et al., 2007; Quick & Stephenson, 2008). Rains and Turner (2007) have demonstrated that, specifically in the context of alcohol prevention, dogmatic language evokes reactance.

A message strategy that would avoid this explicit threat to freedom, is the inclusion of counterarguments in the message itself (i.e., a two-sided message). This message strategy demonstrates an ‘invitational rhetoric’, which is a rhetoric that considers the audience’s active participation in the discourse, encouraging the audience to think for itself, and thus, discharges individual freedom (Tindale, 2004).

In classical rhetoric, the practice of addressing anticipated counterarguments is mainly studied under the name of ‘*prolepsis*’. Prolepsis is a figure of speech by which the speaker addresses the anticipated objections against his position in order to attain a maximum persuasive effect on the audience. Simply put, it is “*the anticipation of and answering of an argument before it has been made*” (Trail, 2000, p. 144). Greek scholars have considered the arguer’s ability to address anticipated objections as a sign of argumentative competence (Amjarso, 2010).

More recently, the study of addressing anticipated counterarguments within rhetoric has been enriched by insights from social psychology (Clauss, 2007). Nowadays, the practice of mentioning and then refuting anticipated counter-

arguments has received considerable attention from argumentation theorists as well as from persuasion researchers (Amjarso, 2010). Within argumentation theory, rhetoricians consider mentioning and then refuting an anticipated counterargument as a mode of strategic manoeuvring. Argumentation theorists aim to explain the act of addressing anticipated counterarguments theoretically (Amjarso, 2010). In persuasion research, on the other hand, the main concern is how addressing anticipated counterarguments can be effective in persuading an audience. To answer this concern, persuasion researchers seek to find empirical evidence for the actual persuasiveness of this argumentative technique as a message strategy, especially compared to other message strategies. Later, this stream of persuasion research has developed into message sidedness research (e.g., Dipboye, 1977; Earl & Pride, 1980; Etgar & Goodwin, 1982; Golden & Alpert, 1987; Hovland et al., 1967; Kamins & Assael, 1987).

3.3 Explanatory mechanisms for two-sided messages' effects

A variety of theories has been put forward by previous literature to explain the effectiveness and working mechanisms of two-sided messages. Most of these theories originated from social psychology (Crowley & Hoyer, 1994) and were then applied to the field of advertising. Each of these theories contribute to the understanding of how and why two-sided messages work, but none of them are able to completely explain two-sided messages effects. Together, these theories form an overall framework clarifying different aspects of two-sided messages effects. Although some of these theories might seem to contradict each other (e.g., inoculation theory explicitly emphasizes the need for refutation, whereas attribution theory does not), this is not the case. These theories are not mutually exclusive, since each of them sheds light on a different aspect of two-sided messages (e.g., inoculation theory focuses on resistance to counterpersuasion, whereas attribution theory explains credibility effects). Therefore, these different theories do not necessarily exclude or contradict each other.

This introductory chapter gives an overview of the principal theoretical

frameworks explaining two-sided messages' effects. Subsequently, in the empirical part of this dissertation, we will use these theoretical frameworks to develop the hypotheses in our experimental studies.

3.3.1 Optimal arousal theory

Optimal arousal theory (Berlyne, 1971) posits that stimuli that are moderately novel, surprising or complex are more attention-getting than stimuli that offer too little or too much novelty (Crowley & Hoyer, 1994). Whether the arousal (due to the perceived novelty) is optimal, is based on the discrepancy from the "adaptation level," which is described by Berlyne (1971) as the kind of stimulus that is expected. Consistent with the optimal arousal theory, two-sided messages – incorporating arguments on both sides of an issue – would be perceived as an 'optimal deviation' from the expectation level (Crowley & Hoyer, 1994). Thus, due to this novelty, individuals may "like" two-sided messages and be more motivated to process the message (Crowley & Hoyer, 1994). Since they are more novel and complex than one-sided messages, they motivate individuals to pay more attention to the message content (Eisend, 2006, 2007). In contrast, one-sided messages represent the type of communication that the individual is normally expecting, resulting in less perceived novelty and less attention toward the message (Crowley & Hoyer, 1994). Optimal arousal theory has been suggested by Crowley and Hoyer (1994) to contribute to the understanding of two-sided messages. Eisend (2006) found a strong positive effect of message sidedness on perceived novelty and attention, providing support for the optimal arousal theory. However, few studies have investigated how this enhanced attention on two-sided messages influences the effectiveness of specific argument types in the message. If more attention goes out to the message, more emphasis is put on the relevance of the arguments used in the message. Therefore, it is important to investigate which arguments are most effective in a two-sided message (cf. *infra*: research question one).

3.3.2 Elaboration likelihood model of persuasion

The elaboration likelihood model (ELM, Petty & Cacioppo, 1986) is linked to two-sided messages as it can also help to explain how two-sided messages are

processed. This way, it aligns with optimal arousal theory, in that both theories focus on the processing depth of two-sided messages. The elaboration likelihood model is considered as one of the main examples of dual process theories (Petty & Wegener, 1999). It is similar to the heuristic-systematic model of information processing (Chaiken, 1980), in that both models describe two distinct ways of processing information.

The elaboration likelihood model proposes that persuasion may occur either through intense scrutiny or through superficial browsing of information. The extent to which individuals elaborate on a message determines whether arguments are centrally processed (high elaboration), or whether peripheral cues are relied upon (low elaboration) (Petty & Cacioppo, 1986). The depth by which information is processed, influences the persuasive effects of this information.

Message sidedness is not generally linked to the elaboration likelihood model, but Allen (1991) proposes the elaboration likelihood model as a theoretical explanation for message sidedness effects. Dual-process theories such as the elaboration-likelihood model (Petty & Cacioppo, 1986; Petty et al., 1983) can contribute to the already established, integrated theoretical framework of two-sided messages (see Crowley & Hoyer, p. 567 or Eisend, 2007, p. 630), in order to increase its overall explanatory power (Eisend, 2007). So far, it has often been assumed that two-sided messages are processed in a central, thorough way, simply because they are more complex than their one-sided counterparts and hence, grab more attention. However, this assumption is questioned by Eisend (2007). It seems that both routes of persuasion can occur for two-sided messages, depending on certain moderating variables related to individuals' motivation and ability to process the two-sided message (Eisend, 2007). Yet, more research is needed to identify these moderators (cf. infra: research question two).

3.3.3 Inoculation theory

McGuire's inoculation theory (1961) explains how adequate persuasive communication can make individuals resistant to possible counterpersuasion afterwards. Inoculation accomplishes resistance through the process of overt

counterarguing (Pfau et al., 2005). Inoculation theory draws upon a medical analogy: in immunology, to build resistance to a virus, people are often injected with a solution that contains a mild form of the virus itself (Etgar & Goodwin, 1982). This way, their immune system is strengthened to better resist subsequent massive exposure to this virus (McGuire, 1961). Similarly, when applied to persuasive communication, inoculation theory states that merely offering arguments supporting a certain belief (i.e., a one-sided message) is ineffective in creating resistance to counterpersuasion. Instead, the inclusion of mild opposing arguments which are subsequently refuted within the same message, can strengthen people's beliefs when they are subsequently exposed to counterpersuasion attacking these beliefs (McGuire, 1961). This way, the receiver obtains some 'practice' in refuting counterclaims, leading to fortified attitudes (Crowley & Hoyer, 1994).

The main tenet of inoculation theory is the need for including a refutation of the two-sided argument(s) within the message itself (Crowley & Hoyer, 1994). Mentioning counterarguments alongside the supporting arguments and subsequently refuting these counterarguments in the same message, would be more effective than when no such refutation is offered. In other words, refutational two-sided messages would be more effective than non-refutational ones, because – according to the inoculation theory – refutational pretreatments threaten people (Papageorgis & McGuire, 1961). Due to the threat evoked by a refutational pretreatments, people are motivated to protect their attitudes against counterpersuasion. However, empirical research does not always support this tenet of inoculation theory, as some studies also show positive effects of two-sided messages without refutation (e.g., Golden & Alpert, 1987; Kamins & Assael, 1987; Smith & Hunt, 1978). Hence, more research is needed to identify in which cases refutation is (un)necessary in order to inoculate individuals against counterpersuasion (cf. infra: research question three and four).

3.3.4 Attribution theory

Attribution theory (Jones & Davis, 1965) has guided most two-sided message studies in the past (Anderson & Golden, 1984; Easley et al., 1995; Eisend et al., 2004; Golden & Alpert, 1987; Hunt et al., 1982; Hunt & Kernan, 1984;

Kamins, 1989; Kamins & Assael, 1987b; Kamins et al., 1989; Kamins & Marks, 1987; Settle & Golden, 1974; Smith & Hunt, 1978; Stayman, Hoyer, & Leon, 1987; Swinyard, 1981). Attribution theory explains the credibility effects of refutational and non-refutational two-sided messages over one-sided messages (Eisend, 2006). Thus, like inoculation theory, it deals with the question whether refutation is needed or not, but instead of using ‘resistance to counterpersuasion’ as the outcome criterion, attribution theory explains credibility effects.

Attribution theory describes the process an individual goes through when assigning causes to events (Crowley & Hoyer, 1994; Eisend, 2006; Jones & Davis, 1965; Jones & McGillis, 1976; Kelley, 1972, 1973). When individuals wonder what lead to a certain event, they inevitably ask the question “why?”. Applied to advertising, attribution theory posits that consumers attribute advertising claims either to the honesty of the advertiser to inform consumers about product characteristics, or to the advertiser’s attempt to sell the product (Eisend, 2006; Settle & Golden, 1974). When an advertiser includes negative information opposing his own point of view, alongside the conventional positive information in commercial advertising, the receiver might believe that the advertiser is “telling the truth” (Crowley & Hoyer, 1994). An advertiser who is honest enough to ‘admit’ a few shortcomings of his own product, increases the chance that people perceive the positive product claims to be true as well. Thus, in order to evoke an enhanced perception of credibility, attribution theory recommends two-sided messages over one-sided messages. Attribution theory’s premise that two-sided advertising enhances credibility is one of the most consistently documented findings in two-sided message literature (Golden & Alpert, 1987; Kamins, 1989; Kamins et al., 1989; Kamins & Marks, 1987; Settle & Golden, 1974; Smith & Hunt, 1978; Stayman et al., 1987; Swinyard, 1981). Concerning the refutational character of two-sided messages, attribution theory is less explicit. Hence, more research is needed to identify the cases in which refutation is needed, and when it is redundant in order to uplift the credibility of a source or a message (cf. *infra*: research question five).

4 /

Research Objectives And Research Questions

The general research aim of this dissertation is to investigate the effectiveness of two-sided messages for social marketing campaigns. By means of five empirical chapters, each containing one or more experimental studies, we will shed light on some boundary conditions of the effectiveness of two-sided messages for social marketing campaigns. More specifically, two main research objectives are addressed.

The first main research objective deals with the **arguments** used in a two-sided message. This will be addressed in chapters 2, 3, and 4. In these chapters, we will investigate how the processing of two-sided messages influences the effectiveness of different arguments in the message. In other words, these chapters aim to answer the question *which* arguments should be used in two-sided messages (i.e., **argument content**) (chapter 2 and chapter 4), and *how* these arguments should be communicated (i.e., **argument frame**) (chapter 3).

The second main research objective deals with the need of **refutation in two-sided messages**. In chapters 4, 5, and 6, we will focus on the question when refutation is needed, and when it is redundant for optimal persuasive effects to occur. These chapters address several moderating variables influencing the need for refutation, both in terms of **resistance to counterpersuasion** (chapter 4 and chapter 5), as well as in terms of **credibility** (chapter 6).

4.1 Arguments in a two-sided message

Our first main research objective is: What is the effectiveness of different *arguments* (both in terms of *content* and *frame*) in a two-sided message?

4.1.1 Content of the arguments in a two-sided message

Ample studies, based on dual processing models (e.g., ELM, Petty & Cacioppo, 1986) and the optimal arousal theory (Berlyne, 1971), found that two-sided messages attract more attention than one-sided messages (Crowley & Hoyer, 1994; Eisend, 2007). Hence, generally, two-sided messages induce a more profound way of processing than their one-sided counterparts (Crowley & Hoyer, 1994; Eisend, 2007). However, few studies have looked deeper into the further effects this enhanced attention and deeper processing of two-sided messages might have, for instance in terms of the focus on message content (e.g., the relevance of the arguments used in the message), and how this further affects attitudes. Moreover, the underlying mechanisms remain largely unknown. Eisend (2007) found a direct positive effect of enhanced processing motivation on overall attitudes toward the message. However, enhanced processing motivation does not always automatically lead to more positive evaluations of a message, but can also result in negative reactions toward the message (Eisend, 2007). Given that a two-sided message's content is, generally speaking, more thoroughly scrutinized than a one-sided message's content, the relevance of the arguments used in the message is expected to be more influential in a two-sided message than in a one-sided message. Thus, it remains unclear when and how this enhanced processing depth in two-sided messages affects message evaluations positively, which role different message arguments play, and what are the underlying mechanisms. This leads to the first research question in this dissertation:

RQ 1: What is the effectiveness of different arguments in a two-sided message?

4.1.2 Frame of the arguments in a two-sided message

Up to now, message sidedness research mainly focused on the elaborative processing of two-sided messages (Eisend, 2007). However, the proposed central processing of two-sided messages does not always hold. Both routes of persuasion can occur for two-sided messages, depending on certain moderating variables (Eisend, 2007). Florack et al. (2009) suggest that the processing depth of a two-sided message can depend on receivers' self-regulatory focus. Regulatory focus theory (Higgins, 1997) proposes two basic motivational systems: (a) a promotion focus (i.e., hopes and wishes, or the maximization of positive results) and (b) a prevention focus (i.e., responsibilities and duties, or the minimization of negative results). Individuals can be classified as relatively more promotion-focused, relatively more prevention-focused, neither, or both, depending on their dominant goal orientation (Higgins, 1997). Similarly, an advertising message can also be framed as either being more promotion-focused (i.e., by emphasizing the achievement of positive results) or more prevention-focused (i.e., by emphasizing the avoidance of negative results). When the message frame matches (versus mismatches) the individual's self-regulatory focus, regulatory congruence (versus incongruence) occurs.

Florack et al. (2009) showed that individuals differing in their predominant self-regulatory focus process two-sided messages in different ways. Prevention-focused individuals tend to process the content of a two-sided message more thoroughly than promotion-focused individuals do (Florack et al., 2009). However, they did not further test the implications of these differences in processing depth due to individuals' regulatory focus, for instance in terms of argument framing. If individuals' self-regulatory focus can impact how a two-sided message is processed (Florack et al., 2009), then will these individual differences in processing depth of two-sided messages also lead to different preferences for regulatory congruent versus incongruent message frames in two-sided advertising? Hence, our second research question is:

RQ 2: Can the individual differences in self-regulatory focus also impact the effectiveness of message framing in two-sided messages?

4.2 Refutation

Our second main research objective is to explore which moderating variables influence the effectiveness of *refutation* in a two-sided message both in terms of *resistance to counterpersuasion* and *credibility*?

4.2.1 Resistance to counterpersuasion

To date, inoculation theory has only guided a few two-sided message studies incorporating refutational two-sided messages alongside the non-refutational ones (e.g., Eisend, 2007; Etgar & Goodwin, 1982; Kamins & Assael, 1987b; Sawyer, 1973; Szybillo & Heslin, 1973). According to inoculation theory (McGuire, 1961), refutational two-sided messages are more persuasive than non-refutational ones. However, several studies (e.g., Golden & Alpert, 1987; Kamins & Assael, 1987; Smith & Hunt, 1978) have demonstrated beneficial effects of two-sided messages without refutation of the negative claims, indicating that the presence or absence of refutation does not always have an impact. This dissonance between the empirical findings and the predictions of inoculation theory (McGuire, 1961) suggests that the impact of refutation and non-refutation is moderated by certain variables (Crowley & Hoyer, 1994). To date, no studies have examined yet to what extent these mixed results could be due to issue-related variables or receiver-related moderating variables. To fill this research void, we study the moderating impact of the *ambivalence of the issue* itself, and *individuals' involvement with the issue* on the effectiveness of refutational versus non-refutational two-sided messages. This leads to our third and fourth research question:

RQ 3: What is the impact of issue ambivalence on the effectiveness of refutational and non-refutational two-sided messages in creating resistance against counterpersuasion?

RQ 4: What is the impact of individuals' involvement with the issue on the effectiveness of refutational and non-refutational two-sided messages in creating resistance against counterpersuasion?

4.2.2 Credibility

One of the most amply documented effects in two-sided message literature, is the superiority of two-sided messages over one-sided messages in terms of credibility (Golden & Alpert, 1987; Kamins, 1989; Kamins et al., 1989; Kamins & Marks, 1987; Settle & Golden, 1974; Smith & Hunt, 1978; Stayman et al., 1987; Swinyard, 1981). The main premise of attribution theory (Jones & Davis, 1965) is that two-sidedness (as opposed to one-sidedness) is crucial to enhance source and message credibility. Yet, apart from this premise, attribution theory provides no clear prescriptions concerning the message structure (Crowley & Hoyer, 1994). In other words, it does not clarify whether a two-sided message should be refutational or non-refutational in order to maximize credibility (Crowley & Hoyer, 1994). Moreover, empirical studies have shown mixed results regarding the effectiveness of refutation in two-sided messages. Kamins and Assael (1987) obtained equal credibility effects for both the refutational and the non-refutational two-sided message. These mixed results demonstrate the dissension concerning the need for refutation. Therefore, more research is needed to identify moderating variables. The moderators studied to date are mainly message structure variables (e.g., the amount of negative information, the importance of negative attributes, etc.) or receiver characteristics (e.g., prior attitude) (Eisend, 2006), while issue-related and message-related variables have been neglected so far. This dissertation addresses the moderating role of issue ambivalence and argument content on the credibility effects of refutational versus non-refutational two-sided messages. Hence, our fifth research question is:

RQ 5: What is the moderating impact of issue ambivalence and different arguments on the credibility effects of refutational and non-refutational two-sided messages?

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Dissertation Outline

In order to answer these research questions and contribute to a broader and more solid theoretical framework of two-sided messages in the field of social marketing, this dissertation comprises five empirical chapters. Each of these chapters contains one or more studies. These studies consist of between-subjects experimental designs with one or more factors, each factor manipulated at two or three levels.

GENERAL RESEARCH AIM: PERSUASIVE EFFECTS OF TWO-SIDED SOCIAL MARKETING MESSAGES

RESEARCH OBJECTIVE 1: ARGUMENTS

	<i>Research question</i>	<i>Chapter</i>	<i>Main theoretical framework</i>
Content	RQ 1: health / appearance	Chapter 2	Elaboration likelihood model
	RQ 2: cognitive / affective	Chapter 4	Optimal arousal theory
Frame	RQ3: prevention / promotion	Chapter 3	Elaboration likelihood model Self-regulatory focus theory

RESEARCH OBJECTIVE 2: REFUTATION

	<i>Research question</i>	<i>Chapter</i>	<i>Main theoretical framework</i>
Counter-persuasion	RQ 4: issue ambivalence	Chapter 4	Inoculation theory
	RQ 5: involvement	Chapter 5	Inoculation theory
Credibility	RQ 6: cognitive / affective Issue ambivalence	Chapter 6	Attribution theory

Table 1: Overview of the dissertation.

Chapter two, “*Being healthy or looking good? The effectiveness of health versus appearance-focused arguments in two-sided messages*”, encompasses two experimental studies that test the effectiveness of health versus appearance-focused arguments in two-sided messages. Chapter two aims to answer research question one. The first study in this chapter focuses on discouraging excessive suntanning. The results of the first study show that two-sided messages attract more attention and generate a higher message content recall than one-sided messages. Additionally, in these two-sided messages, appearance-focused arguments are more effective than health-focused arguments in achieving reduced intentions to sun tan. Study 2 elaborates on the mechanism underlying the effectiveness of health versus appearance-focused arguments in two-sided messages. To extend the generalization of the results, study 2 investigates two-sided messages to promote physical exercise. The results show that the effectiveness of health versus appearance-focused arguments in two-sided messages depends on the motivation of the consumers: for health-motivated consumers, a health-focused message is more effective, whereas for appearance-motivated consumers, an appearance-focused message is more effective. This matching effect is mediated by argument relevance.

Chapter three, “*Regulatory congruence effects in two-sided advertising: The mediating role of processing fluency and processing depth*”, also contains two experiments, addressing research question two. In this chapter, the principle of regulatory congruence is tested in two-sided advertising messages. Study 1 shows that in two-sided messages the effect of regulatory congruence depends on individuals’ self-regulatory focus. A congruence effect is only found in promotion-focused individuals. This congruence effect is driven by processing fluency. The second experiment explores the absence of a congruence effect found in prevention-focused individuals. The results of the latter show that processing depth influences regulatory (in)congruence effects in two-sided messages in prevention-focused individuals. Under peripheral processing, prevention-focused individuals prefer two-sided messages that are congruent with their self-regulatory focus. Under central processing, on the other hand, a regulatory incongruence effect occurs. Theoretical and practical implications are provided.

Chapter four, “*Two-sided messages for health risk prevention: The role of argument type, refutation and issue ambivalence*”, comprising two experiments, tests the effectiveness of two-sided binge drinking and marijuana prevention messages in relation to argument type, refutation, and issue ambivalence. In this chapter, both research question one and three are addressed. The results of study 1 show that two-sided anti-binge drinking messages are perceived as more novel and attract more attention among adolescents than one-sided messages. Furthermore, issue-relevant affective arguments are preferred over less issue-relevant cognitive arguments. The second study elaborates on the first study. The results show that when the issue is univalent, refutation is not necessary. When the issue is ambivalent, however, refutation is more effective than non-refutation. Implications for health practitioners, as well as limitations and suggestions for further research are given.

Chapter five, “*The impact of message sidedness on adolescents’ binge drinking intentions after peer pressure: The moderating role of issue involvement*”, comprises a 3 x 2 between-subjects factorial experimental design. This chapter aims to answer research question four. This study investigates the effect of three different anti-binge drinking messages (i.e., one sided, two-sided non-refutational, and two-sided refutational) on strongly and weakly issue-involved adolescents’ binge drinking intentions after exposure to peer pressure. A sample of 185 adolescents between the age of 15 and 19 participated in the experiment. The results show that when adolescents’ involvement with binge drinking is strong, a two-sided non-refutational as well as refutational message result in significantly lower binge drinking intentions than a one-sided message. When adolescents’ involvement with binge drinking is weak, binge drinking intentions are not influenced by message sidedness.

Chapter six, “*Credibility effects of (non-)refutational two-sided health messages: The moderating role of issue ambivalence and argument type*”, addresses research question five. It investigates the impact of the presence versus absence of refutation (i.e., a refutational versus a non-refutational two-sided message) on source credibility, message credibility, attitude toward the message, attitude toward the issue, and behavioral intentions. Issue ambivalence and argument type are taken into account as moderating variables of the credibility effects

of refutation. The results of this experiment show that, in the context of health risk prevention, a refutational two-sided message is generally more credible than a non-refutational two-sided message. However, the need for refutation further depends on two moderating variables, namely issue ambivalence and argument type.

Finally, chapter seven will recapitulate the main findings of the dissertation, and discuss these findings in the light of the broader theoretical framework of two-sided messages. In this final chapter, we will present the main theoretical contributions of this dissertation, followed by the practical implications of our results. Next, we will delineate the limitations of this dissertation, followed by useful suggestions and directions for further research.

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Chapter 2

**Being healthy or looking good?
The effectiveness of health versus
appearance focused arguments
in two-sided messages**

Chapter 2 is published as “Cornelis, E., Cauberghe, V., De Pelsmacker, P. (2013). Being healthy or looking good? The effectiveness of health versus appearance-focused arguments in two-sided messages. *Journal of Health Psychology*, in press.”

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The first study of chapter 2 was presented as “Cornelis, E., Cauberghe, V., De Pelsmacker, P. (2012). Health versus appearance focus in one- versus two-sided messages discouraging suntanning. The 11th International Conference on Research in Advertising (ICORIA), June 28th-30th 2012, Stockholm, Sweden”.

The first study of chapter 2 was nominated for the ‘Best PhD student paper award’ at 11th ICORIA, June 28th-30th 2012, Stockholm, Sweden, for the paper: “Cornelis, E., Cauberghe, V., De Pelsmacker, P. (2012). Health versus appearance focus in one- versus two-sided messages discouraging suntanning”

Two experimental studies test the effectiveness of health versus appearance-related arguments in two-sided messages. The first study shows that two-sided messages to discourage suntanning are more effective when using appearance-focused instead of health-focused arguments. Study 2 elaborates on the underlying mechanism and extends the generalization of the results of the first study, by investigating two-sided messages to promote physical exercise. The results show that for health-motivated consumers, a health-focused message is more effective, whereas for appearance-motivated consumers, an appearance-focused message is more effective. This matching effect is mediated by argument relevance.

Keywords:

advertising, appearance,
effectiveness, exercise, health,
suntanning, two-sided messages

1 /

Introduction

Despite the widespread awareness of the negative consequences of unhealthy behavior, few people act upon it. For instance, suntanning is still a common practice in western countries (Heckman et al., 2009). Suntanning increases the risks of skin cancer and photo-aging (Hoegh et al., 1999; Hwang et al., 2012; Turrisi et al., 1998). Consistent findings across studies show that most people have sufficient knowledge of these risks, but this knowledge does not always transfer into behavioral intentions to limit UV exposure (Arthey & Clarke, 1995). This discrepancy between people's knowledge of health risks and their actual willingness to make behavioral changes is also noticeable for other behaviors, such as physical exercise. Many people do not include exercise in their daily routine, although it is widely known that a multitude of Western diseases can be ascribed to a sedentary lifestyle (Wilson et al., 2012). Lack of exercise can result in psychological distress (McHugh & Lawlor, 2012), obesity, and type 2 diabetes (Page et al., 2005; Wilson et al., 2012). Often, individuals engage in unhealthy behaviors such as suntanning or omitting exercise, because they weigh the benefits of the unhealthy behavior versus the hurdles to perform the healthy behavior. For instance, suntanning is often done because people believe their appearance benefits from a tanned skin, and people might not want to exercise because they dislike sweating. These perceived benefits of the unhealthy behavior can impede a positive behavioral change.

Given the importance that individuals attach to these perceived benefits of unhealthy behavior, it might be effective to use a message strategy that

takes them into account, alongside the negative consequences of unhealthy behavior. This message strategy is called two-sided messages. Two-sided messages are messages in which the communicator not only mentions arguments supporting its persuasive aim (e.g., to discourage suntanning or to promote exercise), but in addition, also mentions arguments that undermine this point of view (i.e., the perceived benefits of the unhealthy behavior). On the other hand, a one-sided message is a message that presents only those arguments in favor of the communicator's proposition (Allen, 1991). Ample studies have found that two-sided messages can be more effective than more traditional one-sided messages (Crowley & Hoyer, 1994; Pechmann, 1992). One of the foremost advantages of two-sided messages is the attention grabbing effect they have, since it is unexpected that a communicator reveals counterarguments for his own message. Several studies, based on dual processing models such as the elaboration likelihood model (Petty & Cacioppo, 1986), found that two-sided messages attract more attention than one-sided messages (Crowley & Hoyer, 1994; Eisend, 2007). Hence, two-sided messages generally induce a greater motivation to process the message thoroughly than their one-sided counterparts (Crowley & Hoyer, 1994; Eisend, 2007). However, few studies have looked deeper into the further effects this enhanced attention and deeper processing of two-sided messages might have, for instance in terms of the focus on message content, and how the specific arguments used in the message impact message evaluations. Eisend (2007) found a direct positive effect of enhanced processing motivation on overall message evaluations. However, enhanced processing motivation does not always automatically lead to more positive evaluations of a message, but can also result in negative reactions toward the message (Eisend, 2007). Given that a two-sided message's content is more thoroughly scrutinized than a one-sided message's content, the relevance of the arguments used in the message is expected to be more influential in a two-sided message than in a one-sided message. So, it remains unclear when and how this enhanced processing depth in two-sided messages affects message evaluations positively, and which role different message arguments play.

This research question is addressed in the present study. We investigate whether the enhanced attention to two-sided messages also implies a stronger

focus on message arguments, and – subsequently – how different message arguments (i.e., health versus appearance-focused) impact behavioral intentions (study 1, the intention to decrease suntanning) and overall message evaluations (study 2, attitude toward the message to encourage exercising).

The message arguments in this study are either appearance or health-focused. Most of the health risk prevention literature focuses on health-related instead of appearance-related arguments to provoke behavioral or attitudinal changes (Heckman et al., 2009). However, more recent studies show that health risk prevention campaigns solely focusing on health aspects (such as skin cancer, risk of obesity, etc.) instead of appearance aspects (such as wrinkles, looking bad, etc.), may fall short (Heckman et al., 2009). Appearance aspects also play an important role in the effectiveness of health campaigns (Hevey et al., 2010). In the first study we compare one- versus two-sided messages that discourage suntanning. In addition, we manipulate the pro and con message arguments as either health or appearance-focused. We investigate the effectiveness of health versus appearance-focused one- and two-sided messages on individuals' intentions to suntan. We found a matching effect between message arguments and individuals' general motivations.

The second study focuses on two-sided messages promoting physical exercise. Study 2 investigates whether the effectiveness of health versus appearance-focused arguments in two-sided messages is moderated by individuals' health versus appearance orientation. This way, we can check whether the matching effect also holds across individual differences in motivations (health versus appearance) in two-sided messages. Hence, besides our manipulation of the arguments (health versus appearance-focused) in the two-sided messages, we also measured individuals' primary motives for exercising (health versus appearance motivations). Additionally, the aim of study 2 is to look deeper into the mechanism underlying the effectiveness of health versus appearance-focused arguments in two-sided messages, by investigating the mediating effect of argument relevance.

2 /

Study 1: **Discouraging** **Sun Tanning**

2.1 Theory and hypotheses development

Ample previous studies comparing one- versus two-sided messages are based on dual processing theories, such as the elaboration likelihood model by Petty and Cacioppo (1986) (Eisend, 2007). The elaboration likelihood model (Petty & Cacioppo, 1986) describes two ways of message evaluation based on the extent to which arguments are processed. Central processing involves elaboration of the message through extensive processing of the relevance of the message arguments, whereas peripheral processing requires less attention, thought or scrutiny of the message. Based on this theory, two-sided messages – incorporating both sides of an issue – motivate individuals to pay more attention to the message content (Eisend, 2006, 2007), whereas one-sided messages result in relatively less attention toward the message (Crowley & Hoyer 1994). Eisend (2006) confirms these expectations in his meta-analysis. Hence, we expect that a two-sided anti-suntanning message attracts more attention than a one-sided anti-suntanning message.

Previous research established that two-sided messages are more likely to trigger elaborate, in-depth processing than one-sided messages (Crowley & Hoyer, 1994; Eisend, 2006; Faison, 1961). Two-sided messages lead to deeper message scrutiny and a more accurate focus on the message content than one-sided messages (Crowley & Hoyer, 1994; Eisend, 2006; Faison, 1961; Kamins & Assael, 1987). Hence, because of this deeper message scrutiny,

message content will be remembered better when the message is two-sided instead of one-sided.

Under conditions of more elaborate message processing, individuals are more likely to engage in issue-relevant thinking by carefully evaluating the arguments in the message (Petty & Cacioppo, 1984). Hence, when the message is two-sided instead of one-sided, more emphasis is put on the particular arguments in the message (Crowley & Hoyer, 1994; Eisend, 2006). In other words, since a two-sided message's content is more thoroughly scrutinized than a one-sided message's content, the relevance of the arguments used in the message is expected to be more influential in a two-sided message than in a one-sided message.

The present study addresses appearance versus health-focused arguments about suntanning. The relevance of message arguments depends on the particular motive underlying the behavior or the issue at hand (Pham, 1998). Several studies have shown that suntanning is primarily driven by appearance rather than health motivations (Heckman et al., 2009; Jones & Leary, 1994; Turrisi et al., 1998). For instance, ample Western studies have found that individuals with a high appearance motivation are generally more prone to risky suntanning behavior than individuals with a low appearance motivation (Leary et al., 1997; Heckman et al., 2009). Leary et al. (1997) found that high appearance motivated respondents most strongly endorsed the importance of having a tan, spent more time in the sun, were least likely to use sunscreen and were more likely to use tanning beds (Leary et al., 1997), implying that the appearance reasons are more important than health reasons for individuals to suntan.

If suntanning is inherently driven by appearance motives, rather than health motives, appearance-focused arguments will be more relevant, and thus more effective, than health-focused arguments. In other words, we expect a matching effect: appearance arguments are more effective than health arguments, because appearance arguments match with the general underlying motives for suntanning. We expect this matching effect to have a higher impact for two-sided versus one-sided messages, since two-sided message attract more

attention and are more likely be processed intensively. This intense processing makes the relevance of message arguments more prevalent. Hence, we expect:

H1 When an anti-suntanning message is two-sided, an appearance focus leads to lower intentions to suntan than a health focus. This effect is less strong when an anti-suntanning message is one-sided.

2.2 Method

2.2.1 Design and stimuli

In a 2 x 2 between-subjects factorial design, we manipulated message sidedness (one-sided versus two-sided) and argument focus (health versus appearance). Message sidedness was manipulated through the use of different arguments: one argument against suntanning (cf. one-sided message) versus the combination of one argument against and one argument in favor of suntanning (cf. two-sided message). The two-sided message offers a pro and a con argument: “*Suntanning helps to maintain vitamin D levels, but causes skin cancer*” (health-focused arguments) and “*Suntanning gives you an attractive tanned skin, but causes wrinkles*” (appearance-focused arguments). The one-sided messages only offers the con argument: “*Suntanning causes skin cancer*” (health-focused arguments) and “*Suntanning causes wrinkles*” (appearance-focused arguments). Apart from the manipulations, the four ads were the same. The arguments were written in a white font on a black background, without images. In the lower right corner, a logo of a fictitious organization called ‘Association against UV damage’ was placed. We used a fictitious organization in order to prevent any confounding effects of previous familiarity with the organization.

2.2.2 Pretest of the stimuli

The stimuli were pretested among 80 respondents. In line with previous studies (Eisend, 2006), message sidedness was measured by means of one item on a seven-point semantic differential scale (“*This message only gives arguments against suntanning*” versus “*This message gives arguments against suntanning but also considers the arguments in favor of suntanning*”). The perceived

appearance (versus health) focus of the message was measured by one item on a seven-point semantic differential scale in analogy with previous studies (Jones & Leary, 1994) (i.e., “*This message emphasizes the effects of suntanning on one’s health*” versus “*This message emphasizes the effects of suntanning for one’s appearance*”). The results of the pretest show that the respondents rated the two-sided message ($M = 6.49$) as more two-sided than the one-sided message ($M = 1.45$) ($t(77) = 20.75, p < .001$). The appearance-focused message ($M = 6.77$) scored significantly higher than the health-focused message ($M = 1.50$), ($t(77) = 29.99, p < .001$) on a seven-point appearance (versus health) scale, with lower scores indicating more health focus and higher scores indicating more appearance focus.

2.2.3 Participants and procedure

The data were collected by means of an online questionnaire, using the snowball method. First, fifty respondents of varying age received an e-mail invitation to participate in the study, containing a link to the online questionnaire. These respondents were asked to forward the e-mail to friends and acquaintances, hence the sample composition was based on the snowball method. This way, we aimed to target a wide age range. The end result of this sampling process was a convenience sample of 304 subjects (69.5 % females, $M_{\text{age}} = 30.96$, age range 18–65 years). The study deliberately targeted a wide age range, as suntanning is not limited to a certain age group.

Prior to exposure to one of the stimuli, the following variables were measured: respondents’ appearance and health focus (as a personality trait), the attitude toward suntanning and involvement with suntanning. Next, each respondent was randomly and individually exposed to one of the four stimuli. Subsequently, they completed the questionnaire, containing the manipulation check, followed by the dependent variables (i.e., attention to the message, recall of the message content, and intentions to suntan), age and gender. Finally, they were debriefed and thanked for their cooperation.

2.2.4 Measures

Message sidedness and the perceived appearance (versus health) focus of the

message were measured by the same scales used in the pretest of the stimuli (see before). Respondents' self-reported attention toward the message was assessed by five items on a seven-point Likert scale (Laczniak et al., 1989) (e.g., "I paid a lot of attention to the message.") ($\alpha = .88$). Message content recall was measured by means of an open question in which the respondents were asked to list all content they remembered from the message. An independent researcher coded the open answers ranging between 1 (*nothing correctly remembered*) and 7 (*all content correctly remembered*). Prior attitude toward suntanning, prior involvement with suntanning, health focus and appearance focus were measured to test the underlying assumption that suntanning is generally done for appearance rather than health motives. Prior attitude toward suntanning was measured by means of a six-item seven point semantic differential scale (e.g., "I think suntanning is negative versus positive") (Burgoon et al., 1978) ($\alpha = .94$). Prior involvement with suntanning was measured by four items on a seven point Likert scale by Beatty and Talpade (1994) (e.g., "I generally have a strong interest in suntanning") ($\alpha = .88$). Respondents' health and appearance focus was measured by means of two separate subscales (Lawrence et al., 2006), because individuals can be classified as either relatively more health-focused, relatively more appearance-focused, neither, or both. The health focus subscale contained eight items on a seven-point Likert scale (e.g., "I am worried about health risks and take preventive action") ($\alpha = .79$). The appearance focus subscale contained nine items on a seven-point Likert scale (e.g., "My looks are important to me") ($\alpha = .87$). Intention to suntan was measured by means of three items on a seven-point semantic differential scale (Zhang & Buda, 1999) (e.g., "How likely is the chance you will suntan?" ranging from 1 (*very unlikely, not probable*) to 7 (*very likely, very probable*) ($\alpha = .97$).

2.3 Results

2.3.1 Manipulation checks

A manipulation check shows that the appearance messages ($M = 4.70$, $SD = 2.07$) are considered more appearance (versus health) focused than the health messages ($M = 2.28$, $SD = 1.59$), ($t(301) = 11.48$, $p < .001$). Furthermore, the

two-sided messages ($M = 5.65$, $SD = 1.54$) were perceived as more two-sided than the one-sided messages ($M = 2.41$, $SD = 1.56$), ($t(299) = 18.15$, $p < .001$).

2.3.2 Test of the underlying assumptions

The results of two independent samples t-tests showed that a two-sided message ($M = 4.55$, $SD = 1.14$) attracted more attention than a one-sided message ($M = 3.85$, $SD = 1.33$), ($t(298) = 4.89$, $p < .001$), and that a two-sided message ($M = 4.69$, $SD = 1.51$) generated a higher message content recall than a one-sided message ($M = 3.83$, $SD = 1.85$), ($t(302) = 4.43$, $p < .001$).

Next, we tested the assumption that suntanning is driven by appearance motivations rather than health motivations, by means of Pearson correlation analyses. A positive prior attitude toward suntanning was positively correlated with individuals' appearance focus ($r(293) = .22$, $p < .001$), while it was negatively correlated with a health focus ($r(295) = -.22$, $p < .001$). High involvement with suntanning was also positively correlated with individuals' appearance focus ($r(293) = .25$, $p < .001$), while it was uncorrelated with a health focus ($r(300) = .039$, $p = .507$). Hence, suntanning was generally more associated with appearance than health motivations.

2.3.3 Hypotheses testing

Hypothesis 1 was assessed through a two-way analysis of variance (ANOVA) with the intention to suntan as the dependent variable and message sidedness and argument focus as the independents. The results showed a significant interaction effect between message sidedness and argument focus on the intention to suntan ($F(1,290) = 4.266$, $p = .040$). Respondents indicated a lower intention to suntan when they were given an appearance-focused two-sided message ($M = 2.88$, $SD = 2.11$) than a health-focused two-sided message ($M = 3.71$, $SD = 2.08$), $t(144) = 2.39$, $p = .018$), while for a one-sided message, no significant difference in behavioral intentions to suntan was found ($M_{appearance} = 3.78$, $SD_{appearance} = 1.99$ versus $M_{health} = 3.61$, $SD_{health} = 2.12$, $t(143) = .522$, $p = .603$). Hypothesis 1 is supported.

2.4 Discussion

The results of study 1 show that two-sided anti-suntanning messages attract more attention and generate a higher message content recall than one-sided messages. These findings confirm previous message sidedness research based on the elaboration likelihood model (Petty & Cacioppo, 1986) in that two-sided messages are generally processed in a more central way than one-sided messages (Allen, 1991; Crowley & Hoyer, 1994). Due to this enhanced focus on message content, we found a matching effect in two-sided messages: appearance arguments are more effective than health arguments, because appearance arguments match with the general underlying motives for suntanning. Most people suntan because of appearance reasons (Arthey & Clarke, 1995; Clarke & Korotchenko, 2009) making appearance arguments assumingly more relevant and thus, more effective in lowering individuals' behavioral intentions to suntan.

We assume that the superiority of appearance arguments over health arguments in two-sided messages is driven by a higher argument relevance, as a consequence of the central processing of two-sided messages. However, we did not measure argument relevance in the first study. In order to verify this assumption, we conducted a second study in which we investigate the mediating role of argument relevance. Specifically, in the second study we focus solely on two-sided messages, as the first study shows a matching effect only in two-sided messages.

Furthermore, the results in study 1 may be issue-dependent: given the fact that suntanning is mainly driven by appearance (rather than health) motivations, appearance-focused arguments may be more effective than health-focused arguments in two-sided messages for anti-suntanning messages. In order to generalize our findings, in the second experiment we assess the impact of message relevance for behavior that can be done for health as well as for appearance reasons, depending on individuals' motivations. Hence, in our second study, we focus on promoting the issue of physical exercise, and we measure individuals' health or appearance motivations. This way, we can check whether the match effect also holds across individual differences in motivations in two-sided messages.

3 /

Study 2: Stimulating Physical Exercise

3.1 Theory and hypotheses development

In the second study we set up an experiment investigating the effectiveness of health versus appearance-focused arguments in two-sided messages to promote physical exercise. The aim of our second study is twofold: (1) First, we aim to generalize our findings to issues other than tanning. Tanning is mainly driven by appearance-focused motivations. The second study focuses on a different issue, namely physical exercise, and takes into account the individual differences in motivation (health versus appearance). This way, we can check whether the match effect also holds across individual differences in motivations in two-sided messages. (2) Second, we aim to test the mechanism underlying the matching effect found in study 1. We assumed that the superiority of appearance arguments over health arguments for the issue of tanning was driven by argument relevance (i.e. the match between the primary motivation and the message arguments). Hence, in this experiment, we include argument relevance as a possible mediator of the effect of argument focus in two-sided messages.

Given that two-sided messages generally induce a more thorough focus on message content (Crowley & Hoyer, 1994; Eisend, 2007), individuals are more likely to carefully evaluate the arguments in the message (Petty & Cacioppo, 1984). Thus, we expect argument relevance to be a crucial factor in determining overall message evaluations. Whether the arguments in the message will be considered

as relevant or not, depends on individuals' motives (Pham, 1998). For an individual who is relatively more health-focused, health-focused arguments are more relevant than appearance-focused arguments, leading to a more positive effect of a two-sided message containing health-focused arguments. Conversely, individuals who are relatively more appearance-focused consider appearance-focused arguments in a two-sided message to be more relevant, and therefore react more positively to them than to health-focused arguments. This matching effect is expected to be driven by argument relevance.

H2a For appearance motivated individuals, a two-sided message with appearance-focused arguments will lead to a more favorable attitude toward the message than a two-sided message with health-focused arguments, whereas the reverse will be true for health motivated individuals.

H2b This matching effect on the attitude toward the message is mediated wby argument relevance.

3.2 Method

3.2.1 Design and stimuli

Argument focus (health versus appearance) in the message was manipulated in a two-sided message, whereas subjects' individual health versus appearance motivation to exercise was measured. The two-sided message contained one argument in favor of exercise and one argument against exercise. As in study 1, the focus of the arguments was manipulated by the type of arguments chosen: “*Exercise can lead to sore muscles, but it keeps your body healthy*” (health-focused arguments) and “*Exercise makes you look sweaty and dirty, but it keeps your body nicely toned*” (appearance-focused arguments). Apart from the manipulations, the two messages were the same. The arguments were written in a white font on a black background, without images, similar to the stimuli in study 1. In the lower right corner, a logo of a fictitious organization called ‘Sports Association Flanders’ was placed. As in study 1, we used a fictitious organization to prevent any confounding effects due to familiarity with the organization.

3.2.2 Pretest of the stimuli

The stimuli were pretested with 29 respondents. The same argument focus scale as in study 1 was used. The results show that the appearance-focused message ($M = 6.06$, $SD = 1.16$) scored significantly higher on the seven-point health versus appearance scale than the health-focused message ($M = 2.27$, $SD = .91$), ($t(27) = -9.21$, $p < .001$).

3.2.3 Participants and procedure

A total of 164 subjects participated in the main study (54.9 % females, $M_{age} = 29.25$, age range 15-61 years). Again, the study deliberately targeted a wide age group, because physical exercise is not limited to a certain age group. The participants were randomly assigned to one of the two experimental conditions. The sampling procedure was the same as in study 1. The first fifty respondents (different from the respondents in study 1) received an e-mail invitation to participate in the study, containing a link to the online questionnaire. They were asked to forward the e-mail to friends and acquaintances. Prior to exposure to one of the two stimuli, we measured respondents' health versus appearance motivations. Next, each respondent was randomly and individually exposed to one of the two stimuli. Subsequently, they completed the questionnaire, containing the manipulation check, followed by the mediator (i.e., argument relevance) and the dependent variable (i.e., attitude toward the message), age and gender. Finally, they were debriefed and thanked for their cooperation.

3.2.4 Measures

The same measurement scales as in study 1 were used to measure perceived appearance (versus health) focus of the message and respondents' health and appearance focus. Argument relevance was measured by three items on a seven-point Likert scale, based on Muehling et al. (1990) ($\alpha = .92$) (e.g., "*The arguments in the message were irrelevant versus relevant*"). Attitude toward the message was measured by means of four items on a seven-point semantic differential scale (Holbrook & Batra, 1987) (e.g., "*I like versus I dislike the message*") ($\alpha = .95$).

3.3 Results

3.3.1 Manipulation check

A manipulation check shows that the appearance message ($M = 5.72$, $SD = 1.09$) is considered more appearance (versus health) focused than the health message ($M = 2.28$, $SD = 1.43$), ($t(162) = -17.20$, $p < .001$).

3.3.2 Hypotheses testing

To test the matching effect in hypothesis 2a, we first conducted a regression analysis. We found a significant interaction effect between argument focus and individuals' motives ($\beta = .41$, $t(163) = 3.44$, $p < .001$) on the attitude toward the message. Next, to test the mediated moderation assumption stated in hypothesis 2b, the Preacher and Hayes Bootstrap test to estimate indirect effects in mediation models was used, since it produces more robust results for small samples than the Sobel test (Zhao et al., 2010). The interaction effect between argument focus and individuals' motives on argument relevance was significant ($\beta = .229$, $p = .0032$). Additionally, the effect of argument relevance on the attitude toward the message was significant ($\beta = .757$, $p < .001$). The direct effect of the interaction between argument focus and individuals' motives on the attitude toward the message was not significant when argument relevance was entered as mediator ($\beta = .155$, $p = .07$). The Bootstrap analysis indicated a significant indirect interaction effect of argument focus and individuals' motives on attitude toward the message ($\beta = .275$, 95% $CI = .101$ to $.462$) through argument relevance. These results support H2a and H2b.

3.4 Discussion

The results of the second study show a matching effect between argument focus and individuals' motivations on the attitude toward the message. For appearance motivated individuals, a two-sided message with appearance-focused arguments leads to a more favorable attitude toward the message than a two-sided message with health-focused arguments, whereas the reverse is true for health motivated individuals.

Additionally, study 2 unravels the underlying mechanism driving this matching effect, that is, argument relevance. Since two-sided messages generally induce a thorough focus on message content (Crowley & Hoyer, 1994; Eisend, 2007), individuals are more likely to carefully evaluate the arguments in the message (Petty & Cacioppo, 1984). Whether the argument focus in the message will be considered as relevant or not, depends on individuals' motives (Pham, 1998). Health-focused individuals prefer health-focused arguments (instead of appearance-focused arguments) in a two-sided message, because these arguments are more relevant to them. Similarly, appearance-focused individuals preferred appearance-focused arguments (instead of health-focused arguments), as those are more relevant to them.

4 /

General Discussion And Conclusions

Based on the elaboration likelihood model (Petty & Cacioppo, 1986), the present study investigated the effectiveness of health and appearance-focused arguments in one- and two-sided messages. Previous literature has demonstrated that two-sided messages generally induce a greater motivation to process the message thoroughly than their one-sided counterparts (Crowley & Hoyer, 1994; Eisend, 2007). However, those studies omitted to look deeper into the further effects of this deeper message content processing. Our study goes beyond prior research by addressing how the specific arguments used in the two-sided message impact message evaluations and behavioral intentions.

Our study shows that two-sided messages attract more attention than one-sided messages, generating a better content recall. These results align with previous literature stating that two-sided messages are generally processed in a more thorough manner than one-sided messages (Crowley & Hoyer, 1994).

Additionally, we found that, as a result of this enhanced focus on message content, argument relevance is important for the a two-sided message to be effective. Study 1 shows that for the issue of suntanning, which is generally more appearance than health motivated behavior (Heckman et al., 2009), appearance-focused arguments in two-sided messages lead to lower intentions to suntan than health-focused arguments. The results of our second study support the notion that the matching effect between argument focus and individuals' orientations in two-sided messages is driven by argument relevance.

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Theoretical Contributions

The added value of our study is threefold. First, our study goes beyond prior research in that it looks deeper into the further effects of processing a two-sided message in-depth. Deeper message processing influences the degree to which individuals focus on the message content, and subsequently, how the specific arguments used in the message impact message evaluations. Second, our study unravels the underlying mechanism that drives the matching effect between message arguments and personal motivations for the issue at hand. By addressing argument relevance as a mediating variable of the matching effect, our study adds to the literature field.

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Practical Implications

One of the implications of this study for health prevention practitioners is that two-sided messages should be implemented with caution: as the likelihood of more profound processing increases with two-sided messages, argument relevance becomes more important. Hence, when using two-sided message formats, practitioners should pay close attention to the relevance of the arguments they use for the issue at hand, even more so than when using one-sided messages.

In order to choose relevant arguments, practitioners should obtain profound knowledge of their target group's motivations. When health marketers take into account certain characteristics of their target group (e.g., health or appearance motivation), they can decide which arguments to use to achieve the most optimal message effectiveness. In other words,

individual differences in motivation can be used to segment an audience and to position health campaigns accordingly (Adams, Faseur & Geuens, 2011). In case the motivations of the target group are unknown to policymakers, other variables could serve as substitutes. For instance, age can be related to health versus appearance focus: often, older people are more preoccupied with their health, whereas younger people might be more appearance oriented. In our sample, there was indeed a significant negative correlation between age and orientation ($r = -.210$, $p = .007$), in that younger individuals are generally more appearance-focused whereas older people are generally more health-focused. Another option for marketers is priming. For instance, by exposing the target group beforehand to a message that focuses on the importance of looks (to activate an appearance focus) versus the importance of health (to activate a health focus), the target group can be brought in a specific mindset of appearance or health focus. Priming could be done through accurate media planning or programming: for instance, by placing the health campaign directly after a medical television drama series versus a beauty make-over program, the audience can be induced to be more in a health versus appearance-focused mindset. Hence, when striving for maximum message effectiveness, this study underscores the importance of taking into account receiver related factors (motivations, age, etc.) prior to actual design of the health campaign.

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Limitations And Further Research

In the present study, processing depth of a two-sided message is measured by means of two variables, namely self-reported attention to the message and message content recall. These two concepts serve as a double-check to measure how much attention the individual has paid to the message content and how thoroughly it has been processed. However, in order to be able to make solid conclusions about the central versus peripheral processing of a message, other dependents than survey items could be included. This limitation could be overcome in further research, for instance by doing eye-tracking research and thought-listing methods.

Another limitation of this study is that the first experiment dealt with discouraging negative, unhealthy behavior (i.e., suntanning), whereas the second experiment dealt with promoting positive, healthy behavior (i.e., physical exercise). Further research could directly compare both in order to check if there are any relevant differences in the effectiveness of health campaigns for both behaviors. Additionally, further research could design a message in which both an appearance and a health focus are mixed, or in which different arguments are tested (e.g., consummatory versus instrumental motives, time restraints, etc.).

Further research could also investigate the effectiveness of promoting alternative behaviors, such as using self-tan creams (to avoid skin cancer or wrinkles in the case of suntanning), or doing mild exercise (to avoid muscle damage or excessive sweating in the case of physical exercise). According to the theory of alternative behavior (Jaccard, 1981), attitude changes are optimal when alternatives are given for the discouraged behavior.

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Chapter 3

**Regulatory congruence effects
in two-sided advertising:
the mediating role of processing
fluency and processing depth**

Chapter 3 is currently under revision (in third review round) as “Cornelis, E., Cauberghe, V., De Pelsmacker, P. Regulatory congruence effects in two-sided advertising: The mediating role of processing fluency and processing depth. *European Journal of Marketing*.”

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This study contributes to previous research by investigating the principle of regulatory congruence in two-sided advertising messages. Additionally, it addresses the underlying mechanisms of the congruence effect. Study 1 shows that in two-sided messages, the effect of regulatory congruence on attitudes toward the message depends on individuals' self-regulatory focus: a congruence effect was only found in promotion-focused individuals. This congruence effect was driven by processing fluency. The second study builds on the first one by exploring the absence of a congruence effect found in prevention-focused individuals. Its results show that in prevention-focused individuals, processing depth influences regulatory congruence effects in two-sided messages. Under peripheral processing, prevention-focused individuals have more positive attitudes toward the issue when two-sided messages are congruent with their self-regulatory focus. Under central processing on the other hand, a regulatory incongruence effect on attitudes occurs. These findings have several theoretical as well as practical implications.

Keywords:

two-sided messages,
regulatory focus theory,
processing fluency,
processing depth

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Introduction

The goal of this study is to investigate the effectiveness of regulatory congruence in two-sided advertising messages. Two-sided advertisements are persuasive messages in which the advertiser takes both sides of an issue or product into account, while actually still favoring one side of the argument (Hovland, 1951). By incorporating pro and con arguments into a two-sided advertising message, the advertisement becomes more complex than a conventional one-sided message. Due to its complexity, a two-sided message generally requires more attention of individuals in order to process the message content (Crowley & Hoyer, 1994; Eisend, 2007).

Up until now, most two-sided advertising research based on the elaboration likelihood model (Cacioppo & Petty, 1984) focused on the central (instead of peripheral) processing of two-sided messages. It has often been assumed that, generally, two-sidedness motivates individuals to pay more attention to the message, and to process the message with more effort than one-sided messages (Eisend, 2006). Additionally, based on the integrated model of two-sided persuasion effects (Crowley and Hoyer, 1994), two-sidedness in a message increases the motivation to process the message. However, Eisend's meta-analysis (2007) questions the validity of this assumption. Both routes of persuasion (i.e., peripheral and central) can occur in two-sided messages, depending on certain moderating variables (Eisend, 2007). For instance, receiver-related factors such as involvement with the issue (Eisend, 2008; Stayman et al., 1987; Hastak & Park, 1990; Chebat & Picard, 1985) or personality traits such as need for cognition (suggested by Eisend, 2006, 2007) can influence

whether a two-sided message is processed centrally rather than peripherally. However, studies focusing on these moderators have not been able to reach a consensus on this matter, as they have delivered mixed results. To address this problem, Florack et al. (2009) proposed another receiver-related variable as a potential moderator: individuals' self-regulatory focus. The results of their study have demonstrated that the processing depth – and subsequently, the effectiveness – of a two-sided message depends on the receivers' self-regulatory focus. Their study was based on regulatory focus theory (Higgins, 1997), which proposes two basic motivational systems: (a) a promotion focus (i.e., hopes and wishes, or the maximization of positive results) and (b) a prevention focus (i.e., responsibilities and duties, or the minimization of negative results). Individuals can be classified as relatively more promotion-focused, relatively more prevention-focused, neither, or both, depending on their dominant goal orientation (Higgins, 1997). Similarly, an advertising message can be framed as being either more promotion-focused (i.e., by emphasizing the achievement of positive results) or more prevention-focused (i.e., by emphasizing the avoidance of negative results). When the message frame matches (versus mismatches) the individual's self-regulatory focus, regulatory congruence (versus incongruence) occurs. It has been shown that individuals differing in their predominant self-regulatory focus process two-sided messages in different ways (Florack et al., 2009). Prevention-focused individuals tend to process the content of a two-sided message more thoroughly than promotion-focused individuals do (Florack et al., 2009). Promotion-focused individuals find it more difficult to process a two-sided message's content, so they need a way in which to increase processing fluency. One such manner to increase processing fluency is through framing the message as congruent with the receiver's self-regulatory focus (Lee & Aaker, 2004; Shen et al., 2009). However, Florack et al. (2009) did not take into account the message frame, so they could not test for regulatory congruence effects in two-sided messages.

The previous literature has shown that processing depth can explain regulatory (in)congruence effects. Regulatory focus studies have consistently found that the congruence effect only occurs when processing depth is rather shallow (Wang & Lee, 2002; Briley & Aaker, 2006), or when involvement and motivation to process are low (Aaker & Lee, 2006). For more central processing, no

regulatory congruence effects have been reported (Wang & Lee, 2002; Briley & Aaker, 2006). Therefore, if (a) individuals' self-regulatory focus impacts the processing depth of a two-sided message (Florack et al., 2009), and (b) processing depth influences regulatory congruence effects (Wang and Lee, 2002; Briley and Aaker, 2006), it might be interesting to examine whether individuals' self-regulatory focus influences regulatory congruence effects in two-sided messages. This general research question is addressed in the present study. It extends existing research on two-sided messages, as well as the research stream on regulatory focus.

Hence, the goal of this study is twofold. First, by means of two experiments, we aim to investigate whether individual differences in self-regulatory focus (which lead to differences in processing depth) impact the effectiveness of regulatory (in)congruence on attitudes toward two-sided advertising messages. Second, we intend to address the mechanisms underlying these regulatory (in)congruence effects by means of two explanations: processing fluency for promotion-focused individuals (study 1) and processing depth for prevention-focused individuals (study 2).

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Theory And Hypotheses Development

Ample studies have found support in proving regulatory congruence effects (Avnet & Higgins, 2003, 2006), but these studies are based on one-sided messages. Two-sided messages are inherently more complex than one-sided messages, because they incorporate both the arguments in favor and those against a certain product or issue (Eisend, 2007). Individuals differing in self-regulatory focus deal with this complexity of two-sided messages in distinctive ways (Florack et al., 2009). Prevention-focused individuals process a two-sided message more profoundly, because their high motivation to avoid a risky judgment leads to an increased reliance on the two-sided message's content (Florack et al., 2009). Promotion-focused individuals, on the other hand, are more likely to process a two-sided message in a peripheral way (Florack et al., 2009). This self-regulatory focus has repeatedly been shown to influence how a two-sided message is processed.

In turn, processing depth impacts regulatory (in)congruence effects. Several studies demonstrate that regulatory congruence effects only occur when processing is rather peripheral (Wang & Lee, 2006). In the case of central processing, no regulatory congruence effects have been reported (Briley & Aaker, 2006; Wang & Lee, 2006). In other words, it seems that peripheral processing is a prerequisite for regulatory congruence effects to occur. Therefore, based on the premise that individuals' self-regulatory focus influences the processing depth of a two-sided message, and given that processing depth influences regulatory congruence effects, we expect individuals' self-regulatory focus to affect whether regulatory congruence versus incongru-

ence is more effective in two-sided messages. In prevention-focused individuals, we do not expect a regulatory congruence effect to occur in two-sided messages, because they tend to process these messages in a central way. This enhanced processing depth will prevent congruence effects from occurring. Promotion-focused individuals, in contrast, engage in peripheral processing of a two-sided message (Florack et al., 2009). So, in these individuals we expect to find a regulatory congruence effect. Moreover, given the higher complexity of argumentation in a two-sided message, promotion-focused individuals – who are not naturally inclined to rely on message content – might need enhanced processing fluency to process the message. This processing fluency can be enhanced by regulatory congruence (Lee & Aaker, 2004; Shen et al., 2010). When a message frame is congruent (as opposed to incongruent) with individuals' self-regulatory focus, the message will be easier to process. This enhanced processing fluency will enable promotion-focused individuals to process a complex two-sided message, which could in turn influence subsequent evaluations, resulting in more favorable attitudes (Lee & Aaker, 2004). Thus, in promotion-focused individuals, we expect the regulatory congruence effect on attitudes to be mediated by processing fluency. Since prevention-focused individuals are naturally inclined to process the two-sided message more in depth (Florack et al., 2009), we expect that in prevention-focused individuals, the congruence effect will not take place and processing fluency will not mediate the effect of the message frame on attitudes. This reasoning allows us to formulate the following hypotheses:

H1a Promotion-focused individuals will indicate a more positive attitude toward the message when the two-sided message is promotion-focused (congruence) as opposed to prevention-focused (incongruence), whereas this regulatory congruence effect will not be apparent in prevention-focused individuals.

H1b In promotion-focused individuals, processing fluency mediates the effect of the message frame (prevention versus promotion) on the attitude toward the message.

In order to test whether the absence of regulatory congruence effects in two-sided messages in prevention-focused individuals is due to their deeper

processing of the message, we conducted a second experiment manipulating processing depth. The previous literature (on the topic of one-sided messages) has shown that processing depth can impact regulatory congruence effects. Regulatory focus studies have consistently found that congruence effects only occur when processing depth is rather shallow (Wang & Lee, 2002; Briley & Aaker, 2006), or when involvement and motivation to process are low (Aaker & Lee, 2006). In the case of more central processing, no regulatory congruence effects have been reported (Wang & Lee, 2002; Briley & Aaker, 2006). Accordingly, we expect a regulatory congruence effect to occur if we induce prevention-focused individuals to process a two-sided message peripherally. Conversely, we expect no regulatory congruence effect to occur when central processing of the two-sided message is induced. This leads us to our second hypothesis:

H2 When a two-sided message is processed peripherally, prevention-focused individuals indicate a more positive attitude toward the issue when the message is congruent (versus incongruent) to their self-regulatory focus. On the other hand, when the two-sided message is processed centrally by prevention-focused individuals, no congruence effect occurs.

3 /

Study 1: The Role Of Processing Fluency

3.1 Method

3.1.1 Design and stimuli

In a two-level between-subjects factorial experimental design, the message's frame (prevention versus promotion) was manipulated, while the respondents' chronic self-regulatory focus (prevention versus promotion) was measured. The aim of the advertising message was to promote fair trade products. We chose to apply our theory to the topic of fair trade for several reasons. First – theoretically – fair trade is a relevant topic to study in the context of two-sided messages, given the trade-off between the perceived advantages (e.g., ethical aspects) and the perceived disadvantages (e.g., higher price) of fair trade products. Studies have shown that consumers generally support the fair trade concept, while also perceiving certain disadvantages to fair trade products, such as the higher price compared to most regular products (De Pelsmacker et al., 2006). This duality makes fair trade a credible and relevant topic for this study on two-sided messages. Second, fair trade is relevant for society as a whole, as it encompasses an alternative, more ethical approach to trade, aiming for the sustainable development of excluded and/or disadvantaged producers (De Pelsmacker et al., 2006). Third, on a practical level, there is a strong need for more sophisticated advertising techniques in charity advertising (Chang & Lee, 2010). By investigating specific advertising techniques (i.e., message framing, two-sided messages) to increase positive attitudes toward fair trade products, we contribute to this field of research and as such, offer valuable insights to marketing practitioners on how to set up more effective fair trade ads.

Based on self-regulatory focus theory (Higgins, 1997), the two-sided messages' regulatory focus was manipulated through differently framed slogans. One slogan emphasized a promotion focus by highlighting the presence and absence of the positive outcomes (i.e., fair trade): "*Give fair trade a fair chance. Because, thanks to fair trade, José and his family can make their dreams come true. However, fair trade products are not cheap*". The other slogan emphasized a prevention focus by stressing the presence and absence of negative outcomes (i.e., unfair trade): "*Don't give unfair trade a chance. Because, without unfair trade, José and his family can leave behind their poor and insecure life. However, fair trade products are expensive*". Regulatory congruence occurs when the regulatory focus of a message is congruent (instead of incongruent) with the viewer's self-regulatory focus. In the case of two-sided advertising, congruence exists when promotion-focused individuals are exposed to a two-sided message discussing the presence versus absence of positive results, and when prevention-focused individuals are exposed to a two-sided message discussing the presence versus absence of negative results. In other words, to manipulate a two-sided message in terms of regulatory focus framing, the arguments for as well as against are framed.

The results of a between-subjects pretest ($N = 37$) revealed that the respondents rated the promotion-focused message ($M = 5.47$) higher on the promotion focus (versus prevention focus) scale (see hereafter) than the prevention-focused message ($M = 2.96$), ($t(36) = 5.12, p < .001$).

3.1.2 Participants and procedure

The sample ($N = 123$, 58.1 % females) ranged between 18 and 83 years ($M_{age} = 39.39, SD = 13.25$). The data were collected by means of an online questionnaire using a large European university's database. The participants received an e-mail that randomly directed them to different experimental conditions when they opened the online questionnaire. First, each respondent was asked to fill in the self-regulatory focus scale. Subsequently, they were randomly exposed to one of the two experimental stimuli, after which they completed the questionnaire, which contained measures for the manipulation check, the mediating (i.e., processing fluency) and the dependent variable (i.e., attitude

toward the message) and socio-demographic variables (i.e., age, gender). Finally, the participants were debriefed and thanked for their cooperation.

3.1.3 Measures

Chronic self-regulatory focus, as a chronic personality trait, was measured using the seven-point Likert scale of Lockwood et al. (2002), composed of eighteen items. This scale consists of two underlying dimensions: a promotion focus (e.g., “*I typically focus on the success I hope to achieve in the future*”) ($\alpha = .73$) and a prevention focus (e.g., “*I often imagine myself experiencing bad things that I fear might happen to me*”) ($\alpha = .64$). We calculated a measure of predominant self-regulatory focus by subtracting the prevention focus score from the promotion focus score, following previous research (e.g., Cesario et al., 2004; Lockwood et al., 2002; Zhao & Pechmann, 2007). The manipulation check for the regulatory focus of the message was measured by one single item on a seven-point semantic differential scale, which is in line with previous research (e.g., Chang & Lee, 2010) (i.e., “*This advertisement mainly focuses on the avoidance of negative results for the farmers in the South*” versus “*This advertisement mainly focuses on the achievement of positive results for the farmers in the South*”). Processing fluency was measured on a four-item seven-point scale (Tybout et al., 2005) (e.g., “*Reading this advertisement was effortful versus fluent*”) ($\alpha = .90$). To assess their attitude toward the message, respondents indicated a number on a ten-item seven-point semantic differential scale by Mitchell and Olson (1981) (e.g., “*I dislike versus like the message*”) ($\alpha = .92$).

3.2 Results

3.2.1 Manipulation check

A manipulation check showed that the respondents rated the promotion-focused message ($M = 5.39$) significantly higher on the promotion versus prevention focus scale than they did the prevention-focused message ($M = 3.78$), ($t(121) = 5.44, p < .001$).

3.2.2 Hypotheses testing

Hypothesis 1a was tested by means of a regression analysis, with message frame as a binary factor and individuals' self-regulatory focus as a standardized continuous variable, and the interaction effect between both. We found a significant interaction effect between message frame and individuals' self-regulatory focus ($\beta = -.82$, $t(118) = -4.54$, $p < .001$) on the attitude toward the message. Simple effects tests showed a significant regulatory congruence effect in promotion-focused individuals (1SD above mean of the regulatory focus scale) ($\beta = -1.62$, $t(118) = -5.13$, $p < .001$) and no regulatory congruence effect in prevention-focused individuals (1SD below mean) ($\beta = .52$, $t(118) = 1.79$, $p = .076$). Hypothesis 1a was therefore supported.

To test the moderated mediation in hypothesis 1b, we used the PROCESS macro developed by Hayes (in press), a modeling tool for SPSS. The moderated mediation analysis revealed that the indirect effect of the message frame on the attitude toward the message through processing fluency is $-.38$ (SE (boot) = $.09$). A 95% bootstrap confidence interval for this indirect effect did not include zero (LLCI = $-.58$, ULCI = $-.23$), indicating that the effect of the message frame on the attitude toward the message is mediated by processing fluency. More importantly, in promotion-focused individuals (1SD above mean), a promotion-focused two-sided message increased the processing fluency and, accordingly, led to a more positive attitude toward the message ($c = -1.36$, Boot SE = $.24$, LLCI = -1.86 , ULCI = $-.94$). In prevention-focused individuals (1SD below mean), on the other hand, processing fluency did not mediate the effect of the message's frame on attitude toward the message ($c = -.30$, Boot SE = $.19$, LLCI = $-.70$, ULCI = $.04$). These results support hypothesis 1b.

3.3 Discussion

In our first study, a regulatory congruence effect in two-sided messages was only found for promotion-focused individuals, because congruence helps reduce the complexity of the two-sided message by increasing processing fluency (Lee & Aaker, 2004; Shen et al., 2010). This increased processing

fluency is necessary for promotion-focused consumers, as they are not inclined to rely on a two-sided message's substance (Pham & Avnet, 2004). Conversely, prevention-focused individuals, when processing a two-sided message, want to make a well-informed decision based on all available evidence (Florack et al., 2009). This leads them to focus more on the two-sided message content, and less on its frame. Hence, no regulatory congruence effect was found for them, and thus, processing fluency does not play a mediating role.

In the first study we found that in two-sided messages, the regulatory congruence effect in promotion-focused individuals is driven by processing fluency. Our second experiment aims to clarify the absence of a regulatory congruence effect in prevention-focused individuals, and more precisely whether this non-effect can be explained by the processing depth of the message content by prevention-focused individuals. We propose that the latter's tendency to process a two-sided message centrally eliminates the need for processing fluency and therefore removes congruence effects. If limited processing depth is indeed a necessary condition for regulatory congruence effects to occur, then we expect a regulatory congruence effect among prevention-focused individuals when processing depth is shallow (i.e., peripheral processing). Conversely, no regulatory congruence effect should occur when processing depth is deep (i.e., central processing). We set up a second experiment to test the role of processing depth on the effectiveness of regulatory (in)congruent two-sided messages in prevention-focused individuals.

4 /

Study 2: The Role Of Processing Depth

4.1 Method

4.1.1 Design and stimuli

A 2 x 2 between-subjects experimental design is used to manipulate processing depth (central versus peripheral) and message frame (prevention- versus promotion-oriented), while also measuring individuals' chronic self-regulatory focus (prevention versus promotion). To avoid a bias, we used the same stimuli as in study 1. Additionally, we manipulated depth of processing through explicit instructions, in line with previous studies (e.g., Briley & Aaker, 2006). Half of the participants were instructed to give immediate reactions to the message by not deliberately focusing on the message content (cf. peripheral processing condition), while the other half of the sample was instructed to process the message content deeply and carefully (cf. central processing condition).

4.1.2 Participants and procedure

The sample ($N = 76$, 64.5 % female) ranged between 19 and 74 years old ($M_{age} = 31.32$, $SD = 11.77$). The same data collection method as in study 1 was used. The data were collected by means of an online questionnaire based on a large European university's database. The participants were randomly assigned to one of the experimental conditions. They received an e-mail that directed them to different conditions when they started the online questionnaire. First, each respondent was asked to fill in the self-regulatory focus scale. Next, they received instructions to either process the message centrally or peripherally, after which they were exposed to one of the two

experimental stimuli. Subsequently, the respondents completed the questionnaire, containing measures for the manipulation check, the dependent variable (i.e., attitude toward the issue) and socio-demographic variables (i.e., age, gender). Finally, they were debriefed and thanked for their cooperation.

4.1.3 Measures

The same measures as in study 1 were used for the chronic self-regulatory focus and the manipulation check of the message frame. Since study 2 aims to clarify the results of study 1, we focus on prevention-focused individuals. In order to select only those respondents with a predominant prevention focus from the sample; we subtracted the prevention focus score from the promotion focus score. Only the individuals scoring lower than the median of the difference score ($Mdn = 1.1746$) (i.e., prevention-focused individuals) were included in the analysis of our second study. Using a median split on the difference score is a well-established method to divide a sample based on the participants' predominant self-regulatory focus (e.g., Lockwood et al., 2002; Zhao & Pechmann 2007). This method enabled us to select only the prevention-focused individuals ($N = 76$) from the entire sample ($N = 152$) in a valid way.

Additionally, attitudes toward the issue at hand were measured using a six-item seven-point semantic differential scale based on Burgoon et al. (1978) (e.g., "*Fair trade is positive versus fair trade is negative*") ($\alpha = .95$). We measured the level of attention paid to the message with a five-item seven-point Likert scale by Lazniak et al. (1989) (e.g., "*I paid a lot of attention to the message*") ($\alpha = .92$) to quantify the manipulation of processing depth. As an extra measure for our manipulation of processing depth, we used message content recall, which was assessed by an open-ended question in which the respondents were asked to report as much of the content of the message as possible. The answers to this question were then coded into scores ranging from 1 (very limited correct message content recall) to 7 (very high correct message content recall), based on the amount and the accuracy of the information cues given.

4.2 Results

4.2.1 Manipulation checks

The manipulation check showed that the central processing condition ($M = 5.29$) led to more attention to the message than the peripheral processing condition ($M = 3.75$), ($t(74) = 5.71, p < .001$). The central processing condition ($M = 4.65$) also generated a higher message content recall than the peripheral processing condition ($M = 2.64$), ($t(74) = 6.98, p < .001$). Both indicated that the manipulation of depth of processing was successful. Furthermore, the promotion-focused message ($M = 5.54$) scored higher on the prevention versus promotion focus differential scale than the prevention-focused message ($M = 4.38$), ($t(74) = 3.27, p = .002$).

4.2.2 Hypotheses testing

We tested hypothesis 2 by means of a two-way ANOVA, showing a two-way interaction effect between induced processing depth and the message frame (prevention versus promotion) on prevention-focused individuals' attitudes toward fair trade ($F(1, 76) = 11.34, p = .001$). Simple effect tests showed that, when peripheral processing was induced, a congruent (i.e., prevention-focused) two-sided message ($M = 6.44$) led to a more positive attitude toward fair trade than an incongruent (i.e., promotion-focused) two-sided message ($M = 5.91$), ($t(34) = 2.75, p = .009$). However, when central processing was induced, no regulatory congruence effect was found: an incongruent (i.e., promotion-focused) two-sided message ($M = 6.59$) led to a more positive attitude toward fair trade than a congruent (i.e., prevention-focused) two-sided message ($M = 6.04$), ($t(38) = -2.19, p = .044$). Therefore, H2 is supported.

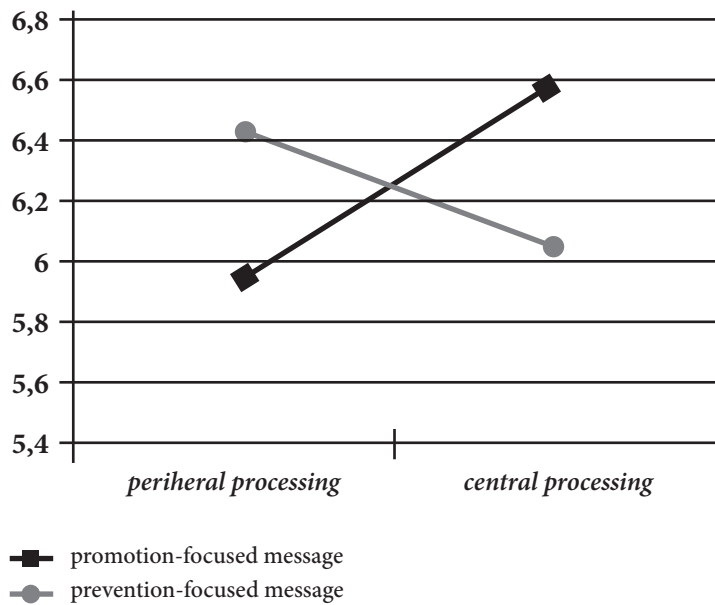


Figure 1: The interaction effect between processing depth and message frame on prevention-focused individuals' attitude toward fair trade.

4.3 Discussion

Study 2 addressed the processing depth of prevention-focused individuals as an explanation for regulatory congruence effects in two-sided advertising. The results show that when prevention-focused individuals are induced to processing a two-sided message peripherally, regulatory congruence leads to a more positive attitude toward the issue than regulatory incongruence does. This result confirms our expectations. Furthermore, it is in line with previous regulatory focus studies that found regulatory congruence effects in the case of peripheral processing (Wang & Lee, 2002; Briley & Aaker, 2006), although these studies were based on one-sided messages.

Moreover, when prevention-focused individuals were induced to process a two-sided message centrally, the results of our study demonstrate a regulatory incongruence effect between message frame and individuals' self-regulatory focus. Based on previous (one-sided) regulatory focus literature, we expected

no regulatory congruence effect to occur under central processing. In fact, we actually found evidence of the existence of an incongruence effect. Previous studies have found that incongruence can sometimes enhance ad processing and subsequent evaluations (Dahlén et al., 2008) based on the schema congruity theory (Mandler, 1982), stating that incongruent stimuli are sometimes preferred to congruent ones.

5 /

General Discussion And Conclusions

Study 1 shows that in two-sided messages, the attitudinal response to regulatory congruence depends on individuals' self-regulatory focus. A congruence effect in two-sided messages was only found in promotion-focused individuals, not in prevention-focused individuals. This regulatory congruence effect was driven by processing fluency. Study 2 examines why no congruence effect was found in prevention-focused individuals. The results show that processing depth influences whether regulatory congruence versus incongruence is more effective in two-sided messages in prevention-focused individuals. In the peripheral processing condition, prevention-focused individuals have a more positive attitude toward fair trade when two-sided messages are congruent (instead of incongruent) with their self-regulatory focus. Under central processing, on the other hand, a regulatory incongruence effect occurs in two-sided messages in prevention-focused individuals.

6 /

Theoretical Contributions

The theoretical contribution of the current study is twofold: (1) it complements prior academic research by examining the validity of the regulatory congruence principle in the context of two-sided messages, and (2) it addresses the underlying mechanisms driving regulatory (in)congruence effects. As such, our study contributes both to the existing research on two-sided messages, as well as that on regulatory focus. It offers valuable insights for both fields, increasing the overall relevance and usefulness of this research for other scholars in both areas.

From the perspective of the literature on message sidedness, our study is relevant because it qualifies previous literature. Two-sided messages have often been assumed to trigger central processing. However, when individual differences are considered, such as the self-regulatory focus, it becomes apparent that central processing is not always present in two-sided messages. Predominantly prevention-focused individuals tend to process two-sided messages in a more central way, whereas predominantly promotion-focused individuals tend to do this more peripherally.

From a regulatory focus literature perspective, it is also important to investigate regulatory congruence effects, because regulatory congruence has been found to boost message effectiveness (e.g., Aaker & Lee, 2001; Latimer et al., 2007; Werth & Foerster, 2007; Yi & Baumgartner, 2008; Zhao & Pechmann, 2007). However, previous research investigated regulatory congruence effects solely in the context of one-sided messages. So far, it has remained unclear whether the regulatory congruence principle holds

for two-sided messages as well. It is important and meaningful to resolve this lack of clarity, because two-sided messages are intrinsically different from one-sided messages, and these differences can alter regulatory congruence effects. Two-sided messages encompass both an argument in favor as well as against an issue, rendering the message more complex. Individuals differing in their self-regulatory focus deal with this complexity of two-sided messages in distinctive ways. Prevention-focused individuals process a two-sided message in a more central way, while promotion-focused individuals process a two-sided message in a more peripheral way (cf. *supra*). Processing style or depth, in turn, influences regulatory congruence effects. Hence, depending on individuals' self-regulatory focus, two-sided messages are processed in different ways, leading to divergent message evaluations. In other words, self-regulatory focus impacts the effectiveness of two-sided messages.

Therefore, it is valuable for the literature on message sidedness as well as that on regulatory focus to test whether individuals' regulatory focus also influences regulatory congruence effects in two-sided messages. In addition to this asset, this study is useful because it unravels the underlying processes of the regulatory (in)congruence effects in two-sided messages. As a consequence, it contributes to advertising theory by determining the crucial role of processing fluency and processing depth in the occurrence of regulatory (in)congruence effects in two-sided messages.

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Practical Implications

The present study provides useful insights for advertisers to develop (fair trade) campaigns, but also for public policy makers or nongovernmental organizations (NGO's) or non-profit organizations (NPO's). For advertisers, it is relevant to focus on specific communication strategies (i.e., message framing and message sidedness) in order to increase consumers' attitudes toward fair trade products (De Pelsmacker et al., 2005).

When marketers have sufficient knowledge of their target audience (e.g., if they know whether their target group is mainly promotion- or prevention-oriented), they can have more insight into how deeply their target market will process the advertising message. With this knowledge in mind, marketers can decide which message frame they best use to achieve the most optimal advertising effectiveness. In other words, chronic self-regulatory focus as an individual difference variable can serve to segment an audience and to position charity campaigns accordingly (Adams et al., 2011). In case the chronic self-regulatory focus of the target group is unknown to policymakers, several other variables can be useful substitutes. For instance, cultural background is found to be related to the self-regulatory focus (Lee et al., 2000). In Eastern cultures, individuals generally tend to be more prevention- rather than promotion-focused, whereas the opposite is the case in Western countries (Lee et al., 2000). Next to cultural background, an individual's professional occupation can also determine his/her self-regulatory focus. For example, accountants and nurses focus more on accuracy (i.e., prevention focus), whereas managers and sales people usually focus

on identifying opportunities and maximizing profits (i.e., promotion focus) (Förster et al., 2003). Thirdly, the chronic self-regulatory focus is also found to correlate to certain socio-demographics, as it can be influenced by exposure to specific prevention- or promotion-oriented situations or stages in life (e.g., buying a house, having children, etc.) (Higgins & Brendl, 1995; Higgins, 1997). Another option for marketers if the self-regulatory focus of their target audience is unknown, is priming. Priming can be done, for example, by exposing the target group beforehand to a message that focuses on duties (to activate a prevention focus) versus ideals (to activate a promotion focus) or by integrating the message in a specific media context, which can be more prevention- (e.g., a magazine about disease prevention) or promotion- (e.g., a brochure for an MBA or advanced course) focused. Hence, in order to achieve the most optimal message effectiveness, regardless of whether the source is an advertiser, a public policy maker, an NGO or an NPO, this study underscores the importance of taking into account several contextual or receiver related factors prior to actual message design.

8 /

Limitations And Further Research

Further research is needed in order to find alternative explanations for the regulatory (in)congruence effects in two-sided messages. It remains unclear why a regulatory incongruence effect was found when prevention-focused individuals process a two-sided message centrally. A possible explanation might be found in Mandler's schema congruity theory (1982). Therefore, further research should address additional moderating and mediating variables (e.g., salience, need for cognition, etc.) in order to resolve this question.

One limitation of this study is the use of only a single method to manipulate central versus peripheral processing, that is, through direct instructions. Although this manipulation was in line with previous research (e.g., Briley & Aaker, 2006), additional studies should manipulate processing depth in different ways (e.g., cognitive load, time pressure, etc.) in order to test the robustness of our results.

No actual behavior was measured. Given the controlled experimental setting of our study, it was not feasible to measure actual behavior in an externally valid way. We therefore opted to maximize the internal validity of our study by measuring attitudes, in line with previous research in the field of regulatory focus theory (Lee & Aaker, 2003; Cesario & Higgins, 2008). However, further research might extend our study to a field experiment including actual behavior measurements.

Individuals' prior attitude toward fair trade and ethical consumption in general was not measured. Further research should therefore verify whether

the effects measured in this study are different for respondents with a more positive attitude toward fair trade products and ethical consumption.

Future research may vary the strength of the counterargument, and vary the frame of the counterargument without changing the formulations of the main message. In the present study, the frame of the counterargument was not varied independently: changes of the formulation of the counterargument were always linked to changes of the formulations of the first part of the message (the argument for). Given the design of the current study, we do not know how the first part of the message influenced the perception of the second part. It would be interesting for further research to investigate this more in depth.

Finally, it would be valuable to replicate this study with different issues or products. An issue or product could be manipulated as inherently more promotion-oriented (e.g., ice cream) versus more prevention-oriented (e.g., fair trade). It can be expected that, in the case of more prevention-oriented products or issues, prevention-focused consumers indicate more favorable overall evaluations, whereas advertising for promotion-oriented products or issues might have a more positive impact on promotion-focused consumers.

9 /

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Chapter 4

**Two-sided messages for health
risk prevention: the role of
argument type, refutation
and issue ambivalence**

Chapter 4 is published as “Cornelis, E., Cauberghe, V., De Pelsmacker, P. (2013). Two-sided messages for health risk prevention: The role of argument tone, refutation and issue ambivalence. *Substance Use and Misuse, in press.*”

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The first study of chapter 4 was presented as “Cornelis, E., Cauberghe, V., De Pelsmacker, P. (2011). The impact of message sidedness and message tone on the effectiveness of anti-binge drinking messages. *The 40th EMAC conference, May 24th-27th 2011, Ljubljana, Slovenia.*”

Two experiments were conducted among adolescents in 2011 in urban parts of Belgium, Europe. The effectiveness of two-sided binge drinking and marijuana prevention messages was investigated in relation to argument type, refutation, and issue ambivalence. Study 1 (n = 373) serves as a baseline study for study 2 (n = 156). Data were collected through a printed questionnaire in classrooms in Flemish secondary schools. Analysis of variance (ANOVA) was used to analyze the data. Implications for health practitioners, as well as limitations and suggestions for further research are given.

Keywords:

message sidedness, marijuana use,
binge drinking, argument type,
refutation, issue ambivalence

1 /

Introduction

The two experiments reported in the present paper focus on anti-binge drinking and anti-marijuana use messages targeted at adolescents. Binge drinking causes severe health problems, premature deaths and economic losses (Hahm et al., 2012). Europe faces an increasing prevalence of binge drinking, especially among adolescents (Kuntsche et al., 2004). This trend is apparent despite numerous health campaigns set up in the past, indicating the relatively low effectiveness of traditional health campaigns (Devlin et al., 2007). Because of its societal relevance, the issue of binge drinking is chosen as a starting point. Following a pretest, and for reasons explained further (see experiment 2), marijuana use was an additional focus in the second experiment. Also marijuana use forms a serious problem among adolescents, as it can cause severe mental health problems (Riggs & Pentz, 2009). Hence, the studies deal with social health issues that are both relevant for the health of adolescents and for society as a whole.

The majority of health risk prevention campaigns share a mere focus on the negative side of unhealthy behavior by emphasizing how damaging the behavior is (Reynolds & Seeger, 2005). In other words, they are one-sided in their argumentation. However, overuse of such one-sided negative appeal may lead to habituation, possibly evoking a saturation effect (Ahn et al., 2011; Devlin et al., 2007). The present study assesses an alternative and potentially more persuasive way of communicating health risks: two-sided messages, *“in which the communicator takes into account both sides of an issue, but actually still favors one side”* (Hovland, 1954). A variety of studies suggests that commercial advertising messages can

include some negative information along with the positive product information, and can still be more effective than when only positive information is provided (e.g., Crowley & Hoyer, 1994; Pechmann, 1992).

However, the two-sided message strategy is mainly applied to commercial product advertising (Eisend, 2006). A few notable studies applied two-sided messages to health communication (e.g., Belch, 1981 selling toothpaste; Ford & Smith, 1991 promoting organ donation; Ley et al., 1977 promoting weight loss), but – to our knowledge – this principle was never tested in a reversed way (i.e., to discourage unhealthy behavior). The added value of the current study is to investigate two-sided messages in a reversed way by focusing on the negative consequences of certain unhealthy behavior while adding a minor positive aspect of that behavior.

Additionally, so far, message sidedness is mainly investigated in relation to cognitive message arguments (e.g., Eisend, 2007), neglecting the role of affective arguments, despite the importance of affect (Ray & Batra, 1983; Pham, 1998). Affective arguments are especially relevant for health issues, because affect plays a crucial role in health-related decisions (Agrawal et al., 2007). Study 1 therefore includes argument type (affective versus cognitive) as a moderating variable of the effectiveness of one- versus two-sided messages.

Ample commercial advertising studies found that two-sided messages are superior over one-sided messages, but only a few studies investigate two-sided messages more deeply by comparing two specific subtypes of two-sided messages, namely non-refutational and refutational ones (Eisend, 2006). In non-refutational two-sided messages, advertisers simply present positive and negative information. In refutational two-sided (commercial) messages, the positive information is accompanied by negative information, but this negative information is subsequently refuted or discounted in an attempt to ‘inoculate’ the audience against possible later counterclaims or opposing messages by competitors (Eisend, 2007). Those studies incorporating refutational appeals (e.g., Kamins & Assael, 1987, Etgar & Goodwin, 1982) delivered mixed results on which subtype of two-sided message is most effective, indicating the need of further research (Crowley & Hoyer, 1994). To date, no studies have exam-

ined yet to what extent these mixed results could be due to the very nature of the issue itself. Therefore, study 2 addresses this research gap by including issue ambivalence as a moderating variable of the effectiveness of a refutational versus a non-refutational two-sided message on adolescents' attitudes toward the issue when they are afterwards confronted with peer pressure.

2 /

General Theoretical Framework

The present research is based on the optimal arousal theory (Berlyne, 1971) and the inoculation theory (McGuire, 1961). Optimal arousal theory (Berlyne, 1971) has been suggested by Crowley and Hoyer (1994) to contribute to the understanding of two-sided messages. Study 1 therefore tests the optimal arousal theory for one- and two-sided anti-binge drinking messages. Additionally, as study 1 serves as a starting point for the second experiment, it is investigated which type of arguments (i.e., affective or cognitive) is preferable in anti-binge drinking messages.

Subsequently, building on the results of the first study, study 2 further elaborates on the effectiveness of two-sided affective health messages. Study 2 is based on the inoculation theory (McGuire, 1964). Inoculation theory implies inoculating individuals against possible counter-attitudinal attacks, by including mild attacking arguments and then countering or refuting them within the same (two-sided) messages (Crowley & Hoyer, 1994). In other words, study 2 tests the effectiveness of two-sided affective health prevention messages in terms of resistance against counterpersuasion (i.e., peer pressure).

3 /

Study 1: Argument Type

3.1 Theory and hypotheses development

Study 1 serves as a baseline study in which the principle of message sidedness (one- versus two-sided) is tested for the issue of binge drinking, taking argument type (cognitive versus affective) into account as moderating variable.

Berlyne's optimal arousal theory (1971) posits that stimuli that are moderately novel, surprising or complex are more attention-getting than stimuli that offer too little or too much novelty. Consistent with the optimal arousal theory two-sided messages – incorporating both sides of an issue – would be perceived as more novel than one-sided messages, thereby motivating individuals to pay more attention to the message (Eisend, 2006, 2007). In contrast, one-sided messages represent the type of communication that the individual is normally expecting, resulting in less perceived novelty and less attention toward the message (Crowley & Hoyer, 1994). In line with these expectations, Eisend (2006) in his meta-analysis found a strong positive effect of message sidedness on perceived novelty and attention, providing support for the optimal arousal theory. Hence, we propose:

H1a A two-sided anti-binge drinking message is perceived as more novel than a one-sided anti-binge drinking message.

H1b A two-sided anti-binge drinking message attracts more attention than a one-sided anti-binge drinking message.

Previous research established that two-sided messages are more likely to trigger elaborate, in-depth processing than one-sided messages (e.g., Crowley & Hoyer, 1994; Eisend, 2006, 2007; Faison, 1961). Two-sided messages lead to deeper message scrutiny and a more accurate focus on the message than one-sided messages (e.g., Crowley & Hoyer, 1994; Eisend, 2006, 2007; Faison, 1961; Kamins & Assael, 1987). Under conditions of more elaborate message processing, individuals are more likely to engage in issue-relevant thinking by carefully evaluating the arguments in the message (Petty & Cacioppo, 1984). Hence, the relevance of the arguments in a message has a greater influence on attitudes when the message is two-sided than when the message is one-sided (Crowley & Hoyer, 1994; Eisend, 2007).

Study 1 compares the impact of cognitive versus affective arguments about binge drinking on respondents' attitude toward the message. The relevance of the arguments (affective versus cognitive) depends on the type of consumption motive underlying the behavior or the issue (Pham, 1998). Pham (1998) distinguishes between consummatory and instrumental motives. Consummatory motives underlie behavior that is pleasant as such, whereas instrumental motives underlie behaviors that are undertaken to achieve well-considered further goals (Pham, 1998). Instrumentally motivated behavior is likely to be cognitively driven, while behavior engaged in for its own sake (i.e., consummatory behavior) is more affectively driven (Martin & Tesser, 1992; Pham, 1998). Consequently, when an issue is primarily associated with consummatory motives, affective considerations are more relevant determinants of behavior than cognitive considerations (Holbrook & Hirschman, 1982; Pham, 1998). Like most unrestrained behavior, binge drinking is inherently consummatory, because the act of binge drinking holds little or no instrumental value (Ricciardelli et al., 2001). Studies have shown that individuals mostly indulge in binge drinking for affective or social reasons, rather than cognitive reasons (Cronin, 1997; Johnson & Cohen, 2004; Williams & Clark, 1998). We therefore hypothesize that affective two-sided messages against binge drinking will be more effective than cognitive two-sided messages. When a message is one-sided, however, the impact of argument type (i.e., affective versus cognitive) is expected to be smaller, as individuals focus less on the issue-relevance of the arguments in a one-sided message than in a two-sided message.

H2 When an anti-binge drinking message is two-sided, an affective message leads to a more positive attitude toward the message than a cognitive message. This effect is expected to be less strong when an anti-binge drinking message is one-sided.

3.2 Method

3.2.1 Design and stimuli

A 2 x 2 between-subject factorial design manipulated message sidedness (one-sided versus two-sided) and argument type (cognitive versus affective). Message sidedness was manipulated through different arguments: one argument against binge drinking versus the combination of one argument against and one argument in favor of binge drinking. Argument type was manipulated by cognitive versus affective message elements. Cognitive messages are characterized by a focus on factual information (Abernethy & Franke, 1996), so the cognitive message contained strictly factual, general arguments about the negative and positive consequences of binge drinking (i.e., con argument: *“Binge drinking leads to alcohol poisoning”* and pro argument: *“Alcohol can reduce the risk of cardiovascular diseases”*). In order to maintain the objectivity of the cognitive message, neither personal information nor images were provided. Conversely, the affective message contained personalized, subjective arguments about the negative and positive consequences of binge drinking, in order to elicit the affective type (i.e., con argument: *“Because of binge drinking, Thomas, 16 years old, occurred alcohol poisoned”* and pro argument: *“Thanks to the alcohol, he was very popular that night”*). According to Bolls, Lang, & Potter (2001) a message can be defined as affective (versus cognitive) when its content is typically considered to be affective, independent of the type of emotion. Amongst others, Reeves et al. (1985), and Reeves et al. (1988) also used this general definition (and manipulation) of affective messages in their research. It is common in literature to compare cognitive with affective messages, using ‘ratio’ and ‘affect’ as overall manipulations. For instance, Rosselli et al. (1995), Williams and Drolet (2005), Drolet et al. (2007), Zinn & Manfreda (2000), Petty et al. (2001) and Ray & Batra (1983) compared cognitive versus affective messages by manipulating the messages in terms of word choice, argument type, facts versus feelings, more objective versus

more subjective information, etc. In line with these studies, we manipulated cognitive versus affective messages in the same way in our study. An image was exclusively used in the affective message, because images have been found to be more emotion-laden and vivid than verbal-only appeals (Mitchell, 1986; Zinn & Manfreda, 2000). Moreover, in studies on vivid affective appeals versus non-vivid cognitive appeals, it was found that vividness itself had no impact on persuasion (Collins et al., 1988; Costley & Brucks, 1992), indicating the absence of a confounding effect due to image use. The image used in the affective experimental stimuli depicted a male teenager at night, lying on his back as he drank too much alcohol. Apart from the manipulations, the four ads were the same. We controlled for a possible confounding effect due to the image in the affective ad versus no image in the cognitive message. There appeared to be no significant difference between the affective and the cognitive message in terms of persuasive strength ($\eta^2 = .003$, $p = .28$), indicating that in this respect there were no confounding effects.

3.2.2. Pretest

The stimuli were pretested in a sample of 80 respondents between 15 and 19 years old by means of a printed questionnaire. Perceived affectivity was measured by means of the same construct as in the main study (see hereafter). As expected, respondents rated the affective message ($M^1 = 4.68$) significantly higher on the affectivity (versus cognition) scale than the cognitive message ($M = 2.24$), ($t(78) = 8.97$, $p < .001$). Also, separately for one-sided messages, the affective message ($M = 3.95$) was perceived as significantly more affect-laden than the cognitive message ($M = 2.42$), ($t(38) = 4.79$, $p < .001$), as well as separately for two-sided messages, the affective message ($M = 5.40$) was perceived as significantly more affect-laden in depth than the cognitive message ($M = 2.05$), ($t(38) = 8.87$, $p < .001$).

3.2.3 Participants and procedure

A total of 373 subjects participated in the experiment (55.8 % females, age range 15-19 years, $M_{age} = 16.46$, $SD = .72$). For this research, no Institutional Review Board was needed. Research conducted in commonly accepted

¹ The M -value refers to the mean value of the summated scale.

educational settings, involving normal educational practices, is exempt from Institutional Review Boards or the Ethics Committee of the European Union. The study deliberately targeted adolescents between 15 and 19 years old, as the issue of binge drinking is especially relevant for this age group. The data were collected by means of a printed questionnaire in three secondary schools in Belgium. Although the choice of the schools was convenience-driven, we paid attention to selecting schools of different types and in different socio-economic contexts. They can therefore be assumed to be sufficiently representative of Belgian adolescents. The participants were gathered in a classroom under supervision of their teacher and the researcher. The subjects participated in the experiment based on free will, after informed consent. Anonymity was guaranteed explicitly before the start of the experiment. Students who preferred not to participate, were excused. Additionally, in case a student did not want to participate, we gave them the option to leave the whole questionnaire blank. The students were randomly assigned to one of the four experimental stimuli. Each respondent individually received one stimulus on print. Subsequently, they completed the questionnaire, containing the manipulation check, the dependent variables (i.e., novelty of the message, attention to the message, and attitude toward the message), age and gender. Finally, they were debriefed and thanked for their cooperation.

We took into account whether participation in the experiment was beneficial to the subjects in the sample, as the schools' principals set this as a requirement before allowing us to conduct the research in their school. The adolescents in the study benefit from the experiment in several ways. First, they participated in a scientific study which is educational in itself, as they experienced how research is conducted at university. This can be of extra relevance to students who consider going to university and pursuing an academic research career themselves later on, after graduation from high school. Second, the subjects in the sample of our study were exposed to anti-binge drinking and anti-marijuana messages which is an act of drug prevention on a small scale. The subjects who were inoculated by a two-sided message might be able to resist peer pressure better when they are confronted with it in the real world. Furthermore, the participating students were debriefed after completing the experiment, and they were given an elucidation concerning the research.

3.2.4 Measures

The questionnaire was based on optimal arousal theory (Berlyne, 1971). In the correct order, the variables we used in the questionnaire were perceived affectivity of the message, novelty of the message, attention to the message, attitude toward the message, and persuasive strength. Perceived affectivity (versus cognition) of the message (manipulation check) is measured by a three item seven-point semantic differential scale based on Liu and Stout (1987) (e.g., “*I think this message is cognitive versus affective.*”) ($\alpha = .68$). Perceived novelty of the message is measured by a two item seven-point semantic differential scale (Holbrook, 1981) (e.g., “*The message is usual versus unusual*”) ($\alpha = .74$, $r = .589$, $p < .001$). Respondents’ self-reported attention toward the message is assessed by three items on a seven-point Likert scale (Laczniak et al., 1989) (e.g., “*I paid a lot of attention to the message.*”) ($\alpha = .78$). The four item seven-point semantic differential scale developed by Holbrook and Batra (1987) assesses the attitude toward the message (e.g., “*I like versus dislike the message.*”) ($\alpha = .83$). Persuasive strength was measured by one item on a seven-point semantic differential scale (i.e., “*How compelling did you find the message?*”). The questionnaire was not pretested as all scales used in the questionnaire were all existing, previously developed scales, tested before by several researchers in order to ensure internal and external validity of the scale.

3.3 Results

3.3.1 Manipulation checks

The manipulation check showed that the affective message ($M = 3.38$, $SD = 1.36$) was considered more affective (versus cognitive) than the cognitive message ($M = 2.65$, $SD = 1.22$), ($t(371) = 5.38$, $p < .001$). As a check for the robustness of our manipulation, we also conducted a one-way ANOVA showing that only the main effect of our manipulation on message tone was significant ($p < .001$), while the interaction between message tone and message sidedness ($p = .190$) and the effect of message sidedness alone ($p = .787$) were not significant. This additional test confirms the validity of our manipulation.

3.3.2 Hypotheses testing

The results of an independent samples t-test showed that a two-sided message ($M = 4.05$, $SD = 1.53$) was perceived as more novel than a one-sided message ($M = 3.52$, $SD = 1.39$), ($t(370) = 3.49$, $p < .001$). Additionally, a two-sided message ($M = 3.81$, $SD = 1.49$) attracted more attention than a one-sided message ($M = 3.21$, $SD = 1.25$), ($t(369) = 3.85$, $p < .001$). The results support H1a and H1b.

Next, a two-way analysis of variance (ANOVA) showed a significant interaction effect between message sidedness (one- versus two-sided) and argument type (affective versus cognitive) on the attitude toward the message ($F(1,369) = 4.150$, $p = .042$). Respondents indicated a more positive attitude toward an affective two-sided message ($M = 3.98$, $SD = 1.42$) than toward a cognitive two-sided message ($M = 3.44$, $SD = 1.27$), $t(183) = 2.27$, $p = .024$). For a one-sided message, no difference in attitude toward the message was found ($M_{affective} = 3.97$, $SD_{affective} = 1.42$ versus $M_{cognitive} = 4.09$, $SD_{cognitive} = 1.29$, $p = .545$) (see figure 1). Hypothesis 2 is supported.

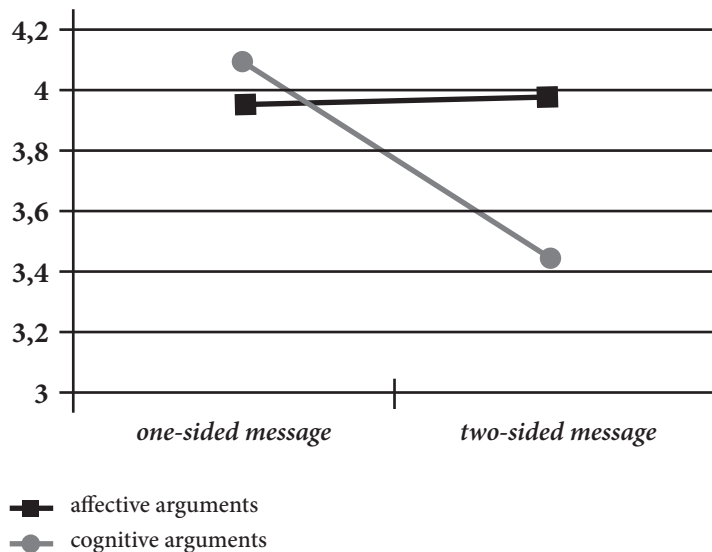


Figure 1: The interaction effect between message sidedness and argument type on attitude toward the message.

3.4 Discussion

Study 1 reversed the principle of two-sided messages by applying to health prevention messages. The results of study 1 show that two-sided anti-binge drinking messages are perceived as more novel and attract more attention among adolescents than one-sided messages. This confirms the previous (commercial) two-sided messages studies based on the optimal arousal theory (Berlyne, 1971). Secondly, issue-relevant affective arguments are preferred over less issue-relevant cognitive arguments. The finding that affective arguments lead to a more positive attitude toward the message can be attributed to the fact that, in general, binge drinking is more associated with consummatory motivations than with instrumental ones (Holbrook & Hirschman, 1982; Martin & Tesser, 1992; Pham, 1998). This finding also accords with Ahn et al. (2011) who state that anti-binge drinking messages should focus on particular, affective, real-life arguments instead of broader, cognitive arguments.

In order to refine the results of study 1, we developed a second study to further concentrate on the effectiveness of affective two-sided messages. Hence, in study 2, only affective two-sided messages are used. Additionally, to take the results of the first experiment a step further, the effectiveness of message sidedness is tested after counterpersuasion. Two-sided messages are a useful advertising technique particularly when consumers are exposed to counterclaims or negative publicity by competitors afterwards (Crowley & Hoyer, 1994; Golden & Alpert, 1987). As two-sided messages already disclose some negative (product) information themselves, consumers are 'inoculated' or immunized to negative counterclaims later on (McGuire, 1961). Applied to health prevention campaigns, this would mean that two-sided messages, mentioning a positive aspect of binge drinking alongside the negative one, can be successful in bolstering adolescents against possible pro binge drinking claims afterwards. This is relevant given the high chances that adolescents are, in reality, confronted with peer pressure trying to convince them to binge drink (Song et al., 2012). Study 2 tests the effectiveness of two-sided anti-binge drinking messages followed by (pro binge drinking) counterpersuasion. Second, it discriminates between two subtypes of two-sided messages: a refu-

tational and a non-refutational two-sided message. Third, study 2 assesses the moderating role of issue ambivalence on the effectiveness of refutational and non-refutational two-sided messages.

4 /

Study 2: Refutation And Issue Ambivalence

4.1 Theory and hypotheses development

Study 2 builds on the results of the first study by focusing on affective two-sided anti-binge drinking messages only. In order to investigate the impact of two-sided messages more in depth, a distinction is made between two different subtypes of two-sided messages, namely a refutational message versus a non-refutational two-sided message. The effectiveness of affective two-sided messages on adolescents' binge drinking and marijuana use intentions after exposure to peer pressure is investigated.

Based on McGuire's inoculation theory (1961), most commercial advertising studies find that two-sided messages lead to a better defense mechanism than one-sided messages when consumers are exposed to counterarguments against an advertising message afterwards (e.g., Crowley & Hoyer, 1994). Using a physiological analogy, inoculation theory (McGuire, 1961) states that offering mild counterarguments and afterwards refuting them enhances persuasion in the preferred direction (Eisend, 2007). In immunology, to build resistance to a disease, people are often injected with a solution that contains a mild form of the disease itself (Etgar & Goodwin, 1982). One of the main tenets of inoculation theory is the need for including a refutation of the two-sided argument(s) within the message itself (Crowley & Hoyer, 1994). Therefore, based on the inoculation theory it could be expected that refutational two-sided messages are more persuasive than non-refutational ones. However, many researchers

also obtained positive persuasive effects of two-sided advertising without refutation (Crowley & Hoyer, 1994). In a commercial advertising context, several studies (e.g., Golden & Alpert, 1987; Kamins & Assael, 1987; Smith & Hunt, 1978) demonstrate beneficial effects of two-sided messages without refutation of the negative claims, indicating that the presence or absence of refutation has little or no impact. For instance, Kamins and Assael (1987) found that a one-sided advertisement is less effective than either type of two-sided advertisement, but similar results were obtained for both types of two-sided advertisements. This dissonance between the empirical findings and the predictions of inoculation theory (McGuire, 1961) suggests that the impact of refutation and non-refutation is moderated by certain variables (Crowley & Hoyer, 1994).

Moderators studied in previous studies included message structure variables as well as marketers' and receivers' characteristics (Eisend, 2006), but issue-related variables have been neglected so far. However, issue-related factors can play an important role in determining when refutation is needed and when it is not. We therefore designed a second study in which issue ambivalence (ambivalent versus univalent) is introduced as a possible moderator of the effectiveness of refutational versus non-refutational affective two-sided messages. Issue ambivalence is conceptualized as the simultaneous existence of conflicting positive and negative thoughts or feelings that a person holds toward an attitude object or issue (Priester & Petty, 2001). Hence, issue ambivalence can be described as the degree to which an issue generates ambivalent (versus univalent) attitudes.

An issue can be univalent, that is, when most respondents hold a strong univalent (negative or positive) attitude toward the issue. An issue that is characterized by strong con arguments and relatively weak pro arguments, makes it easier for individuals to mentally refute the pro argument themselves. Hence, in this case, a refutational statement in the message might be redundant. Strong univalent attitudes (resulting from a univalent issue) are less pliable by means of persuasive communication, as they are stronger and more stable than ambivalent attitudes (Armitage & Conner, 2000; Hodson et al., 2001). Therefore, we only expect to find an impact of the non-refutational and

the refutational two-sided message when the issue is more ambivalent. For a more ambivalent issue, characterized by more or less equally strong pro and con arguments, it might be more difficult for individuals to mentally refute the pro argument themselves, as ambivalent attitudes are less strong, less stable, and more open to persuasive influence (Armitage & Conner, 2000; Maio et al., 1996). Previous research by Maio et al. (1996) shows that individuals in an ambivalent situation are indeed more influenced by persuasive communication than individuals in a univalent condition. Hence, when confronted with an ambivalent issue, refutation within the message itself might be necessary, as it may be too difficult for individuals in an ambivalent condition to refute the pro argument themselves when they are exposed to peer pressure afterwards. Individuals in the ambivalent condition might need a stronger direction in the message (i.e., a refutational statement) in order to resolve the conflict or the ambivalence (Zembarain & Gita 2007). Hence:

H3 For an ambivalent issue, a refutational two-sided message generates a more negative attitude toward the issue than a non-refutational two-sided message. For a univalent issue, there is no difference between a refutational and a non-refutational two-sided message.

4.2 Method

4.2.1 Design and stimuli

Study 2 uses a 2 (refutational versus non-refutational two sided message) by 2 (type of issue: ambivalent versus univalent) between-subjects design. Building upon the results of Study 1, exclusively affective arguments were used in the message. To elicit affectivity in the message, we used personalized, subjective arguments about the negative and positive consequences of binge drinking or marijuana use. As in study 1, an image was used to enhance affectivity of the messages (Mitchell, 1986; Zinn & Manfredro, 2000). For the issue of binge drinking, the image was the same as in study 1. For the issue of marijuana use, the image depicted a male teenager wearing a hooded sweatshirt at night, smoking marijuana while holding his head down. Refutation was manipulated through the use of a refutational statement in the refutational message condition, disclaiming the positive (pro) argument in the message.

Ambivalence of the issue was manipulated through the selection of two distinct issues. In order to choose an ambivalent versus a univalent issue, a within subjects pretest ($N = 23$) with adolescents based on a list of seventeen different issues was conducted. Respondents were asked to rate each issue on a one-item, seven-point semantic differential scale (i.e., “*This behavior is very negative – This behavior is ambivalent (partially negative, partially positive) – This behavior is very positive*”). Based on the results of this pretest, we selected marijuana use as an ambivalent issue and binge drinking as a univalent issue. Marijuana use ($M = 3.61$, $SD = 1.41$) was significantly more ambivalent (i.e., in the middle between negative and positive) than binge drinking ($M = 2.00$, $SD = 1.28$), which was rated as negative, ($t(44) = 4.06$, $p < .001$). Compared with the remaining other sixteen issues in the pretest, marijuana use ($M = 3.61$, $SD = 1.41$) was also more ambivalent than, for instance, obesity ($M = 2.13$, $SD = 1.32$), ($t(44) = 3.67$, $p < .001$), smoking ($M = 2.34$, $SD = 1.53$), ($t(44) = 2.92$, $p = .006$), or racism ($M = 2.52$, $SD = 1.86$), ($t(44) = 2.34$, $p = .03$), which were all rated as predominantly negative (i.e., univalent negative attitude). Moreover, respondents’ involvement was the same for marijuana use ($M = 2.56$, $SD = 1.85$) as for binge drinking ($M = 2.04$, $SD = 1.43$), ($t(44) = 1.069$, $p = 0.291$), indicating the absence of a possible confounding effect due to involvement. An additional criterion for choosing marijuana use (next to binge drinking) over the other issues was the high relevance for adolescents. Apart from the manipulations, the four different messages were the same, containing an image and text. Peer pressure was conceptualized as a printed online chat conversation promoting binge drinking/marijuana use. In this chat conversation, the teenagers talk to each other about how much fun their last night out was, thanks to the binge drinking/marijuana use. They were speaking positively to each other on how the alcohol/marijuana made them more popular, more easy-going, etc. The intended effect of the peer pressure was to expose the respondents to information in favor of binge drinking or using marijuana, which they are likely to be exposed to in reality too (e.g., after school, at parties, etc.). This way, we aimed to test the inoculating effect of two-sided messages, that is, which type of two-sided message (i.e., refutational versus non-refutational) makes our participants more resistant to this kind of peer pressure.

4.2.2 Pretest

The four experimental stimuli were pretested between-subjects among 80 respondents between 15 and 19 years old. For refutation, the same measurement scale as in the main study was used (see hereafter). The two-sided refutational message ($M = 5.93$) scored significantly higher on the seven-point refutation scale than the two-sided non-refutational message ($M = 2.17$), ($t(78) = 11.21, p < .001$). Binge drinking ($M = 2.19$) was considered significantly less ambivalent on the seven-point ambivalence scale than marijuana use ($M = 2.87$), ($t(78) = 2.68, p = .009$).

The pro binge drinking peer pressure message was pretested among 15 respondents, indicating that the direction of the peer pressure message was very pro binge drinking ($M = 6.40, SD = 1.12$) on a seven-point semantic differential scale (i.e., “*The chat conversation is against versus in favor of binge drinking*”).

4.2.3 Participants and procedure

Data were collected from 156 participants. The sample consisted of 67.9 % females, and the age range was 15 - 19 years ($M_{age} = 16.79, SD = 1.01$). The data were collected by means of a printed questionnaire in three secondary schools in Belgium. The same procedure as in study 1 was followed. The participants were gathered in a classroom under supervision of their teacher and the researcher. The subjects participated in the experiment based on free will, after informed consent. Anonymity was guaranteed explicitly before the start of the experiment. Again, students who preferred not to participate were excused or given the option to leave the whole questionnaire blank. The sample was randomly assigned to one of the four experimental conditions. Each participant individually received one stimulus on print. They were subsequently exposed to (pro binge drinking/marijuana use) peer pressure. Subsequently, they completed the questionnaire, containing the manipulation check, the dependent variable (i.e., attitude toward binge drinking/marijuana use), age and gender. Finally, they were debriefed and thanked for their cooperation. As in study 1, we took into account the students' benefits of participating in the study.

4.2.4 Measures

The questionnaire was based on the inoculation theory (McGuire, 1961). In correct order, the variables used in the questionnaire were issue ambivalence and attitude toward the issue. The ambivalence of the issue (manipulation check) was measured by one item on a seven point semantic differential scale, whereby 4 as the midpoint was ambivalent (“*partially negative, partially positive*”), while 1 (“*univalent negative*”) and 7 (“*univalent positive*”) both stood for univalent. The attitude toward the issue was measured by six items on a seven point semantic differential scale (Burgoon et al., 1978) (e.g., “*Marijuana use is bad versus good*”) ($\alpha = .97$).

4.3 Results

4.3.1 Manipulation check

The manipulation check reveals that the ambivalent issue (marijuana use) ($M = 2.60$, $SD = 1.44$) is considered more ambivalent than the univalent issue (binge drinking) ($M = 2.01$, $SD = 1.26$), $t(151) = 2.57$, $p = .011$.

4.3.2 Hypotheses testing

The results of a one-way analysis of variance (ANOVA) show a marginally significant interaction effect between refutation and ambivalence of the issue on the attitude toward the issue ($F(1,148) = 3.099$, $p = .080$). Simple effect tests show that, for a univalent issue (anti-binge drinking), the attitude toward the issue is not significantly different for a two-sided non-refutational ($M = 2.02$, $SD = 1.26$) and a two-sided refutational ($M = 2.17$, $SD = 1.23$) message, ($t(59) = .47$, $p = .64$). For an ambivalent issue (anti-marijuana use), however, a two-sided refutational message ($M = 2.18$, $SD = 1.57$) leads to a significantly more negative attitude toward the issue than a two-sided non-refutational message ($M = 2.85$, $SD = 1.39$), ($t(89) = 2.12$, $p = .037$) (see figure 2). Hypothesis 3, is supported.

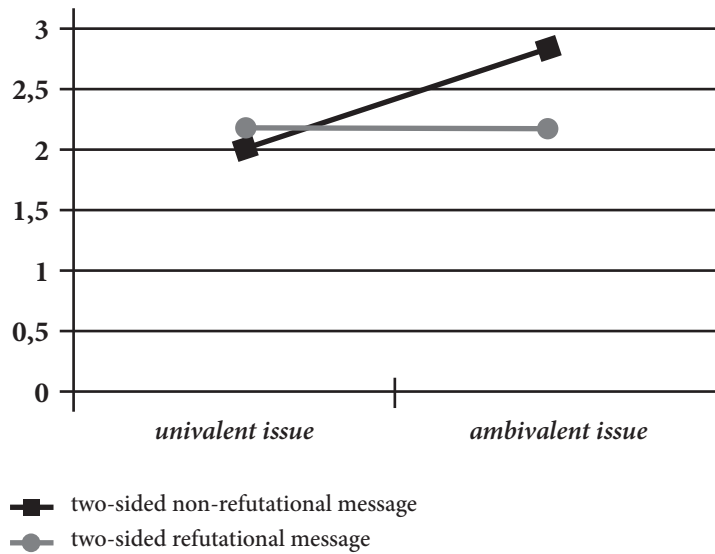


Figure 2: The interaction effect between refutation and issue ambivalence on attitude toward the issue after exposure to peer pressure

4.4 Discussion

Inoculation theory (McGuire, 1961) expects a two-sided refutational message to be most effective against peer pressure, as the refutation statement in the message itself serves as a bolstering mechanism. On the other hand, many empirical studies show that refutation is not always necessary (e.g., Golden & Alpert, 1987; Kamins & Assael, 1987; Smith & Hunt, 1978). To explain the inconsistency in previous research, we included issue ambivalence as a moderating variable. The most important finding of study 2 is that issue ambivalence moderates the effectiveness of two-sided refutational and non-refutational affective messages.

No different effect was found between both subtypes of two-sided messages for the issue of binge drinking, which is a relatively univalent or univalent issue. However, in the case of marijuana use (a more ambivalent issue) the attitude toward the issue differs significantly between the refutational and the non-refutational two-sided message. This is in line with previous research (e.g., Armitage & Conner, 2000; Zemborain & Gita 2007) which found that ambivalent attitudes are more pliable by means of persuasive communication. For a rather ambivalent issue, it is necessary to refute the pro argument explicitly within the message itself, as ambivalent attitudes are less strong and less stable (Armitage & Conner, 2000; Maio et al., 1996). Hence, individuals in the ambivalent condition need a stronger direction in the message, in order to solve the ambivalence (Zemborain & Gita, 2007).

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General Discussion And Conclusions

Two studies shed new light on adolescents' responses to health risk prevention messages. The results of study 1 support the use of affective two-sided messages in campaigns aimed at preventing binge drinking among adolescents for two main reasons: (a) compared to one-sided messages, the two-sidedness of the message significantly increases the attention toward the message among the target group (Crowley & Hoyer, 1994), thus overcoming the habituation effect of traditional one-sided messages, and making thorough processing of the message content more likely; and (b) the use of affective arguments leads to a more favorable attitude toward the message. This can be attributed to the fact that binge drinking is associated with consummatory motivations (Holbrook & Hirschman, 1982; Martin & Tesser, 1992; Pham, 1998). In the context of consummatory driven behavior, cognitive arguments are less issue-relevant than affective ones, and therefore less effective. The second study builds on the previous one by further assessing the effectiveness of affective two-sided messages in particular. It takes the results of experiment 1 a step further by investigating the effectiveness of two subtypes of two-sided messages (refutational and non-refutational) followed by counterpersuasion. Additionally, study 2 explains the inconsistencies in previous literature by including issue ambivalence as a moderating variable of the effectiveness of two-sided refutational and non-refutational messages. The results show that, when the issue is univalent, it does not matter if the pro argument is refuted within the message or not. This is in line with previous research stating that low levels of ambivalence lead to more stable attitudes, regardless of persuasive communication (Armitage

& Conner, 2000; Zemborain & Gita, 2007). When the issue is ambivalent, however, attitudes are more pliable by communication (Armitage & Conner, 2000; Hodson et al., 2001). As individuals in an ambivalent condition lack a strong direction in their attitude, it may be too difficult for them to refute the pro argument themselves. Hence, in this case, refutation is more effective than non-refutation.

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Theoretical Contributions

The added value of this study for the general message sidedness literature is threefold. First, our results show that two-sided messages are more effective than one-sided messages in a health context. So far, two-sided messages have mainly been tested in commercial product advertising (e.g., Bohner et al., 2003; Eisend, 2006). A few notable studies applied two-sided messages to health communication (e.g., Belch, 1981 selling toothpaste; Ford & Smith, 1991 promoting organ donation; Ley et al., 1977 promoting weight loss), but – to our knowledge – this principle was never tested in a reversed way (i.e., to discourage unhealthy behavior). This study investigates two-sided messages in a reversed way by focusing on the negative consequences of unhealthy behavior while adding some minor positive points of that behavior (instead of adding some minor negative elements in a message that generally emphasizes the positive characteristics of a commercial product, as done in previous studies on message sidedness). Second, our study addresses not only cognitive, but also affective two-sided messages. So far, message sidedness has mainly been investigated in relation to cognitive message arguments (e.g., Eisend, 2007). However, affective message components are also relevant, especially in a health context where emotions and affective reactions play a crucial role (e.g., Pham, 1998; Ray & Batra, 1983). By addressing message sidedness effects specifically for affective messages, the present research extends existing literature on two-sided messages. Third, our research goes beyond previous studies by comparing two specific subtypes of two-sided messages, namely refutational and non-refutational ones. This distinction is often mentioned in literature (e.g.,

Allen, 1991), but remains empirically under researched. The few studies that compared both subtypes generated mixed results on which subtype would be most effective. Hence, the current study explains some of the gaps in message sidedness literature by addressing the effect of a crucial moderator, namely issue ambivalence. Our results show that issue ambivalence determines the impact of refutation. This way, our research contributes to the understanding of two-sided messages' effectiveness, in that they clarify when refutation is needed and when it is not. Our results offer an explanation for the inconsistent results found in previous literature studying the impact of refutation.

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Practical Implications

The present study provides interesting managerial insights for health practitioners who develop campaigns to prevent binge drinking or marijuana use among adolescents. First of all, the results of this study broadened the spectrum of communication strategies for social marketing. By applying a communication strategy previously associated with commercial product marketing (i.e., two-sided messages) in a reversed way, new possibilities are created. Especially in terms of getting the attention of the target audience, two-sided messages appear to be a useful tool. However, two-sided messages should be implemented with caution: as the likelihood of more profound processing increases with two-sided messages, argument relevance becomes more important. Therefore, when using two-sided message formats, practitioners should pay close attention to the relevance of the arguments they use for the issue at hand, even more so than when using one-sided messages. Issue-relevance may depend on factors such as the motives underlying the particular behavior. Hence, before deciding which type of argumentation to use in one or two-sided messages, it is important to find out first which underlying motives drive the unhealthy behavior among the target group. Qualitative pre-research can help to gain these necessary insights.

Secondly, health practitioners should also take into account whether an issue is regarded as ambivalent or univalent by the target group. For a univalent (univalent negative) issue, attitudes are mostly strong and stable. Hence, individuals' attitudes remain negative, regardless of the type of communication (refutational versus non-refutational).

For a more ambivalent issue, however, attitudes are more permeable to persuasive communication, indicating the need for a clear direction in the communication: a refutational two-sided message is more effective than a non-refutational one, when adolescents are exposed to peer pressure later on. Thus, it is important for health practitioners to know if the target group holds ambivalent attitudes toward an issue. In that case, health prevention messages should be composed as two-sided refutational, in order to create optimal resistance against peer pressure.

In summary, health practitioners should obtain profound knowledge of two major aspects of the target group prior to the actual message design: (1) which motives drive the target group's behavior? and (2) does the target group regard the behavior as ambivalent or not? Hence, in order to maximize message effectiveness, understanding the target group is of crucial importance before choosing a communication approach (affective versus cognitive, refutational versus non-refutational).

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Limitations And Further Research

A first limitation of this study is the use of only two issues, inhibiting generalized conclusions across different issues. This research should be replicated for different issues, as study 1 shows that the persuasiveness of message format and message content is highly issue-dependent. The present research focused on negative and consummatory issues (i.e., binge drinking in study 1, binge drinking plus marijuana use in study 2). Results might be different for a (univalent) positive issue (e.g., sports, healthy diet, etc) or for behavior involving instrumental motives, for which cognitive arguments might be more relevant (Pham, 1998).

A second limitation of this study is the manipulation of issue ambivalence by choosing two distinct issues. The difference between the mean values of the perceived ambivalence of both issues was significant, but relatively limited ($M = 2.60$ and $M = 2.01$, respectively). This problem could be overcome by selecting only one issue, and splitting the sample based on their level of attitudinal ambivalence toward the issue. In other words, further studies can measure rather than manipulate ambivalence. Additionally, we acknowledge that issue ambivalence can be culturally or individually dependent, as well as temporary. The results of this study therefore need further testing for other issues, different individuals and contexts.

Another interesting direction for further research would be to include longitudinal attitude measurements in order to check the stability and robustness of attitudes following exposure to two-sided versus one-sided messages over time. Further-

more, a centrally-formed attitude is expected to be relatively predictive of subsequent behavior (Petty & Cacioppo, 1984), which makes it interesting for further research to incorporate actual behavior measurements. For the specific issues addressed in this study, however, measuring actual behavior would have been impossible.

Additionally, it would be interesting to look further into the boundary conditions or factors influencing message acceptance by its recipients. Whether a message is accepted or not depends on multiple factors. First, the type of message can influence how people react to it. Strong fear appeals, for instance, can evoke maladaptive responses, such as denial and defensive avoidance, among recipients (Hastings et al, 2004). Second, repetition or the rate of transmission can also impact message acceptance (Belch, 1981). Third, endogenous or personal factors can play a role, such as action tendency (Gollwitzer & Kinney, 1989). Fourth, source characteristics, such as credibility or perceived self-interest of the source, can influence how recipients anchor the message, and thus, impact the probability of message acceptance (Eisend, 2007). These conditions determining whether a persuasive message is accepted, challenged or denied, need attention in further research.

In the present study, attention was measured by means of a self-report scale, as we intended to measure the overall attention for the message. It would also be interesting for further research to measure visual attention to specific message elements by means of an eye-tracker. For example, an eye-tracker can offer information on which arguments (e.g., the pro or the con argument) receive most visual attention within a two-sided message.

Finally, a third limitation of this research is that the peer pressure we used in study 2 was relatively weak. A printed online chat conversation between two youngsters that are personally unknown to individuals in the target group was the closest we could get to real peer pressure. Evidently, the severity of peer pressure could have been increased, but not without ethical concerns. Yet, results might be different if stronger peer pressure would be used.

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Chapter 5

**The impact of message sidedness
on adolescents' binge drinking
intentions after peer pressure:
the moderating role of issue
involvement**

Chapter 5 is currently under revision (in second review round) at *Journal of Drug Issues*.

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In this study, we assess an alternative strategy for health interventions, namely two-sided messages. A 3 x 2 between-subjects factorial experimental design investigates the effect of three different anti-binge drinking messages (i.e., one sided, two-sided non-refutational, and two-sided refutational) on strongly and weakly issue-involved adolescents' behavioral intentions to binge drink after exposure to peer pressure. A sample of 185 adolescents between the age of 15 and 19 participated in the experiment. The results show that when adolescents' involvement with binge drinking is strong, a two-sided non-refutational as well as refutational message result in significantly lower binge drinking intentions than a one-sided message. When adolescents' involvement with binge drinking is weak, binge drinking intentions are not influenced by message sidedness.

Keywords:

message sidedness, refutation,
binge drinking, issue involvement

1 /

Introduction

Ample studies demonstrate the dire effects of binge drinking, which is the episodic or irregular consumption of excessive amounts of alcohol (Dufur et al., 2013; Faulkner et al., 2006; Ragsdale et al., 2012; Vik et al., 2003). There is a strong need for prevention programs to reduce alcohol use, especially among adolescents (Swahn et al., 2004). Previously, academic health communication research mainly focused on the negative side of certain unhealthy behavior by emphasizing how unhealthy, dangerous or damaging the behavior is (Reynolds & Seeger, 2005). As many health prevention organizations apply such one-sided (i.e., negative) messages, individuals might get used to this type of persuasive appeal, possibly leading to a saturation effect (Ahn et al., 2011; Devlin et al., 2007) a boomerang effect leading to aversive reactions such as denial and defensive avoidance (Quick & Bates, 2010). Consequently, the effectiveness of these traditional, one-sided negative health communication messages is limited (Dufur et al., 2013; West & O'Neal, 2004).

In this study, we assess an alternative form of health communication messages, namely two-sided messages “in which the communicator takes into account both sides of an issue, but actually still favors one side” (Hovland, 1954). A variety of advertising studies suggests that (commercial) messages can include some negative information along with the positive product information, and still be more effective than when only positive information is provided (e.g., Crowley & Hoyer, 1994). However, the use of the two-sided message strategy has mainly been limited to commercial product advertising (e.g., Bohner et al., 2003; Eisend, 2006). Eisend's

meta-analysis (2006) underscores the need for empirical research assessing the effectiveness of two-sided messages for issues other than commercial products. A few studies applied two-sided messages to health communication (e.g., Belch, 1981, promoting toothpaste; Ley et al., 1977, promoting weight loss), but only in the conventional way of selling a health product or promoting healthy behavior, not discouraging unhealthy behavior. The present study investigates two-sided messages in a reversed way by focusing on the negative consequences of certain unhealthy behavior while adding some minor positive points of that behavior (instead of adding some minor negative elements in a message that generally emphasizes the positive characteristics of a product, as done in previous studies on message sidedness). Most unhealthy behavior is not exclusively negative, but often also entails some benefits for the individual (e.g., binge drinking for emotional or social reasons, smoking to reduce stress), making behavior change more difficult.

Ample commercial communication studies (e.g., Crowley & Hoyer, 1994; Eisend, 2006; Hastak & Park, 1990) found that two-sided messages are superior over one-sided messages, but only a few studies investigate two-sided messages more deeply by comparing two specific subtypes of two-sided messages, that is, non-refutational and refutational messages. In two-sided non-refutational messages, advertisers simply present positive and negative information. In refutational two-sided (commercial) messages, they subsequently refute or discount the negative information in an attempt to 'inoculate' the audience against possible counterclaims or opposing messages by competitors afterwards (Eisend, 2007). So far, only a few commercial studies in two-sided persuasion research incorporate refutational appeals (e.g., Kamins & Assael, 1987; Etgar & Goodwin, 1982). Those few studies delivered mixed results on which subtype of two-sided message is most effective, indicating the need for further research assessing the role of possible moderating variables (Crowley & Hoyer, 1994). Specifically, Eisend (2006, 2007) stresses the potential moderating impact of issue involvement on the effectiveness of message sidedness.

Hence, the present anti-binge drinking study investigates the moderating role of issue involvement on the effectiveness of message sidedness (i.e., one-sided

versus two-sided) and the presence or absence of refutation (i.e., refutational versus non-refutational) on adolescents' binge drinking intentions after exposure to peer pressure. The peer pressure component is essential to our study, because our study aims to test the inoculating effect of message sidedness and refutation. The intended effect of the peer pressure is to expose the respondents to information in favor of binge drinking, which they are likely to be exposed to in reality as well (e.g., after school, at parties, etc.). This way, we aim to test the inoculating effect of two-sided messages, that is, which type of two-sided message (i.e., refutational versus non-refutational) makes our participants more resistant to this kind of peer pressure.

2 /

Theory And Hypotheses Development

Most commercial advertising studies have found that – in comparison to one-sided messages – two-sided messages are a more effective communication strategy, especially in difficult communication situations. For instance, when consumers are exposed to counterarguments against an advertising message afterwards, two-sided messages lead to better defense mechanisms than one-sided messages (e.g., Crowley & Hoyer, 1994). Based on McGuire's inoculation theory (1961) empirical findings support that two-sided messages can generate resistance to counter-persuasion afterwards (cf. peer pressure) (e.g., Kamins & Assael, 1987; Crowley & Hoyer, 1994). Most studies in a commercial context indeed show that two-sided messages are more effective than one-sided ones (Eisend, 2006, 2007).

Using a physiological analogy, inoculation theory (McGuire, 1961) states that offering mild counterarguments and afterwards refuting them within the same message, can bolster individuals against possible counter-persuasion afterwards (Eisend, 2007). In immunology, to build resistance to a disease, people are injected with a solution that contains a mild form of the disease itself (Etgar & Goodwin, 1982). In other words, by pre-exposing subjects to weakened counterarguments (and immediately refuting them within the same message), their defense mechanism is heightened. Contrary to non-refutational two-sided messages, in refutational two-sided messages advertisers present positive and negative information, but then refute or discount the negative information, to inoculate the audience against possible counterclaims (Eisend, 2007). One of the principle tenets of inoculation theory is the

need for including this refutation within the message itself (Crowley & Hoyer, 1994). Therefore, on the basis of the inoculation theory (McGuire, 1961) it could be expected that refutational two-sided messages are more effective against counter-persuasion than non-refutational ones. However, many researchers have also obtained beneficial effects for two-sided advertising without refutation (Crowley & Hoyer, 1994). In a commercial advertising context, several studies (e.g., Golden & Alpert, 1987; Kamins & Assael, 1987; Smith & Hunt, 1978) demonstrate beneficial effects of two-sided messages without refutation of the negative claims, indicating that the presence or absence of refutation has little impact. For instance, Kamins and Assael (1987) found that a one-sided message is less effective than either type of two-sided message, but similar results were obtained for both types (refutational and non-refutational) of two-sided messages. These empirical results suggest that, in some cases, refutation within the message is not necessary (Crowley & Hoyer, 1994). Hence, the cases in which refutation is needed and those in which refutation is redundant, might be moderated by certain variables.

In his meta-analysis, Eisend (2006) included the impact of a number of moderating variables. However, the moderators studied to date have not been able to explain some of the inconsistent effects of message sidedness and the (non-)refutational character of two-sided messages. In the context of (commercial) two-sided messages, issue (or product) involvement has been suggested as a potentially important moderating variable (e.g., Eisend, 2006; Hastak & Park, 1990; Stayman et al., 1987; Chebat & Picard, 1985). Involvement can be defined as the extent to which the attitudinal issue under consideration is of personal importance (Petty & Cacioppo, 1979). Involvement has been an important concept in studying advertising effectiveness (Petty & Cacioppo, 1986), since marketers can segment markets according to individuals' involvement with an issue. However, previous research investigating the role of involvement on message sidedness' effects has delivered mixed results. For instance, Chebat and Picard (1985) found a significant interaction effect between issue involvement and message sidedness (one-versus two-sided). Two-sided messages were more effective for strongly involved individuals, but not for weakly involved individuals (Chebat & Picard, 1985). Similar results were obtained by Hastak and Park (1990). Yet, to

our knowledge, the impact of issue involvement has not been tested concerning the (non-)refutational character of two-sided messages. It is important to fill this research void, because involvement can influence processing depth (Eisend, 2007). Individuals differing in involvement tend to process information differently (Petty & Cacioppo, 1986), which, in his turn, could influence the impact of different message formats, such as the presence or absence of a refutational statement in a two-sided message.

When issue involvement, and thus personal relevance, is weak, message processing is rather limited (Hastak & Park, 1990). Individuals who are weakly involved with the issue will be less motivated to process the message about that issue, resulting in little or no impact of different message formats. Therefore, in line with previous empirical studies (e.g., Chebat & Picard, 1985), we only expect to find an effect of message sidedness when issue involvement is sufficiently strong.

When individuals' issue involvement is strong, the two-sided nature of the message is more likely to be influential (Hastak & Park, 1990). Strong involvement is necessary to motivate an individual to evaluate different message arguments (Gotlieb & Sarel, 1991). Furthermore, strong involvement enhances the importance of message content in persuasion (Chebat & Picard, 1985; Petty & Cacioppo, 1979). For instance, Leippe and Elkin (1987) found that strong issue involvement encourages sensitivity to how well message arguments concur with personal standards and opinions. We therefore expect that, for strongly involved individuals, two-sided messages will be more effective in generating resistance to counter-persuasion than one-sided ones, since two-sided messages offer a more nuanced view that might better represent their knowledge about the positive and negative aspects of the issue.

The positive impact of two-sided messages is expected regardless of whether the argument is refuted or not, since both subtypes of two-sided messages offer pro and con arguments about the issue. Ahn et al. (2011) suggest the mere mentioning of positive (pro drinking) arguments can be sufficient in order to make the recipients realize that the benefits do not outweigh the

negative consequences. In other words, refuting the opposing argument will be relatively easy to do themselves. Hence, to the strongly involved, refutation within the message itself might be unnecessary and is expected not to make a difference in terms of inoculating them against counter-persuasion (peer pressure) afterwards. We therefore expect an equally beneficial effect on strongly involved subjects' binge drinking intentions following exposure to peer pressure for a two-sided non-refutational and a two-sided refutational message.

H1a For weakly issue-involved adolescents, message sidedness does not affect binge drinking intentions.

H1b Strongly issue-involved individuals show lower binge drinking intentions following exposure to a two-sided message compared to a one-sided message.

H1c For strongly issue-involved individuals, an additional refutational statement in the two-sided message will not impact binge drinking intentions.

3 /

Method

3.1 Design and stimuli

To test the hypotheses, we set up a between-subjects factorial experimental design, in which one factor was manipulated on three levels (one-sided versus two-sided non-refutational versus two-sided refutational). Issue involvement was measured and subsequently dichotomized into two levels (weak versus strong involvement with binge drinking). The criterion we used to dichotomize involvement was the median. A median split has some important advantages over other methods of dichotomizing variables (such as, for instance, conducting an extreme split in which the less outspoken 'middle group' around the median is left out of the analyses). The median split method allows us to use all data (whereas, with some other approaches, part of the sample can be lost). Secondly, in reality, not many people have an extremely outspoken score on involvement. Using an extreme split would therefore not enhance the external validity. Hence our choice for a median split.

Respondents' involvement with the issue of binge drinking was measured prior to the exposure to the experimental stimuli and completing the questionnaire. Message sidedness and refutation were manipulated into three different messages, as follows: (1) the one-sided message contained one argument against binge drinking, i.e., "*Because of binge drinking, Thomas, 16 years old, got alcohol poisoning*", (2) the two-sided non-refutational message used the same anti-binge drinking argument, but also added one argument in favor of binge drinking (i.e., "*Thanks*

to the alcohol, he was very popular that night”), (3) the two-sided refutational message contained the same con and pro arguments, but refuted the pro binge drinking argument by means of a refutation statement (i.e., “*But how important is popularity in the end?*”). The anti-binge drinking messages used in the current study contain emotional, social arguments, as previous studies have shown that adolescents consume alcohol chiefly for social motives (e.g., Wicki et al., 2010). The peer pressure was conceptualized as a printed online chat conversation between two peers, slightly older than the participants in the experiment (i.e., aspiration group). In this virtual chat conversation, the teenagers talk to each other about how much fun their last night out was, thanks to binge drinking. They explicitly promoted binge drinking in a very informal way (e.g., “*Last night was awesome!! So much booze! Binge drinking is so cool, you gotta do it!!*”). To test whether the chat conversation was indeed perceived as being ‘in favor of binge drinking’, we conducted a pretest (cf. infra).

3.2 Pretests

The three experimental stimuli were pretested between-subjects among 60 respondents. For message sidedness and refutation, the same measurement scales as in the main study were used (see hereafter). The results show that the respondents rated the two-sided messages ($M = 5.97$) as more two-sided than the one-sided message on a seven-point semantic differential scale ($M = 1.30$), $t(58) = 17.19, p < .001$. The two-sided refutational message ($M = 5.95$) scored significantly higher on the seven-point refutation scale than the two-sided non-refutational message ($M = 2.45$), ($t(38) = 7.73, p < .001$). Additionally, the pro binge drinking peer pressure message was pretested among 15 respondents, indicating that the direction of the peer pressure message was very pro binge drinking ($M = 6.40, SD = 1.12$) on a seven-point semantic differential scale (i.e., “*The chat conversation is against versus in favor of binge drinking*”). The results of this pretest show that the chat conversation is indeed perceived as pro binge drinking.

3.3 Participants and procedure

The data for the main study were collected from 185 participants by means of a printed questionnaire in two secondary schools in Flanders, Belgium. The sample consisted of 67.6 per cent females, and the age range was 15 - 19 years ($M_{age} = 16.49$, $SD = .82$). The study focuses on adolescents because the prevalence of binge drinking is high within this target group. After a short introductory briefing to the study, and upon the participants' agreement to participate, the participants were gathered in a classroom under supervision. First, each participant's involvement with the issue of binge drinking was measured. Next, the participants were randomly assigned to one of the three experimental conditions. Subsequently, they were exposed to the peer pressure (i.e., the virtual chat conversation promoting binge drinking). Finally, they completed the questionnaire containing measures for behavioral intentions to binge drink. They were debriefed and thanked for their cooperation.

3.4 Measures

In line with previous studies (e.g., Eisend, 2006), the manipulation check variable message sidedness was measured by means of one single item on a seven-point semantic differential scale ("*This message only gives an argument against binge drinking*" versus "*This message gives an argument against binge drinking, but also considers an argument in favor of binge drinking*"). The manipulation check variable refutation of the message arguments was measured by one single item on a seven point likert scale ("*The argument in favor of binge drinking was subsequently refuted in the message*"). The moderator variable involvement with binge drinking was measured by five items on a seven-point likert scale (Beatty & Talpade, 1994) (i.e., "*The issue of binge drinking is very important to me*", "*In general, I have a strong interest in binge drinking*", "*Binge drinking matters a lot to me*", "*I get bored when other people talk to me about binge drinking (reversed item)*", "*binge drinking is very relevant to me*") ($\alpha = .82$). The outcome variable behavioral intentions to binge drink were assessed by three bipolar items on a seven-point scale (Zhang & Buda, 1999) (i.e., "*The chances that I will binge drink are improbable versus*

probable”, “*unlikely versus likely*”, “*impossible versus possible*”) ($\alpha = .96$). The concept of ‘involvement’ differs from ‘binge drinking intentions’ in multiple ways. First of all, respondents’ involvement with binge drinking is measured as an independent variable (i.e., prior to exposure to the actual experimental stimuli) and thus, is not influenced by the experimental manipulation. Binge drinking intentions, on the other hand, were measured as a dependent variable, that is, after exposure to the experimental stimuli. Second, involvement refers to the degree to which individuals are interested in the phenomenon of binge drinking, not per se having the intention to binge drink themselves. Although strongly involved teenagers are indeed often also the ones who are most at risk for binge drinking, the concept of involvement cannot automatically be considered as identical to binge drinking intentions. For instance, a teenager could give very limited thought to the idea of binge drinking, and not really be ‘interested’ in the phenomenon, but still have greater intentions to binge drink than a teenager who does have a strong interest in binge drinking. Hence, both concepts are different, both theoretically as well as in terms of their role (independent versus dependent variable) in the current study.

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Results**4.1 Manipulation checks**

The manipulation checks revealed that the two-sided messages ($M = 4.56$) were perceived as more two-sided than the one-sided message ($M = 1.95$, $t(183) = 10.29$, $p < .001$). The two-sided refutational message ($M = 4.76$) was considered more refutational than the two-sided non-refutational message ($M = 3.68$, $t(119) = 3.09$, $p < .001$). The pro binge drinking peer pressure message was rated as very pro binge drinking ($M = 6.28$, $SD = 1.22$).

4.2 Hypotheses testing

The hypotheses were tested by means of a two-way analysis of variance (ANOVA). The results showed a significant interaction effect between message sidedness and involvement with binge drinking on binge drinking intentions ($F(2,178) = 5.99$, $p = .003$) (see figure 1). Simple effect tests showed that, when adolescents' involvement with binge drinking was weak, their binge drinking intentions were not significantly different (i.e., equally low) for a one-sided ($M = 1.59$), a two-sided non-refutational ($M = 1.72$) and a two-sided refutational ($M = 1.84$) message, ($t(72) = .41$, $p = .69$), ($t(70) = .49$, $p = .63$) and ($t(74) = 1.19$, $p = .24$). These results support H1a.

When adolescents' involvement with binge drinking was strong, a two-sided non-refutational message ($M = 2.58$) and a two-sided refutational message ($M = 2.76$) both resulted in significantly lower binge drinking intentions than a one-sided message

($M = 4.12$), ($t(49) = 2.67, p = .01$) and ($t(46) = 2.35, p = .02$). This confirms H1b.

As expected, for strongly issue-involved individuals, no significant difference in binge drinking intentions following exposure to a refutational ($M = 2.76$) or a non-refutational ($M = 2.59$) two-sided message was found ($t(45) = .32, p = .75$), supporting H1c.

Additionally, we addressed possible confounding factors such as age or gender. When including gender as a covariate in the analysis, we found the same results ($F(2,177) = 5.96, p = .003$) in the same direction, indicating the absence of a confounding effect of gender.

Similarly, when repeating the analysis including age as a covariate, we obtained the same results ($F(2,177) = 5.70, p = .004$) in the same direction, indicating the absence of a confounding effect of age.

Additionally, to test if there is a relation between gender and involvement with binge drinking, and between gender and binge drinking intentions, we conducted two separate t-tests with gender as the independent variable, and involvement with binge drinking and binge drinking intentions each as a dependent variable. The results showed that there is no significant effect of gender on involvement with binge drinking ($t(183) = 2.197, p = .054$), and no significant effect of gender on binge drinking intentions ($t(182) = 1.49, p = .138$). Therefore, in combination with the covariate test (cf. supra), we can conclude that the distribution of gender does not have a confounding effect on the results of our study.

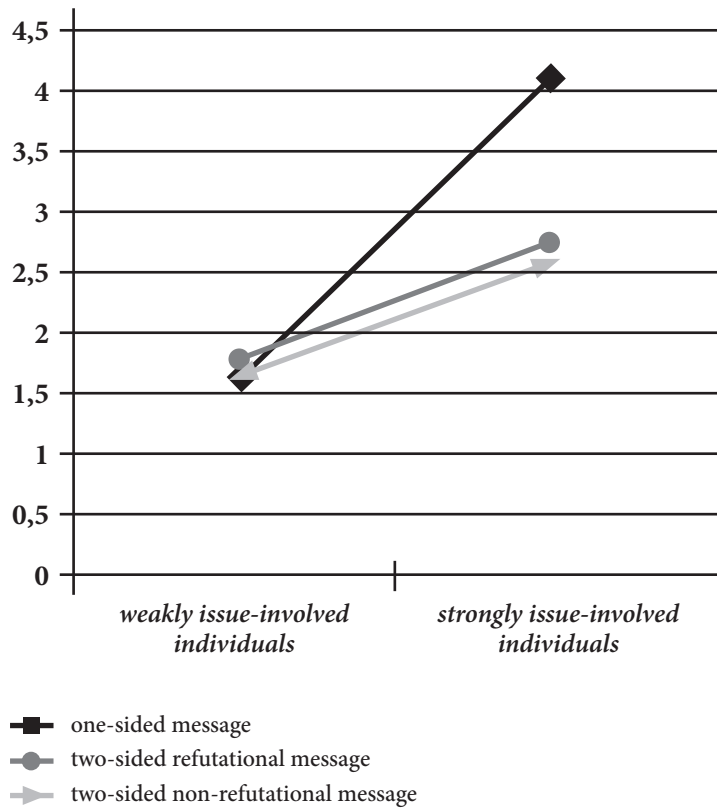


Figure 1: The interaction effect between message sidedness and involvement with binge drinking on binge drinking intentions after exposure to peer pressure.

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Discussion

In a commercial context, empirical studies produced mixed results regarding the impact of two-sided messages on behavioral intentions (Eisend, 2006; Crowley & Hoyer, 1994). In the present health risk prevention context, we found that behavioral intentions to indulge in binge drinking after exposure to peer pressure, are significantly influenced by message sidedness, but only when subjects' issue involvement is sufficiently strong. When involvement with binge drinking is weak, subjects' binge drinking intentions after peer pressure are low, irrespective of the type of communication. If an individual is weakly involved with binge drinking, he or she will put less effort in processing a message about binge drinking, simply because they do not care about it. As a result, they are not affected by any message at all. So regardless of the message sidedness, they remain disinterested in the issue of binge drinking. However, adolescents who are strongly involved with binge drinking are more open to persuasive influence: they express lower binge drinking intentions after peer pressure when they were previously exposed to a two-sided (refutational or non-refutational) anti-binge drinking message instead of a one-sided anti-binge drinking message. No different effect for a refutational and a non-refutational two-sided message was found. Following the inoculation theory (McGuire, 1961) one would expect a two-sided refutational message to be more effective in bolstering individuals against peer pressure, as the refutation statement in the message would serve as a bolstering mechanism. On the other hand, ample empirical studies show that refutation is not always necessary (e.g., Golden & Alpert, 1987; Kamins & Assael, 1987; Smith & Hunt, 1978). In other words, two-sidedness as such can be

persuasive, regardless of whether the two-sided argument was subsequently refuted in the message or not. The results of the present study demonstrate the moderating role of issue involvement: in the case of strongly issue-involved individuals, refutation in the message has no impact, as long as the message is two-sided instead of one-sided. Two-sided messages offer a more nuanced view on the issue, which is likely to be more appreciated by strongly issue-involved individuals, as involvement encourages sensitivity to how well message arguments concur with personal standards and opinions (Leippe & Elkin, 1987). Since strongly issue-involved individuals are expected to have elaborated on the pros and cons of binge drinking before, refutation does not add any relevant argument they did not consider before. This finding is also in line with the study by Ahn et al. (2011) who suggest that public service announcements (PSAs) disclosing the positive aspects of drinking (alongside the negative ones) can help adolescents to relate these situations to their own life, and understand that the benefits of excessive drinking are negligible compared to the negative consequences. Hence, a refutation statement within the message might be redundant in this case.

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Theoretical Contributions

The present study contributes to the health risk prevention literature, as well as to the research stream on message sidedness. First of all, this study offers valuable new theoretical insights in health risk prevention strategies, as it proposes an alternative way of communicating health risks. While, to date, most health campaigns consisted of one-sided appeals, we demonstrate that two-sided messages can be more effective in terms of health risk prevention. More specifically, when the aim is to increase individuals' resistance to counterpersuasion, two-sided messages prove to be more effective than one-sided messages.

Second, this study contributes to the existing theoretical framework on two-sided messages in two different ways. On the one hand, the present study goes beyond most prior message sidedness studies by incorporating refutational appeals as well. So far, a relatively limited amount of commercial studies in two-sided persuasion research incorporate refutational appeals (e.g., Kamins & Assael, 1987; Etgar & Goodwin, 1982). Our study fills this research void by comparing the three types of messages sidedness, that are, one-sided, two-sided non-refutational, and two-sided refutational. On the other hand, our study contributes to message sidedness theory by assessing the moderating impact of issue involvement. Issue involvement has been suggested by previous literature (Eisend, 2006, 2007) as a potentially important moderator of message sidedness' effects, but has not been investigated so far. Hence, our study provides new insights in the moderating role of issue involvement on the effectiveness of message sidedness.

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Practical Implications

The present study provides useful insights for health practitioners who develop campaigns to prevent binge drinking (or other health risk behavior) among adolescents. First of all, this study has broadened the spectrum of communication strategies available for public health communication. By applying a communication strategy previously mainly associated with commercial product marketing (i.e., two-sided messages) new possibilities are created for the social marketing domain.

In summary, the results of this study recommend the use of two-sided messages in campaigns aimed at preventing binge drinking among adolescents, especially strongly issue-involved adolescents, when they have previously been exposed to peer pressure. Two-sided messages (with or without refutation) are effective in inoculating strongly issue-involved adolescents against peer pressure later on. This is relevant given the high chances that adolescents are, in reality, confronted with peer pressure trying to convince them to binge drink. Moreover, strongly issue-involved subjects are the main target group for substance abuse prevention programs, as greater involvement with one substance (e.g., alcohol) is generally associated with greater involvement in another substance (e.g., smoking) (Johnson et al., 2000). Compared to the traditional one-sided (negative-only) anti-binge drinking messages, two-sided anti-binge drinking messages generate lower binge drinking intentions among this target group, regardless of whether the pro binge drinking argument was refuted in the message or not.

Personalization and targeting of anti-drinking interventions can increase the interventions' effectiveness (Craigs et al., 2011). Health practitioners should therefore obtain profound knowledge of the target group (i.e., to what extent they are involved with the issue), as strongly issue-involved adolescents require a two-sided approach. Hence, qualitative pre-research can help health practitioners to gain the necessary insights prior to the actual message design, in order to create optimal resistance against possible peer pressure later on.

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Limitations And Further Research

In line with previous studies assessing both refutational and non-refutational two-sided messages (e.g., Kamins & Assael, 1987), this study did not find a different effect for both subtypes of two-sided messages when including issue involvement as a moderator. Perhaps, when including other moderating variables (e.g., prior knowledge of the issue) and/or different situational contexts (e.g., induced central versus peripheral processing) different results might be found between both subtypes of two-sided messages.

Further studies could also consider different issues when investigating the effect of two-sided non-refutational versus two-sided refutational messages. Binge drinking is not a very ambivalent issue in that most people would consider it as undesirable behavior. Consequently, the issue of binge drinking has relatively weak pro arguments (“*cool*”) compared to the (strong) con arguments (“*alcohol poisoning*”). When the opposing argument (i.e., the pro binge drinking argument) is considerably weak, it might be more easily mentally refuted by the recipients themselves. For a more ambivalent topic (e.g., the use of antibiotics) – which is inherently more ‘dual’ because it is characterized by stronger pro and con arguments – a difference between the two-sided non-refutational and the two-sided refutational message could be expected, as it might be more difficult for subjects to mentally refute the argument themselves. Hence, in the case of more ambivalent issues, the presence of a refutational statement within the message might be necessary.

Another limitation of this study is that subjects' cognitions and counterargumentations after exposure to a two-sided message were not measured. McGuire's inoculation theory (1961) states that two-sided refutational messages reduce the amount of counterarguments and strengthens cognitions. Future research could also measure these cognitions and counterarguments to study the cognitive processing of different types of one- and two-sided messages more in depth.

We acknowledge that our manipulation of peer pressure could have been stronger by using the participants' actual peers (i.e., their real friends instead of two teenagers they do not personally know), but this was not feasible for several reasons. First of all, it would be unethical to expose teenagers to very strong peer pressure for the sake of an experiment. Second of all, it is practically unfeasible to force real teenagers (i.e., friends of the participants) to 'act' peer pressure. This would seem unrealistic, which would hamper the external validity of our study. However – in addition to the manipulation check we conducted on the manipulation of peer pressure in the present study – further research could also measure the perceived strength of the peer pressure, and perhaps, compare different levels of strength in peer pressure.

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Chapter 6

**Credibility effects of
(non-)refutational two-sided
health messages: the moderating
role of issue ambivalence
and argument type**

Chapter 6 is submitted to *Journal of Marketing Behavior*.

Chapter 6 was presented as “Cornelis, E., Cauberghe, V., De Pelsmacker, P. (2012). The impact of refutation on credibility: The moderating role of issue ambivalence and argument type. The 41th EMAC conference, May 24th-27th 2012, Lisbon, Portugal.”

The present study addresses the effects of refutational versus non-refutational two-sided messages on source and message credibility. Additionally, the moderating role of issue ambivalence and argument type is assessed. A 2 x 2 x 2 between-subjects factorial experimental design among 853 teenagers investigates the effect of eight anti-binge drinking and anti-marijuana messages on source and message credibility. The results show that refutation increases credibility compared to non-refutation. Additionally, a three-way interaction effect is found: credibility effects of refutation depends on the ambivalence of the issue and the argument type.

Keywords:

refutation, issue ambivalence,
argument type, credibility, attitudes

1 /

Introduction

Most health risk prevention campaigns merely focus on the negative side of unhealthy behavior by emphasizing how damaging the behavior is (Reynolds & Seeger, 2005). In other words, they are one-sided in their argumentation. However, overuse of such one-sided negative appeal leads to credibility loss, habituation, possibly evoking a saturation effect (Ahn et al., 2011; Devlin et al., 2007). To overcome this communication problem, the present study assesses an alternative and potentially more effective way of communicating health risks: two-sided messages, “*in which the communicator takes into account both sides of an issue, but actually still favors one side*” (Hovland, 1954). A vast amount of studies suggests that commercial advertising messages can include some negative information along with the positive product information, and can still be more effective than when only positive information is provided (Allen, 1991; Crowley & Hoyer, 1994; O’Keefe, 1999; Pechmann, 1992).

However, the two-sided message strategy has mainly been applied to commercial product advertising (Eisend, 2006). A few notable studies applied two-sided messages to health communication (e.g., Belch, 1982; Ford & Smith; 1991; Ley et al., 1977). Hence, there is a lack of research applying the two-sided message strategy to public awareness campaigns or health risk prevention messages (Eisend, 2006). The added value of the current study is to investigate two-sided messages in a reversed way by focusing on the avoidance of the negative consequences of certain unhealthy behavior (e.g., smoking causes lung cancer) while adding a minor positive aspect of that behavior (e.g., smoking gives some feeling of

stress relief). Based on a pretest, the issues of binge drinking and marijuana use among adolescents are chosen for this study. Both binge drinking and marijuana use form severe problems among adolescents nowadays (Comello, 2011; Hecht, et al., 2006).

Several studies suggest that two-sided messages, providing both sides of an issue, can be more effective than one-sided messages, in which only one side is provided (Crowley & Hoyer, 1994; Eisend, 2006; Golden & Alpert, 1987; Kamins & Assael, 1987; Pechmann, 1992). Most of these studies compared one-sided and two-sided messages, with the quasi unanimous result that two-sided messages are superior over one-sided messages in terms of source and/or message credibility (Crowley & Hoyer, 1994). However, few studies (Allen, 1991; Hale et al., 1991) discriminate more specifically between two subtypes of two-sided messages: refutational and non-refutational ones. In non-refutational two-sided messages, advertisers simply present positive and negative information. In refutational two-sided messages, they subsequently refute or discount the negative information that was added in the message. The persuasive impact of both subtypes of two-sided messages received little research attention, especially in terms of its impact on source and message credibility.

Attribution theory (Jones & Davis, 1965) explains the positive credibility effects of two-sided messages over one-sided messages (Eisend, 2006). Concerning the refutational character of two-sided messages, attribution theory is less explicit. Some studies found equal effects of refutational and non-refutational two-sided messages on message credibility (Kamins & Assael, 1987), whereas other studies found that a two-sided refutational message is more credible (Eisend, 2006). It remains unclear when refutation is necessary, and when it is redundant for persuasive aims. Hence, research on variables that might moderate these effects is needed. The moderators studied to date are mainly message structure variables (e.g., the amount of negative information, the importance of negative attributes, etc.) or receiver characteristics (e.g., prior attitude) (Eisend, 2006), while issue and argument type related variables have been neglected so far. The present study addresses issue ambivalence and argument type as moderators of the effectiveness of (non-)refutational two-

sided messages on source and message credibility. Subsequently, the study examines the impact of source and message credibility on the attitude toward the message, the attitude toward the issue and behavioral intention.

2 /

Theory And Hypotheses Development

2.1 The impact of refutation in two-sided health messages

Attribution theory (Jones & Davis, 1965) describes the process an individual goes through in assigning causes to events (Crowley & Hoyer, 1994). Applied to advertising, attribution theory posits that consumers attribute advertising claims either to the honesty of the advertiser or to the advertiser's attempt to sell the product (Settle & Golden 1974). The inclusion of negative information in commercial advertising, as in a two-sided message, makes the receiver believe that the advertiser is speaking the truth (Crowley & Hoyer, 1994). Therefore, in order to evoke an enhanced perception of source credibility, attribution theory (Jones & Davis, 1965) recommends two-sided messages over one-sided messages.

However, attribution theory provides no clear guidance concerning the message structure of two-sided messages (i.e., whether the two-sided message should contain a refutation or not) (Crowley & Hoyer, 1994; Jones & Davis, 1965). Empirical results are not always consistent with respect to the effectiveness of refutation in two-sided messages. Kamins and Assael (1987) obtained equal effects on credibility for both the refutational and the non-refutational two-sided message. Other studies emphasize that a refutational statement in a message makes receivers take the message and the source more seriously, implying that a two-sided refutational message is more credible (Eisend, 2006). Based on these heterogeneous results, it remains unclear when refutation is necessary, and when it is redundant for persuasive aims.

Refutational messages are intrinsically more authoritative, because they clearly emphasize the 'desired' communication direction (Hynd, 2001). Refutation can therefore be more easily recognized as an attempt to persuade (Hynd, 2001). Arguably, in commercial advertising, a refutational statement in a two-sided message might have detrimental effects on the advertiser's credibility, because the advertiser's self-interest would be too obvious (Eisend, 2006; Walster et al., 1966). However, in a health prevention context, empirical studies on the inclusion of refutation showed that a source with low self-interest (such as a health organization) is more credible when refuting the counterarguments in the message, than when this refutation was not included (Hass & Reichig, 1977; Walster et al., 1966).

Thus, in the health risk prevention context of the present study, a refutational two-sided message, which provides more guidance, might be more appreciated and regarded as more credible, as the recipients know that the source of the message is not acting out of self-interest, but rather out of public-interest (Walster et al., 1966). In other words, for health prevention messages, a two-sided refutational message could be more credible than a two-sided non-refutational message. Similarly, in an educational context (i.e., in which the educational institution has low self-interest), several studies show evidence that students prefer two-sided refutational over non-refutational text (Guzzetti et al., 1995; Guzzetti et al., 1993; Hynd, 2001).

2.2 The moderating impact of argument type

Credibility effects of two-sided refutational messages are not only influenced by the perceived self-interest of the communicator, but also by other factors, such as the argument type. Argument type is important for a source or a message to be credible (Pornpitakpan, 2004). In general, the more relevant the argument is for the issue at hand, the more credible the overall message is (Slater & Rouner, 1996). The present study compares the impact of cognitive and affective arguments about binge drinking and marijuana use. Pham (1998) found that the relevance of the argument type (affective versus cognitive) depends on the type of consumption motive underlying the behavior or the issue (Pham, 1998). He distinguishes between consummatory and

instrumental motives. Consummatory motives underlie behavior that is pleasant as such, whereas instrumental motives underlie behaviors that are undertaken to achieve well-considered further goals (Pham, 2004). Instrumentally motivated behavior is likely to be cognitively driven, while consummatory motivated behavior is likely to be affectively driven (Martin & Tesser, 1992; Pham, 1998). Consequently, when an issue is primarily associated with consummatory motives, affective considerations will be more relevant determinants of behavior than cognitive considerations (Holbrook & Hirschman, 1982; Pham, 1998). In other words, affective arguments are perceived as more relevant than cognitive arguments when the particular behavior is done for consummatory reasons, and vice versa (Holbrook & Hirschman, 1982; Pham, 1998).

Like most unrestrained behavior, binge drinking and marijuana use are inherently consummatory, since the act of binge drinking or smoking marijuana holds little if any instrumental value (Ricciardelli et al., 2001). Studies show that individuals mostly indulge in drugs for affective, impulsive, or social reasons, instead of cognitive or instrumental reasons (Williams & Clark, 1998). Therefore, it can be argued that, for the issues of binge drinking and marijuana use, affective arguments are more relevant, leading to a higher source and message credibility than cognitive arguments (Pornpitakpan, 2004; Slater & Rouner, 1996).

2.3 The moderating impact of issue ambivalence

Ambivalent attitudes can be defined as the simultaneous existence of conflicting positive and negative thoughts or feelings that a person holds toward an attitude object or issue (Priester & Petty, 2001). Consequently, issue ambivalence is the degree to which an issue generates ambivalent (versus univalent) attitudes. In his meta-analysis on message sidedness, Allen (1991) links issue ambivalence to voluntariness of disclosure. Voluntariness of disclosure, in his turn, is an important determinant of the credibility of two-sided messages (Eisend, 2006). The credibility of a two-sided message depends on whether the receiver perceives the discounting counter-information in the message to be given voluntarily or not (Eisend, 2006). If a marketer makes an unfavorable

disclosure because he is required or legally forced to (e.g., health warning on cigarette ads), he is perceived less credible than a marketer who makes the disclosure voluntarily (Eisend, 2006). For more ambivalent issues (i.e., in this study: marijuana use) inherently characterized by arguments in favor as well as against the issue, the general awareness of both positive and negative arguments is high (Allen, 1991). Therefore, for an ambivalent issue, an advertiser who uses a two-sided message is not regarded as giving both sides of the issue voluntarily, but just as acknowledging the inherent ambivalence of the issue (Allen, 1991). On the other hand, univalent issues (i.e., in this study: binge drinking) are not dual: they are characterized by either strong pro arguments (univalent positive issue) or strong con arguments (univalent negative issue). When a communicator discloses counter-information about a univalent issue, this might be perceived as more 'voluntary', as the communicator is not expected to disclose information on both sides of the issue (given the univalent nature of the issue) (Allen, 1991). Therefore, two-sided messages about univalent issues might be considered as more voluntary, and therefore lead to a higher source and message credibility than two-sided messages about ambivalent issues.

2.4 Hypotheses development

In sum, when the issue is univalent (binge drinking) and the arguments are affective, refutation will not increase the credibility of the two-sided message and the source, as univalent issues (voluntary disclosure) and affective arguments (relevant for consummatory behavior) already set high levels of credibility. In other words, refutation in the message is not necessary in this case to boost credibility. We expect a ceiling effect, in that a two-sided non-refutational and a two-sided refutational message will be equally credible. Therefore, no hypothesis is formulated on this expected non-effect.

Second, when a univalent issue (voluntary disclosure) is combined with a cognitive argument type (less relevant for consummatory behavior), credibility levels decrease due to the less relevant arguments used. Hence, refutation will be needed to uplift the source and message credibility. In this case, a two-sided refutational message is expected to generate a higher source and

message credibility than a two-sided non-refutational message.

Third, when the issue is ambivalent (no voluntary disclosure), and the arguments used are affective (relevant for consummatory behavior), credibility levels are also low because of the seemingly involuntary disclosure. So in this case, a refutation statement can help to increase the level of message and source credibility. We therefore expect a two-sided refutational message to generate a higher source and message credibility compared to a two-sided non-refutational message, in this case.

Fourth, when an ambivalent issue (no voluntary disclosure) is combined with a cognitive argument type (less relevant for consummatory behavior), we expect a floor effect: credibility levels will not be influenced by refutation anymore. In this case, we expect a two-sided refutational and a two-sided non-refutational to generate no difference in source and message credibility. Hence, no hypothesis is formulated.

H1a When the issue is univalent, a refutational cognitive two-sided message leads to a higher source and message credibility than a non-refutational cognitive two-sided message.

H1b When the issue is ambivalent, a refutational affective two-sided message leads to a higher source and message credibility than a non-refutational affective two-sided message.

2.5 The relation between credibility, attitudes, and behavioral intentions

Attribution theory (Jones & Davis, 1965) explains the credibility enhancement engendered by two-sided messages, but provides limited insight in the effects of two-sided messages on attitudes and behavioral intentions (Crowley & Hoyer, 1994). The credibility of the message is a major determinant of the attitude toward the message (Lutz et al., 1983). A highly credible source is generally more persuasive than a lowly credible source (Pornpiktakpan, 2004). Therefore, we expect that message credibility is positively correlated with the attitude toward the message. Additionally, in line with previous

research (Kim & Hunter, 1993), we expect that – when message credibility is high – adolescents’ attitude toward binge drinking or marijuana use will be more negative, and subsequently, their behavioral intentions to binge drink or to smoke marijuana will also be lower, than when message credibility is low.

H.2a Message credibility is positively correlated with the attitude toward the message.

H.2b Message credibility is negatively correlated with the attitude toward the issue.

H.2c Message credibility is negatively correlated with behavioral intentions.

3 /

Method**3.1 Design and stimuli**

A 2 x 2 x 2 between-subject factorial experimental design was set up, in which refutation in a two-sided message (two-sided non-refutational versus two-sided refutational), argument type (cognitive versus affective), and issue ambivalence (ambivalent versus univalent issue) were the independent, manipulated variables. Each of the eight different messages contained a main argument against the issue (the directional argument, which is anti-binge drinking or anti-marijuana use) and a secondary argument in favor of the issue (the counterargument). In the refutational two-sided messages, this secondary positive argument was refuted.

Argument type (cognitive versus affective) was manipulated through the type of arguments used: the cognitive arguments were factual (i.e., con argument: *“Binge drinking leads to alcohol poisoning/ Marijuana use leads to psychoses”*, pro argument: *“Alcohol can reduce the risk of cardiovascular diseases/ Marijuana is a natural product”* and refutation: *“But the cardiovascular benefits of alcohol only count in moderate amounts/But poisonous plants are natural products too”*). The affective arguments were more affective (i.e., con argument: *“Because of binge drinking, Thomas, 16 years old, occurred alcohol poisoning/ Because of using marijuana, Thomas, 16 years old, got psychoses”*, pro argument: *“Thanks to the alcohol, he was very popular that night/Using marijuana helped him to reduce his stress”* and refutation: *“But how important is popularity in the end?/But marijuana doesn’t take away the cause of stress”*).

Only the affective arguments were accompanied by a pictorial image, not the cognitive arguments, because images are found to be more affect-laden than verbal-only appeals (Mitchell, 1986; Zinn & Manfredro, 2000).

3.2 Pretest 1

Issue ambivalence was manipulated through the use of two distinct issues. In order to choose an ambivalent versus a univalent issue, a within subjects pretest ($N = 23$, age range between 15 and 19 years old) based on a list of seventeen different issues was conducted among adolescents (the same target group as the main study). Respondents were asked to rate a list of 17 issues on a one-item, seven-point semantic differential scale (i.e., “*This behavior is very bad – This behavior is ambivalent (partially bad, partially good) – This behavior is very good*”). Based on the results of this pretest, we selected marijuana use as an ambivalent issue and binge drinking as a univalent issue. Shepherd (1981) already recognized the controversy or ambivalence of marijuana use. The results of our pretest show that marijuana use ($M = 3.61$) was significantly more ambivalent (i.e., in the middle between negative and positive) than binge drinking ($M = 2.00$), which was rated as univalent negative behavior, ($t(44) = 4.06, p < .001$). Apart from the manipulations, the eight experimental stimuli were the same.

3.3 Pretest 2

The stimuli were pretested between-subjects in a sample of 160 respondents between 15 and 19 years old by means of a printed questionnaire. Refutation, issue ambivalence, and argument type were measured by means of the same constructs as in the main study (see hereafter). As expected, participants rated the two-sided refutational messages ($M = 5.92$) as significantly more refutational than the two-sided non-refutational messages ($M = 2.32$), ($t(158) = 16.05, p < .001$). The ambivalent issue (marijuana use) ($M = 2.91$) was rated as more ambivalent (i.e., in the middle on a seven-point semantic differential scale between negative and positive) than the univalent issue (binge drinking), which was rated as more negative ($M = 2.19$), ($t(158) = 4.09, p < .001$). Similarly, respondents rated the affective messages ($M = 4.83$) as significantly

more affective (versus cognitive) than the cognitive messages ($M = 2.44$), ($t(158) = 12.63, p < .001$).

3.4 Post-hoc test

Additionally, a post-hoc test was conducted to measure the underlying concepts on which our hypotheses are built. This post-hoc test was conducted between-subjects among 86 respondents ($M_{age} = 16.41, SD = .80$; 65.1 % male). First, prior to exposure to one of the eight stimuli, the respondents were asked to indicate their motivation (instrumental versus consummatory) for binge drinking or smoking marijuana. Then, they saw one of the eight stimuli used in the main experiment. Subsequently, the respondents completed a written questionnaire containing measures for perceived self-interest of the source, argument relevance, and perceived voluntariness of disclosure. These variables were measured as a test for the concepts underlying our hypothesis development.

3.5 Participants and procedure

A total of 853 subjects participated in the main experiment, which was a between-subjects design. The sample consisted of 63.4 % females. The age of the participants ranged between 15 and 19 years ($M_{age} = 16.78, SD = .93$). This study deliberately targeted adolescents between 15 and 19 years old, as the issues of binge drinking and marijuana use are especially relevant for this age group. The respondents were selected by contacting at random the principals of five different secondary schools in Flanders, Belgium. In each school, a class from the fourth, fifth, and sixth grade was randomly selected to participate in the experiment.

The data were collected by means of a printed questionnaire. The respondents were gathered in a classroom under supervision of their teacher and the researcher. They were randomly assigned to one of the eight experimental stimuli. Each respondent individually received one of the eight stimuli on print. Subsequently, they completed the questionnaire, containing the manipulation checks, followed by the dependent variables (i.e., source credibility,

message credibility, attitude toward the message, attitude toward the issue, and behavioral intentions) and age and gender. Finally, the respondents were debriefed and thanked for their cooperation.

3.6 Measures

3.6.1 Independent variables and manipulation checks

Consistent with previous studies (Eisend, 2006), the manipulation check variable for this experimental factor was measured by means of one single item on a seven-point Likert scale (i.e., “*The positive argument was subsequently refuted in the message*”, totally disagree – totally agree). The manipulation check variable for this experimental factor was measured by a three item seven-point semantic differential scale based on Liu and Stout (1987) (e.g., “*I think this message is cognitive versus affective.*”) ($\alpha = .65$). Perceived ambivalence of the issue was measured using one item on a seven-point semantic differential scale (i.e., *This behavior is very negative – This behavior is ambivalent (partially negative, partially positive) – This behavior is very positive*”).

3.6.2 Dependent variables

Source credibility was measured by three items on a seven-point semantic differential scale (Eisend, 2007) (e.g., “*The source is not trustworthy versus trustworthy*”) ($\alpha = .89$). Message credibility was measured by means of a four item seven-point semantic differential scale (Gurhan-Canli & Maheswaran, 2000) (e.g., “*The message is not credible versus credible*”) ($\alpha = .85$). To assess the attitude toward the message, respondents had to indicate on a four item seven-point semantic differential scale (Holbrook & Batra, 1987) whether they liked versus disliked the message (e.g., “*I like versus dislike the message.*”) ($\alpha = .81$). The attitude toward the issue (binge drinking) was measured by six items on a seven point semantic differential scale (Burgoon et al., 1978) (e.g., “*Binge drinking is bad versus good*”) ($\alpha = .96$). Behavioral intentions were assessed by three bipolar items on a seven-point scale (Zhang & Buda, 1999) (e.g., “*The chances that I will binge drink are improbable versus probable*”) ($\alpha = .97$). Consummatory versus instrumental motives were measured by means of a one-item seven-point semantic differential scale varying from

“I (would) binge drink/use marijuana simply for the pleasure of consumption” versus *“I (would) binge drink/use marijuana as an instrument to obtain a specific further goal in mind”*. Perceived self-interest of the source was measured by means of a one-item seven-point semantic differential scale (i.e., *“To which degree do you think the source of this message has self-interest in communicating this message?”* varying from *“no self-interest at all”* to *“a lot of self-interest”*). Argument relevance was measured by a one-item seven-point semantic differential scale (i.e., *“The arguments used in the message were not relevant versus relevant”*). In line with previous research (Eisend, 2010), perceived voluntariness of disclosure was measured by means of a one-item seven-point semantic differential scale (i.e., *“Do you believe the source made the disclosure not at all voluntary”* versus *“entirely voluntary”*). The scores on the items of all multi-item scales were averaged for hypotheses testing.

4 /

Results**4.1 Manipulation checks**

A manipulation check was performed by means of three independent sample t-tests with perceived refutation (two-sided non-refutational versus two-sided refutational), perceived argument type (cognitive versus affective), and perceived ambivalence of the issue (univalent versus ambivalent) as dependent variables. The respondents rated the two-sided refutational messages ($M = 4.78$) as significantly more refutational than the two-sided non-refutational messages ($M = 3.39$), ($t(850) = 10.82, p < .001$). The affective messages ($M = 3.37$) were considered significantly more affect-laden than the cognitive messages ($M = 2.77$), ($t(840) = 7.15, p < .001$). The ambivalent issue (marijuana) ($M = 2.53$) was also found to be more ambivalent (i.e., in the middle between negative and positive) than the univalent issue (binge drinking), which was rated as more negative ($M = 1.93$), ($t(822) = 6.35, p < .001$).

4.2 Hypotheses testing

To test hypotheses 1a and 1b, two univariate analyses of variance (ANOVAs) were conducted with refutation, argument type, and ambivalence as the independent variables, and source and message credibility as the dependent variables. The results indicated a significant third-order interaction effect between refutation (two-sided non-refutational versus two-sided refutational), argument type (affective versus cognitive), and ambivalence of the issue (univalent versus ambivalent) on source credibility, ($F(1, 849) = 7.54, p = .005$) and on message credibility ($F(1, 849) = 11.54, p = .001$).

Simple effect tests showed that, when the issue was univalent and the arguments were affective, a refutational ($M_{\text{source credibility}} = 5.27$) ($M_{\text{message credibility}} = 4.99$) and a non-refutational ($M_{\text{source credibility}} = 5.52$) ($M_{\text{message credibility}} = 5.22$) two-sided message did not lead to any differences in source credibility ($t(179) = 1.29$, $p = .198$) and message credibility ($t(179) = 1.26$, $p = .201$). This is in line with the expectations. When a cognitive message was used, a refutational two-sided message ($M_{\text{source credibility}} = 5.43$) ($M_{\text{message credibility}} = 5.16$) led to a significantly higher source credibility ($t(186) = 3.04$, $p = .003$) and message credibility ($t(186) = 4.20$, $p < .001$) than a non-refutational two-sided message ($M_{\text{source credibility}} = 4.83$) ($M_{\text{message credibility}} = 4.31$) (see Figure 1 and Figure 2). These findings confirm hypothesis 1a.

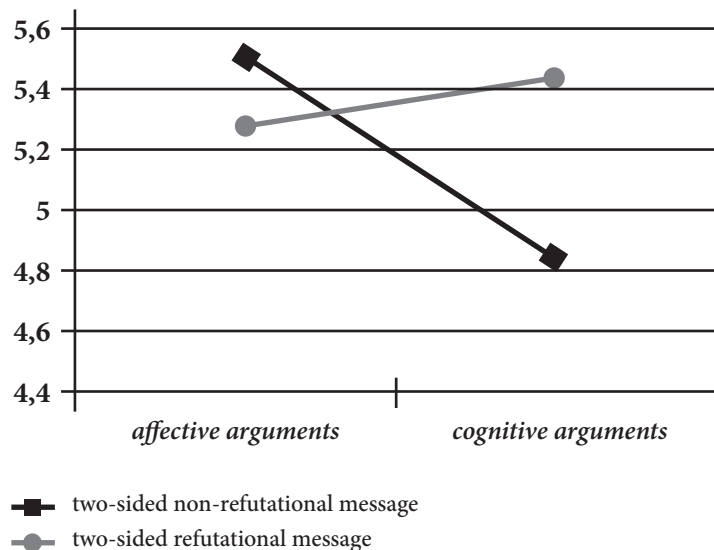


Figure 1: The interaction effect between argument type and refutation for a univalent issue on source credibility.

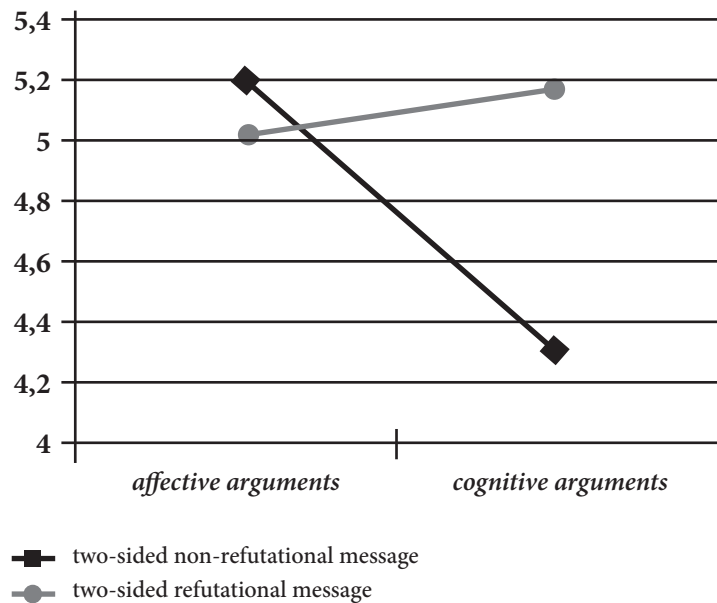


Figure 2: The interaction effect between argument type and refutation for a univalent issue on message credibility.

When the issue was ambivalent and the arguments were affective, a refutational two-sided message ($M_{source\ credibility} = 5.42$) ($M_{message\ credibility} = 5.10$) led to a higher source credibility and message credibility than a non-refutational two-sided message ($M_{source\ credibility} = 5.19$) ($M_{message\ credibility} = 4.74$) ($t_{source\ credibility} (233) = 1.28, p = .201$) ($t_{message\ credibility} (234) = 2.10, p = .037$). Hypothesis 1b is partially supported, as the effect on source credibility is not significant. When cognitive arguments were used, a refutational ($M_{source\ credibility} = 5.21$) ($M_{message\ credibility} = 5.08$) and a non-refutational ($M_{source\ credibility} = 5.15$) ($M_{message\ credibility} = 4.86$) two-sided message did not lead to any differences in source credibility ($t (244) = .39, p = .691$) and message credibility ($t (243) = 1.40, p = .163$) (see Figure 3 and Figure 4), which is in line with our expectations.

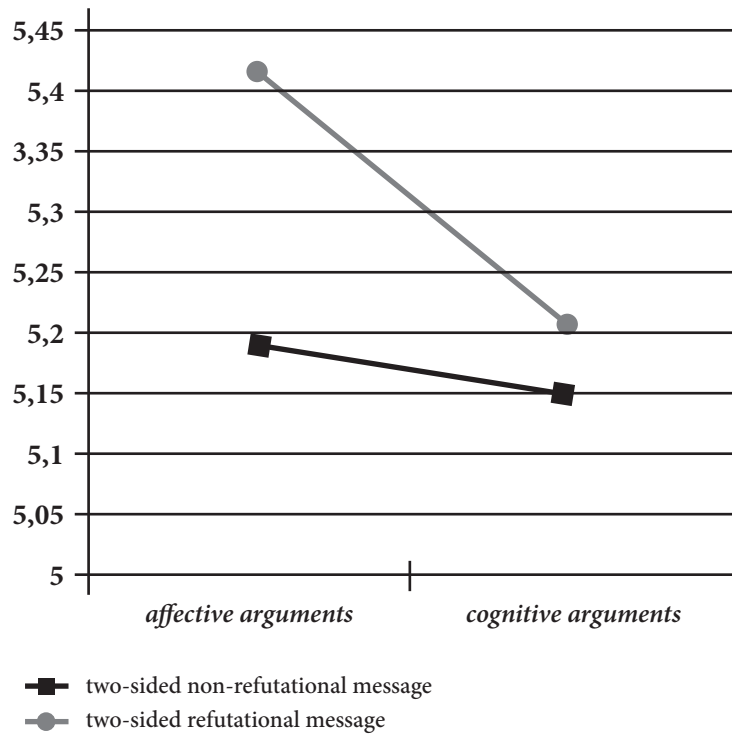


Figure 3: The interaction effect between argument type and refutation for an ambivalent issue on source credibility.

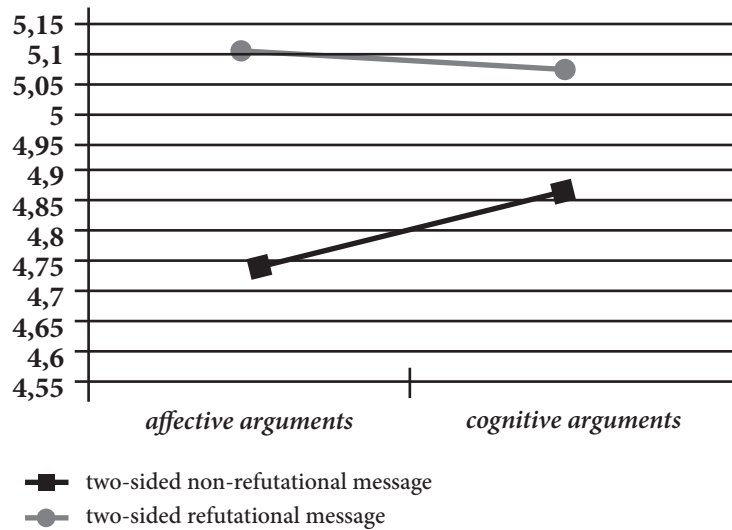


Figure 4: The interaction effect between argument type and refutation for an ambivalent issue on message credibility.

Furthermore, we conducted a post-hoc test to verify the underlying assumptions of our hypotheses. The results of the post-hoc test showed that both binge drinking and marijuana use are indeed mainly driven by consummatory rather than instrumental motives ($M = 2.46$ on a one-item seven-point semantic differential scale varying from “*I (would) binge drink/use marijuana simply for the pleasure of consumption*” versus “*I (would) binge drink/use marijuana as an instrument to obtain a specific further goal in mind*”). Perceived self-interest of the source was equally low for both stimuli regarding binge drinking ($M = 2.27$) and marijuana use ($M = 2.38$), ($t(84) = .51, p = .61$). Also, as assumed, the affective argument ($M = 5.20$) was rated as more relevant than the cognitive argument ($M = 3.87$), ($t(84) = 5.71, p < .001$). Lastly, the respondents perceived the disclosure about the univalent issue (binge drinking) ($M = 5.10$) to be given more voluntarily than the disclosure about the ambivalent issue (marijuana use) ($M = 3.87$), ($t(84) = 3.27, p = .002$).

Subsequently, hypothesis 2a, 2b, and 2c were tested using correlation analyses. The results showed a strong significant, positive correlation between message credibility and the attitude toward the message ($r(848) = .52, p < .001$), supporting hypothesis 2a. Additionally, we found a significant, though rather weak, negative correlation between message credibility and the attitude toward the issue ($r(845) = -.16, p = .001$) and message credibility and behavioral intentions ($r(847) = -.07, p = .031$), supporting hypotheses 2b and 2c.

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Discussion

The present study shed light on the effects of two-sided messages on source and message credibility, by investigating the boundary conditions when refutation of a counterargument is necessary. Although for commercial advertising, refutation can have detrimental effects on credibility, because the self-interest of commercial advertisers might be too obvious (Eisend, 2006; Walster et al., 1966), the opposite could be the case in health communication, since most health organizations act for public interest (Hynd, 2001). The results of this study show that, for health risk prevention messages, a two-sided refutational message may generate a higher source and message credibility than a two-sided non-refutational message, but refutation is not always necessary. The need for refutation depends on the ambivalence of the issue and the consistency of the argument type and the motivation to conduct the behavior at hand.

When the health risk issue is not ambivalent, a two-sided message revealing both sides of the issue could be regarded as more voluntary, because the source is not 'supposed' to give both sides of the issue (Allen, 1991). This higher accredited voluntariness of self-disclosure may lead to more credibility (Allen, 1991). Furthermore, when a univalent issue is combined with highly relevant, affective arguments, the overall credibility is high, regardless of whether the message is refutational or not. Hence, in this case, refutation is not needed, as the credibility is already set by the perceived voluntariness (univalent issue) and the relevance of the arguments (affective). When, however, a univalent issue is communicated with less relevant cognitive arguments (instead of

affective), refutation is needed in order to uplift the overall credibility of the source and message.

For an ambivalent issue, characterized by a lower perceived voluntariness to communicate both sides of the issue, credibility might be lower. An ambivalent issue is obviously dual, making a two-sided message more the 'expected' way of acknowledging this duality, rather than a sign of honesty or voluntariness (Allen, 1991). When for an ambivalent issue, the more relevant, affective arguments are used, refutation is a helpful tool to increase the credibility. When, however, cognitive arguments are used, which are less relevant for consummatory behavior (Pham, 1998), refutation versus non-refutation does not have a different impact on source and message credibility. Additionally, message credibility was found to increase adolescents' attitudes toward the message, while also reducing their attitudes toward the issue (i.e., binge drinking or marijuana use) and their behavioral intentions to indulge in these health risk behaviors. These results align with our hypotheses.

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Theoretical Contributions

The present study contributes to the theoretical framework on two-sided messages in multiple ways. First of all, this study discriminates specifically between two subtypes of two-sided messages (i.e., refutational and non-refutational ones). To date, the persuasive impact of both subtypes of two-sided messages received little research attention, especially in terms of their impact on source and message credibility. Hence, the present study aimed to fill this research void. In addition, our study offers new insights into message sidedness theory, more specifically attribution theory (Jones & Davis, 1965). While attribution theory describes the superiority of two-sided messages over one-sided messages in terms of credibility, it remains silent on the credibility effects of refutational versus non-refutational two-sided messages (Eisend, 2007). Empirical studies found equal effects of refutational and non-refutational two-sided messages on message credibility (Kamins & Assael, 1987), whereas other studies found that a two-sided refutational message is more credible (Eisend, 2006). Thus, to explain this dissonance, this study addresses certain moderators of the credibility effects of refutational versus non-refutational two-sided messages. More specifically, the present study addresses issue ambivalence and argument type, which had been overlooked by previous research. Lastly, the present study examines the impact of source and message credibility on the attitude toward the message, the attitude toward the issue and behavioral intention. This way, it contributes to prior research in that it not only investigates credibility effects, but also, the impact on overall message evaluations and compliance with the message.

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Practical Implications

The present study provides useful insights for health practitioners who develop campaigns to prevent binge drinking or marijuana use (or other consummatory motivated behavior that implies health risks) among adolescents. Contrary to commercial advertisers, health organizations can increase their credibility, as well as the credibility of the message, by including a refutation in their two-sided health risk prevention messages. This enhanced credibility subsequently leads to more positive attitudes toward the message, more negative attitudes toward the issue, and lower behavioral intentions to indulge in the health risk behavior. However, refutation is not always necessary. Health practitioners should take issue ambivalence and the argument type into consideration before developing a two-sided health risk prevention message, as those factors determine when refutation is beneficial and when it is redundant. Caution is needed concerning the use of refutation, because in situation of high self-interest of the advertiser, a refutational statement in a two-sided message might have detrimental effects on credibility (Walster et al., 1966). Thus, prior to the actual message design, pre-research can help health practitioners to gain insights in (a) reputation of the source: is the source considered as acting out of self-interest or not? (b) consumption motives: are the consumption motives – driving the target group's behavior – instrumental or consummatory? and (c) issue ambivalence: does the target group regard the issue as ambivalent or not? This knowledge of the target group is essential in deciding which arguments (e.g., cognitive or affective) and, subsequently, which type of two-sided message (refutational or non-refutational) to develop the most optimal health campaigns.

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Limitations And Further Research

A limitation of this study is that it remains rather issue-specific. In order to generalize the results, other issues should be investigated. We acknowledge that issue ambivalence can be individually or culturally dependent. Therefore, future studies should test if the results of this study still hold for an issue that is perceived as ambivalent versus univalent by different subgroups. For instance, breast cancer screening might be regarded as univalent positive by most women, whereas for some women, the practice of breast cancer screening might be coupled with feelings of shame or fear, hence, be more ambivalent.

Furthermore, in this study, an ambivalent issue (marijuana use) was compared to a univalent negative issue (binge drinking), whereas univalent positive issues (such as, for instance, sports or a healthy diet) were not studied. It would be worthwhile to include issues that are considered as predominantly positive, for which negative arguments are given in a two-sided message, in order to test the voluntariness of disclosure principle (Allen, 1991). Additionally, results might have been different for behavior involving instrumental motives, for which cognitive arguments are more relevant (Pham, 1998).

The manipulation of issue ambivalence by selecting two different issues is an area worthy of further research. Despite the fact that the selection of both issues was based on a pretest (containing a list of seventeen different issues), and that the manipulation checks were successful, the difference in perceived ambivalence between both issues is rather small. In future studies, this matter could be avoided by choosing one single issue and measuring each

respondent's personal 'attitude ambivalence' toward the issue. In this way, a distinction can be made between individuals who regard the issue as ambivalent, versus those who regard it as univalent negative or univalent positive (depending on their attitude ambivalence toward the issue).

Finally, further research should directly compare commercial (for profit) and nonprofit issues. In this way, perceived self-interest of the source (and thus, credibility) could be manipulated by comparing two different issues.

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Chapter 7

Conclusions, contributions
and future research

1 /

Introduction

The main aim of this dissertation was to test the persuasive effects of two-sided social marketing messages. Two-sided social marketing messages offer both sides of an issue, by recognizing the perceived advantages of conducting the unhealthy or socially unacceptable behavior (e.g., a nicely tanned skin in the case of sun tanning), and the perceived disadvantages to perform the healthy or socially acceptable behavior (e.g., the higher price of fair trade products). Given the need to further extend the two-sided message strategy for non-commercial purposes, we applied two-sided messages to social marketing issues. Moreover, since previous literature left a number of questions unresolved, we aimed to contribute to the theoretical framework of two-sided messages by addressing several boundary conditions of their effectiveness.

This dissertation addressed these research gaps in five empirical chapters. The results of the empirical research show that two-sided messages can be a very promising strategy in the field of social marketing, but a number of moderating factors should be taken into account.

The empirical results of this dissertation contribute to the theoretical framework of two-sided messages, as well as advertising theories in general. Besides the theoretical added value of this study, several important implications for practitioners can be extracted from our empirical findings. In this final chapter, we will present our main theoretical contributions, followed by the practical implications of our results. Next, we will delineate the limitations of this dissertation, followed by useful suggestions and directions for further research.

2 /

General Conclusions

2.1 Responses to the research questions

Chapters two, three, and four investigated the effectiveness of different arguments in a two-sided message. These chapters aimed to answer the question which arguments should be used in two-sided messages (i.e., argument content) (chapter two and chapter four), and how these arguments should be communicated (i.e., argument frame) (chapter three) in order to obtain optimal persuasive effects.

In chapters four, five, and six, we focused on the question when refutation might be beneficial and when it is redundant for optimal persuasive effects to occur. These chapters addressed several moderating variables influencing the need for refutation (i.e., involvement, ambivalence, and argument type), both in terms of resistance to counterpersuasion (chapter four and chapter five), as well as in terms of credibility (chapter six).

2.1.1 Research objective 1: Arguments in two-sided messages

RQ 1: What is the effectiveness of different arguments in a two-sided message?

The results of the studies showed that, generally speaking, two-sided messages induce a greater motivation to process the message content than their one-sided counterparts. Chapter two and the first study in chapter four show that two-sided messages attract more attention and generate a better content recall than one-sided messages. These results align with previous literature stating that two-sided messages

grab more attention and thus, are generally processed in a more thorough manner than one-sided messages (Crowley & Hoyer, 1994; Eisend, 2007).

Furthermore, we found that, as a result of this enhanced focus on message content, the relevance of the actual arguments used in the message becomes more important. Thus, argument relevance is crucial for a two-sided message to be effective. We operationalized argument relevance in two different ways: in chapter two, we tested health versus appearance-focused arguments, whereas in chapter four we tested affective versus cognitive arguments. Both chapters reinforce each other in the finding that the most relevant arguments in a two-sided message are also the most effective ones in terms of persuasive effects. However, it should be noted that argument relevance is highly issue-dependent. The specific motives underlying the issue determine which arguments are considered more relevant than others. Chapter two showed that, for an issue that is generally more guided by appearance motivations than health motivations, appearance-focused arguments in two-sided messages lead to a higher level of message acceptance than health-focused arguments. These findings were generalized in a second study, which supported the notion that the arguments used in a two-sided message should fit with the underlying motives of the individuals. This effect was mediated by argument relevance. In chapter four, we tested the robustness of these findings again, but this time we used a different issue (i.e., binge drinking) and different arguments (i.e., affective versus cognitive arguments). The first study in chapter four showed that, for the issue of binge drinking, affective arguments lead to more favorable attitudes than cognitive arguments. This effect was attributed to the fact that binge drinking is associated with consummatory motivations (Holbrook & Hirschman, 1982; Martin & Tesser, 1992; Pham, 1998). In the context of consummatory-driven behavior, affective arguments are more issue-relevant than cognitive ones, and therefore more effective.

In sum, both chapter two and chapter four demonstrate that, generally speaking, a two-sided message draws more attention to the message content than a one-sided message. Consequently, more emphasis is put on the relevance of the arguments in a two-sided message, whereby argument relevance is determined by the underlying motivations of the individuals regarding the

issue. Finally, the persuasive effectiveness of a two-sided message depends on the relevance of the arguments used in the message: more issue-relevant arguments are more effective than less issue-relevant arguments.

RQ 2: Can the individual differences in self-regulatory focus impact the effectiveness of message framing in two-sided messages?

Our second research question was addressed in chapter three of this dissertation. In chapter three, we nuanced the notion that two-sided messages draw more attention to the message content. This chapter showed that the processing depth of two-sided messages is moderated by individual differences. When taking into account individuals' self-regulatory focus, it became clear that two-sided messages can either be processed in a more superficial or a more profound manner. These findings are in line with the study by Florack et al. (2009) demonstrating that prevention-focused individuals tend to process a two-sided message in a more profound way than promotion-focused individuals do. Additionally, chapter three goes beyond prior research in that it examines the impact of these individual differences in processing depth of two-sided messages. The study shows that differences in processing depth have an impact on regulatory congruence effects in two-sided messages. A regulatory congruence effect in two-sided messages was only found when processing depth was rather limited (i.e., promotion-focused individuals), and not when processing depth was profound (i.e., prevention-focused individuals). Hence, in chapter three we found that one's self-regulatory focus influences the effectiveness of different message frames in a two-sided message.

2.1.2 Research objective 2: Refutation in two sided messages

RQ 3: What is the impact of issue ambivalence on the effectiveness of refutational and non-refutational two-sided messages in creating resistance against counterpersuasion?

RQ 4: What is the impact of individuals' involvement with the issue on the effectiveness of refutational and non-refutational two-sided messages in creating resistance against counterpersuasion?

Both chapter four and five dealt with the question in which cases a refutational statement in a two-sided message is necessary in order to increase the resistance against counterpersuasion. More precisely, the impact of two moderating variables was studied: issue ambivalence (RQ 3) in chapter four, and involvement with the issue (RQ 4) in chapter five.

Chapter four shows that when an issue is non-ambivalent (univalent), it does not matter if the counterargument is refuted within the message or not. Attitudes toward an univalent issue are not influenced by the refutational character of a two-sided message. This finding is in line with previous research stating that low levels of ambivalence lead to more stable attitudes, regardless of persuasive communication (Armitage & Conner, 2000; Zemborain & Gita, 2007). However, ambivalent attitudes are more pliable by communication (Armitage & Conner, 2000; Hodson et al., 2001). Thus, when an issue is ambivalent, refutational two-sided messages are more effective in terms of resistance against counterpersuasion than non-refutational two-sided messages.

Chapter five investigated a different moderating variable, that is, individuals' involvement with the issue. The results show that strongly involved individuals are influenced by two-sided communication messages, regardless of whether the two-sided message was refutational or not. Strongly issue-involved individuals showed greater resistance to counterpersuasion when exposed to a two-sided instead of a one-sided message. Message sidedness and refutation did not influence lowly issue-involved individuals.

RQ 5: What is the moderating impact of issue ambivalence and different arguments on the credibility effects of refutational and non-refutational two-sided messages?

Chapter six addressed our fifth research question by investigating the boundary conditions when refutation of a counterargument is necessary to obtain positive credibility effects. The results of this study showed that, for two-sided health risk prevention messages, a refutational statement generates a higher source and message credibility than when no refutation is made. However, the

need for refutation depends on the ambivalence of the issue, on the one hand, and the consistency between the arguments and individuals' motivations regarding the behavior, on the other hand. Only when a non-ambivalent issue is communicated with less relevant, cognitive arguments (instead of affective), or, when an ambivalent issue is communicated with more relevant, affective arguments, refutation is needed in order to uplift the overall credibility of the source and message.

2.2 Summary of the results

In sum, we conclude that, generally, two-sided messages are processed in a more profound way. Consequently, more attention goes out to the message content, highlighting the relevance of the arguments in the message. However, when taking individual differences into account, differences in processing depth of two-sided messages become apparent. Depending on individuals' self-regulatory focus, a two-sided message can be processed in a more superficial (instead of profound) way. These differences in processing depth impact the effectiveness of the two-sided message's frame. When a two-sided message is processed rather profoundly, the content matters more than the frame, whereas when a two-sided message is processed rather peripherally, the frame matters more than the content.

Furthermore, we contribute to the understanding of when refutation in a two-sided message is necessary to optimize individuals' resistance against counterpersuasion. Refutation in a two-sided message is only needed when the issue is ambivalent (versus univalent). Additionally, individuals' issue-involvement does not influence the need for refutation. Finally, we found that refutation is not always necessary to optimize credibility effects. Only when either the arguments are irrelevant, or when the issue is ambivalent, refutation is needed to uplift the credibility of the message and the source.

3 /

Theoretical Contributions

This dissertation contributes to the field of social marketing, as well as to the research stream on two-sided messages. In sum, the theoretical added value of this dissertation is quadruple:

First, we test the two-sided message strategy in social marketing context. So far, the two-sided message strategy has mainly been tested in commercial product advertising (e.g., Bohner et al., 2003; Eisend, 2006), despite its potential for the social marketing field. Apart from a few noteworthy examples (e.g., Belch, 1981 selling toothpaste; Ford & Smith, 1991 promoting organ donation; Ley et al., 1977 promoting weight loss), two-sided messages had not been sufficiently tested in the field of social marketing. Our dissertation helps to fill this research void by applying two-sided messages to social marketing issues. We conclude that two-sided messages can be a valuable communication strategy in the field of social marketing, provided that certain moderating variables are taken into account.

Second, we nuance the assumption of central processing of two-sided messages (Eisend, 2007). Although this dissertation aligns with previous literature in that, generally-speaking, two-sided messages increase attention toward the message content, it also found that processing depth of a two-sided message can vary according to individual factors such as one's self-regulatory focus. Moreover, this dissertation goes beyond prior research in that it not only addresses the question of how a two-sided message is processed, but also explains which implications this processing depth of the message has for the effectiveness of different message arguments

(both in terms of content and frame). In other words, the dissertation looks further into the effects of processing a two-sided message. Deeper message processing influences the degree to which individuals focus on the message content versus frame, and subsequently, how the specific message arguments or frames impact message evaluations.

Third, this dissertation unravels the mechanisms underlying two-sided messages effects, by addressing important mediating factors such as processing fluency and argument relevance. This way, the dissertation contributes to a better understanding of why and how two-sided messages work.

Fourth, we contribute to the research stream on two-sided messages by comparing the two subtypes of two-sided messages, that is, refutational and non-refutational two-sided messages. This distinction is often mentioned in literature (e.g., Allen, 1991), but remains empirically under researched. Moreover, the studies that compared both subtypes generated mixed results on which subtype would be most effective. This dissertation explains some of the gaps in message sidedness literature by investigating the effect of crucial moderators, such as issue ambivalence, involvement with the issue, and argument type. This way, the dissertation offers an explanation for the inconsistent results found in previous literature studying the impact of refutation, in that they clarify when refutation is needed and when it is not. Hence, this dissertation contributes to previous message sidedness literature by providing insight in the boundary conditions of their effectiveness.

4 /

Practical Implications

Our empirical results can be translated into several useful implications for advertising practitioners. Two-sided messages appear to be a promising strategy in the field of social marketing, but several factors should be taken into account in order to maximize the persuasive effects of two-sided advertising.

First of all, it is crucial for marketing practitioners to know *how* their target audience is likely to *process* the two-sided message. On the one hand, when the target audience is expected to process the message in a *profound* way, more attention goes out to the message content, making argument relevance more important. Hence, in this case, practitioners should pay close attention to the relevance of the arguments they use for the issue at hand, even more so than when using one-sided messages. On the other hand, when the target audience is expected to process the two-sided message in a rather *peripheral* way, message framing becomes more important. Hence, in this case, it is essential to frame the message in a way that matches the target audience's motivational states (i.e., their self-regulatory focus), in order to facilitate processing fluency and obtain optimal persuasive effects of the two-sided message. Specifically, marketing practitioners can adapt their message strategy by emphasizing gains versus losses, or aspirations versus responsibilities, depending on which regulatory frame they want to activate. For example, when communicating a two-sided anti-smoking message in a prevention-focused manner, practitioners could develop a message stressing the absence versus presence of negative results (e.g., "OK, you might gain a few pounds initially, but by quitting smoking, you can avoid a further deteriora-

tion of your overall health”). A message strategy for a promotion-focused two-sided messages would be to stress the presence versus absence of positive results (e.g., “OK, you might initially miss your social habit, but by quitting smoking, you will finally feel more healthy and fit”).

In order to determine the probable processing depth of the message, marketing practitioners should obtain knowledge of certain characteristics of their target group, such as their self-regulatory focus. When the target group is primarily promotion oriented, the likelihood of peripheral processing increases, whereas in the case of a primarily prevention oriented target group, chances are likely that the message will be processed centrally. In case the chronic self-regulatory focus of the target group is unknown to marketing practitioners, other segmentation variables can serve as substitutes. For instance, cultural background is related to the self-regulatory focus (Lee et al., 2000). In Eastern countries, individuals generally tend to be more prevention than promotion-focused, whereas the reverse is likely for Western countries (Lee et al., 2000). Secondly, an individual’s professional occupation can also determine one’s self-regulatory focus. For example, accountants and nurses focus more on accuracy (i.e., prevention focus), whereas managers and sales people usually focus on identifying opportunities and maximizing profits (i.e., promotion focus) (Förster et al., 2003). Thirdly, the chronic self-regulatory focus is also found to be correlated to certain socio-demographics (e.g., age), as it can be influenced by exposure to specific prevention or promotion oriented situations or stages in life (e.g., buying a house, having children, etc.) (Higgins & Brendl, 1995; Higgins, 1997). Another option for marketers in case of an unknown self-regulatory focus, is priming. This could be done, for example, by exposing the target group beforehand to a message that focuses on duties (to activate a prevention focus) versus ideals (to activate a promotion focus) or by integrating the ad in a specific media context, which can be more prevention (e.g., a magazine about disease prevention) or promotion (e.g., a brochure for an MBA) focused.

Second, marketing practitioners should decide upon their *persuasive goal*. Is the aim of the message to create resistance to counterpersuasion or to increase message acceptance and credibility? Depending on their persuasive

goal, several factors should be considered. If, on the one hand, marketing practitioners aim to increase the target audience's *resistance against counterpersuasion*, they should obtain knowledge of two characteristics of the target audience. First, they should know whether their target audience holds univalent or ambivalent attitudes toward the issue. Second, they should know to what degree the target audience is involved with the issue. Depending on these factors, a refutational statement might be necessary or unnecessary for persuasive aims. If, on the other hand, marketing practitioners aim to *increase their credibility*, they should take into account the relevance of arguments as well as the perceived ambivalence of the issue. These factors determine whether refutation in the message is necessary or not. Specifically, by means of thorough qualitative and quantitative pre-research (e.g., a poll, focus groups, audience studies, information on demographics, etc.), marketing practitioners can obtain knowledge on how their target audience views the issue. For instance, if they want to communicate a message about smoking, it is important to know if the audience's attitudes toward smoking are ambivalent or univalent (negative or positive). Additionally, marketing practitioners should gain insight in the motivations of their target group to conduct the behavior at hand. For instance, if smoking is done for consummatory reasons (e.g., enjoying the act of smoking in itself), affective arguments will be more relevant, and therefore, more effective. If smoking is done for instrumental reasons (e.g., aiming to stay thin or to fit in with an aspiration group), cognitive arguments will be more relevant, and therefore, more effective. Gaining insight in these factors is crucial before setting out a concrete message strategy.

5 /

Limitations And Further Research

In spite of the contributions for both theory and practice, the studies in this dissertation contains some limitations. We will discuss each of these limitations, and translate them into relevant propositions for further research. Additionally, a number of new directions for further research in the field of two-sided messages will be proposed.

A first limitation concerns the measurement of processing depth. In chapter two, we measured processing depth of a two-sided message by means of two variables in a questionnaire, namely self-reported attention to the message and message content recall. These two concepts serve as a double-check to measure how much attention the individual has paid to the message content and how thoroughly it has been processed. However, in order to be able to make solid conclusions about the central versus peripheral processing of a message, other measures than survey items should be included. This limitation could be overcome in further research, for instance by doing eye-tracking research and thought-listing methods.

Related to this limitation of measuring processing depth, is our manipulation of processing depth in chapter three. We used only one method to manipulate central versus peripheral processing, that is, through direct instructions. Although this manipulation was in line with previous research (e.g., Briley & Aaker, 2006), additional studies should manipulate processing depth in different ways (e.g., cognitive load, time pressure, etc.) in order to test the robustness of our results.

A second limitation is the fact that most results are issue-dependent. In each chapter, we could only select one or maximum two issues, which inhibits generalized conclusions across different issues. The research in this dissertation should be replicated for different issues, as our results show that the persuasiveness of message format and message content is highly issue-dependent.

A third limitation is the manipulation of issue ambivalence (chapter four and six) by choosing two distinct issues. Although the manipulation checks showed that the difference between the mean values of the perceived ambivalence of both issues was significant, the difference was relatively limited. This problem could be overcome by selecting only one issue, and splitting the sample based on their level of attitudinal ambivalence toward the issue. In other words, further studies can measure rather than manipulate ambivalence. For instance, breast cancer screening might be regarded as univalent positive by most women, whereas for some women, the practice of breast cancer screening might be associated with feelings of shame or fear, hence, be more ambivalent.

Additionally, we acknowledge that issue ambivalence can be culturally or individually dependent, as well as temporary. The results therefore need further testing for other issues, different individuals and contexts. A fourth limitation of this research is the manipulation of peer pressure (chapter four and five). The peer pressure in this research was relatively weak. In both chapters, we made use of a printed online chat conversation between two fictitious adolescents was the closest we could get to real peer pressure. Evidently, the severity of peer pressure could have been increased, but not without ethical concerns. Yet, results might be different if stronger peer pressure would be used.

A fifth limitation is that subjects' cognitions and counterarguments after exposure to a two-sided message were not measured. McGuire's inoculation theory (1961) states that two-sided refutational messages reduce the amount of counterarguments and strengthens cognitions. Future research could also measure these cognitions and counterarguments to study the cognitive processing of different types of one- and two-sided messages more in-depth.

Finally, we acknowledge that the questionnaires used in this dissertation might have been difficult to understand for adolescents. The studies in chapter four, five, and six focus on adolescents (age fifteen to nineteen). Although the questionnaires were formulated as clearly as possible, and although – during the data collection for these chapters – a researcher was always present to clarify any unclear concepts, the questionnaire remained rather complex to understand. Further research should pay extra attention to the clarity of the concepts used in the questionnaires.

Besides these suggestions for further research directly resulting from the limitations of this dissertation, a number of additional new research ideas in the field of two-sided messages can be formulated.

Two-sided social marketing messages, offering both sides of an issue, aim to acknowledge the perceived benefits of conducting the unhealthy or socially unacceptable behavior (e.g., a nicely tanned skin in the case of sun tanning), and the perceived hurdles to perform the healthy or socially acceptable behavior (e.g., the higher price of fair trade products). However, two-sided messages omit to propose an alternative behavior that might offer equal benefits to the target group, while – at the same time – being more healthy or socially acceptable. For instance, instead of merely discouraging sun tanning, it might be more beneficial to offer an alternative behavior, such as the use of self-tan creams. This way, the target group is provided with a useful alternative that circumvents the unhealthy aspects of the unwanted behavior (e.g., skin cancer, wrinkles), while simultaneously offering the perceived benefits of this behavior (e.g., a nicely tanned skin). Further research could also investigate the effectiveness of promoting alternative behaviors in two-sided messages. According to the theory of alternative behavior (Jaccard, 1981), attitude changes are optimal when alternatives are given for the discouraged behavior. This can be linked with the efficacy aspect in threat appeal literature (Witte, 1992). Traditionally, a threat appeal consists of a threatening message combined with a relief aspect, which is a solution or recommended behavior in order to deal with the threat. Thus, offering alternative behavior might help individuals to actually change their behavior.

Further research could include longitudinal attitude measurements in order to check the stability and robustness of attitudes following exposure to two-sided versus one-sided messages over time. Furthermore, a centrally-formed attitude is expected to be relatively predictive of subsequent behavior (Petty & Cacioppo, 1986), which makes it interesting for further research to extend this dissertation to a field experiment, including actual behavior measurements. Given the controlled experimental setting of our dissertation, it was not feasible to measure actual behavior in an externally valid way.

Another suggestion for further research would be to study the actual arguments used in a two-sided message more in depth. For instance, further research could investigate the perceived correlation between the pro and the con argument in two-sided messages. This research track has been studied by Pechmann (1992) and Etgar and Goodwin (1982), albeit in commercial advertising. The results of these studies show that, when the pro and con arguments are perceived to be correlated in consumers' minds, the two-sided message is more effective. This effect is explained by the 'correlational inferences' consumers make when evaluating the pro and cons of an issue or product (Pechmann, 1992). When consumers consider positive and negative product attributes to be inevitably linked to each other, they make a realistic trade-off (Crowley & Hoyer, 1994). This trade-off between highly correlated positive and negative attributes most likely results in 'excusing' the negative attribute, leading to a more favorable attitude toward the product. For instance, it is acceptable that fully flavored ice cream contains more calories, as consumers expect this negative attribute (caloric value) to be linked to the positive attribute (full flavor) (Crowley & Hoyer, 1994). However, in social marketing, this trade-off can be reversed when discouraging negative behavior (as opposed to promoting a commercial product). For example, when the persuasive goal is to prevent drug use, a positive attribute of drug use (i.e., an argument in favor of drug use) could be the desired effects of the drugs (e.g., pleasant mood or 'high' feeling), while a negative attribute of drug use (i.e., an argument against drug use) could be the unwanted side effects of the drugs (e.g., a mood crash or depression the day after taking drugs). In this case, it is problematic when both attributes or arguments are correlated in the mind of the consumers, because then, consumers will 'excuse' the negative attribute (e.g., the risk of a

mood crash) as it is perceived to be inevitably linked to the positive attribute (e.g., the pleasant state of taking drugs). By excusing this negative attribute, consumers are more likely to engage in the unhealthy behavior (e.g., drug use), as they perceive they cannot have the advantages without taking along the disadvantages. Hence, it would be very interesting to test whether the findings of previous research in a commercial context (e.g., Pechmann, 1992; Etgar & Goodwin, 1982) also hold in a social marketing context in which certain behavior or products are discouraged instead of promoted.

Another research track that requires further investigation, is the ambivalence in two-sided advertising. Two-sided messages are, by definition, messages that offer both sides of an issue, but still favor one side (Hovland, 1954). Hence, in fact, two-sided messages are somehow still directional, in that they are characterized by a (hidden or obvious) persuasive aim in one direction (i.e., to discourage or to promote as issue or behavior). It would be interesting to investigate two-sided messages that are 'truly' two-sided, in that they merely offer both sides of an issue, without advocating nor opposing the issue. This way, it could be tested whether individuals are more prone to follow a certain direction by themselves, based on their prior attitudes or prior dispositions toward the issue. Assumably, individuals will try to resolve the ambivalence in the two-sided message through biased information processing, that is focusing on one side of the evaluative conflict (Nordgren et al., 2006). This research idea is closely related to the concept of cognitive dissonance (Festinger, 1957), which explains the unpleasant tension individuals experience when they are confronted with contradictory cognitions or attitudes. Additionally, it would be interesting to examine whether a refutational statement can serve as a coping mechanism to decrease this tension. This refutational statement could be in the positive direction (i.e., refuting the negative argument), or in the negative direction (i.e., refuting the positive argument).

Finally, in analogy with Belch (1983) who tested the impact of different message modalities on the effectiveness of one versus two-sided advertising, it would be interesting to extend this research track by examining two-sided messages' effects in different communication contexts. Belch (1983) did not find an interaction effect between message sidedness and modality (print

versus television), assumingly because the processing capabilities and response opportunity of the message recipients were very similar for both modalities (Belch, 1983). However, further research could assess different, new media modalities as opposed to more traditional ones. For instance, a two-sided message embedded in an interactive multimedia context (e.g., advergames), in which the audience participation is greater, could be processed in a different way from a two-sided message in a print advertising context, resulting in different persuasive effects.

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