Fight or flight: Affective news framing effects
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Chapter 1

Opening the Stage: Emotions in News Framing
“There can be no knowledge without emotions. We may be aware of a truth, yet until we have felt its force, it is not ours. To the cognition of the brain must be added the experience of the soul.”
Arnold Bennett, novelist, 1867-1931

Until the beginning of the 1970s, the dominant view in many social sciences was that humans are first and foremost rational thinkers. Emotions, in contrast, were devalued and blamed for causing humans to act on the basis of their instincts rather than on the basis of reason. Over recent decades, however, it has become clear that this idea is no longer tenable. Emotions undoubtedly play a central role in human life. They help us adapt to new challenges and find ways to deal with past experiences. As a result of this change in thinking, the “emotional revolution” has gained ground in numerous academic disciplines such as psychology and sociology. Even in political science, scholars have begun applying theories of emotions to the study of political phenomena (e.g., Groenendyk, 2011; Marcus, 2000) such as political learning (Valentino, Hutchings, Banks, & Davis, 2008), political judgments (Kühne, Schemer, Matthes, & Wirth, 2011) and political participation (Marcus & MacKuen, 1993; Valentino, Brader, Groenendyk, Gregorowicz, & Hutchings, 2011). Meanwhile, academics working in the field of political communication were lagging behind these other disciplines, before eventually relaxing their cognition-centered perspective and allowing emotions to come into play (e.g., Gross & Brewer, 2007; Igartua, Moral-Toranzo, & Fernandéz, 2012; Valentino, Brader, Groenendyk, Gregorowicz, & Hutchings, 2011). Nevertheless, even today many studies in political communication continue to provide exclusively cognitive explanations for a wide range of media-related phenomena. This hesitation is surprising given the fact that mass media in general and political communication in particular are both saturated with emotional language and visuals (Crigler & Just, 2012; Graber, 1996). News articles, not to mention political entertainment, such as daily TV shows or political satire programs, all convey emotions in some way or another to attract the audience’s attention or shape their attitudes or behaviors (e.g., Boukes, Boomgaard Moorman, & De Vreese, 2014; Landreville & LaMarre, 2011).

This dissertation is a response to the field’s long-lasting hesitation regarding the study of emotions. In particular, it is concerned with how emotions shape and are shaped by news framing, as well as how emotions impact people’s opinions or behavioral intentions. However, why do we actually need a dissertation on emotions and news framing? News plays an important role in our lives. We regularly consume news not only to stay up to date, but also to distance ourselves from the things that we encounter on a daily basis or to regulate our mood (e.g., Diddi & LaRose, 2006; Knobloch-Westerwick & Alter, 2005). News, however, has become less objective and is increasingly produced in a sensationalist style (e.g., Graber & Smith, 2005), leading some scholars to claim that
this type of journalistic work is responsible for people's lack of interest and declining participation in politics (Cappella & Jamieson, 1997). This is indeed a fundamental problem which could pose a threat to a healthy democratic system. Accordingly, investigating news with a focus on emotions could help us understand how journalistic work influences our emotions and why the public sometimes responds in a more or less politically detached manner.

In addition to this, conducting research on “affective” news framing effects is important because numerous studies have shown that framing can alter people's attitudes (e.g., Bizer, Larsen, & Petty, 2010; Shen, 2004) and actual voting choices (e.g., Schuck, Vliegenthart, & De Vreese, 2016), with certain effects persisting over time (e.g., Matthes & Schemer, 2012; Tewksbury, Jones, Peske, Raymond, & Vig, 2000). While the majority of explanations behind these effects remain cognitive (e.g., Chong & Druckman, 2007; Price, Tewksbury, & Powers, 1997; Slothuus, 2008), there are a few studies that attempt to clarify framing effects by means of emotions (e.g., Holm, 2012; Kühne, Weber, & Sommer, 2015; Nabi, 2003). Some of these studies argue that emotions function as mechanisms of framing effects (Lecheler, Schuck, & De Vreese, 2013), while others propose that emotions alter the strength of framing effects (Druckman & McDermott, 2008).

Thanks to these emotion-centered studies (e.g., Druckman & McDermott, 2008; Kühne & Schemer, 2015; Nabi, 2003), we have acquired a knowledge base regarding affective news framing effects. However, framing scholars rarely question the validity of these affective explanations, which is essential to strengthening the case for their relevance to news framing effects. Likewise, emotion-based approaches are rarely used to challenge established cognitive framing theories. However, a theoretical approach that can compete with existing cognitive theories is necessary as it will not only give guidance to testable hypotheses but can also help us understand how emotional and cognitive factors together produce framing effects. The latter is a critical point, as much of what we know from psychology suggests that emotions and cognitions are not mutually exclusive entities, but are instead co-dependent in shaping people’s thoughts or action tendencies (e.g., Ellsworth & Scherer, 2003). Furthermore, devising a theory of affective news framing effects is critical for transforming the field of political communication into an autonomous discipline that does more than exclusively re-use theories from neighboring fields (see, for review, Schuck & Feinholdt, 2015).

Inspired by these considerations, this dissertation seeks to provide a framework that will not only help locate emotions in news framing effects, but will also assist in providing research which can bridge knowledge in the fields of psychology and political communication. To accomplish this, the dissertation is organized into four studies dealing with different but interconnected questions. Firstly, I investigate to what extent news framing alters the effects of issue characteristics on people’s
emotions. This is an important research target as many news framing studies make use of issues whose characteristics could have a direct effect on emotions and thus pose a threat to the validity of the conclusions. Secondly, I test a psychological mediation model of news framing effects, where individual emotional responses evolve in a serial rather than in a parallel fashion. The majority of existing affective framing studies have focused on mediation models of emotional mechanisms that occur in parallel (e.g., Lecheler, Schuck, & De Vreese, 2013; Major, 2011). However, findings from neighboring disciplines suggest that such models may offer only a restricted understanding of emotions as mediators of framing effects (e.g., Van Peer, Grandjean, & Scherer, 2014). Thirdly, I assess how pre-existing emotions influence news framing effects. By studying the moderating function of emotions, I look beyond the typical functionalities of emotions (e.g., emotions as mediators or as dependent variables) in research on news framing effects (e.g., Gross, 2008). Doing so allows us not only to understand the interplay between news framing and emotions, but also helps us to locate and relate these different links within our framework. Finally, I integrate the knowledge gained about emotions into a real-life case study, examining the relationship between news framing, misinformation and emotions. Specifically, in this latter study I look at whether the effects of news framing on the persistence of misinformation can be mitigated by emotional arousal and the timing at which a retraction is provided.

Current research has exclusively focused on either affective framing (e.g., Nabi, 1999; Kühne & Schemer, 2015) or misinformation (e.g., Berinsky, 2015; Ecker, Lewandowsky, Swire, & Chang, 2011; Nyhan & Reifler, 2010) as independent research topics. Yet, integrating both research areas is particularly valuable as news often plays a vital role in spreading misinformation (see, for review, Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012). The consumption of misinformation, however, can lead people to support policies or political decisions (e.g., the Iraq War, decisions to oppose vaccinations) which could have far-reaching national and international consequences. Moreover, exposure to corrective information may create a particularly emotional situation because the audience may feel that its trust was misused and that it was careless in believing the information in the first place. Thus, the final study in this dissertation aims at introducing a new perspective into the framework of emotions in news framing effects developed here. In particular, it illustrates that the current framework is not only limited to research on news framing, but can also be applied to related research issues such as misinformation.

In summary, the work presented in this dissertation aims at clarifying how emotions function in the context of news framing. In doing so, it seeks to provide a framework which can help future research to build a comprehensive theory of affective news framing effects.
News Framing Theory

Even though people’s preferences and decisions cannot actually be controlled by the news media, certain ways in which information is presented can successfully impact on the way people think about an issue (Entman, 1989). One way that has been ultimately effective in this regard is news framing. Chong and Druckman (2007) define framing as “the process by which people develop a particular conceptualization of an issue or reorient their thinking about an issue” (p. 104). Framing thus plays an essential role in journalism as it helps the journalist to raise and direct the audience’s attention towards the issue at stake as well as give particular meaning to an otherwise complex issue.

This meaning-making process takes place because each issue is embedded within a specific frame that is conceptualized as “a central organizing idea or story line that provides meaning to an unfolding strip of events […]. The frame suggests what the controversy is about, the essence of the issue” (Gamson & Modigliani, 1987, p. 143). In other words, frames are like tools that facilitate or emphasize certain interpretations of an issue over others.

However, it is important to note here that the above-mentioned definitions are not cast in stone but represent only possible conceptualizations. The lack of a general definition has been viewed as problematic because it may hamper the development and elaboration of a general theory of framing effects (e.g., Cacciatore, Scheufele, & Iyengar, 2016; Entman, 1993). In addition, the absence of a widely accepted conceptualization may be the reason why framing has often been interchangeably used with other concepts such as priming or persuasion (see, for review, Chong & Druckman, 2007), when each one of these communication theories should be recognized as distinct, since they possess their own characteristic qualities (Scheufele, 2000).

Firstly, priming is a process whereby certain concepts or ideas can be made accessible (see Druckman, 2001; Scheufele & Tewksbury, 2007). In this case, priming functions primarily through activating issue-specific information, but it does not lead to changes in knowledge or beliefs. Secondly, persuasion and framing differ in their overarching goals. In contrast to framing, persuasion is an instrument that is used to convince one or more people of a certain issue position (O’Keefe, 2004). In particular, when one person - a sender - intends to change another person’s - a receiver’s - stance or behavioral inclination towards the issue at stake, the sender may do this, for example, by offering more or less elaborated arguments that explicitly strengthen an intended issue position (Petty & Cacioppo, 1984). In doing so, the sender may not only capture the receiver’s attention more easily but also direct it to information that he or she may not have known about but which might be issue-relevant (Nelson, Oxley, & Clawson, 1997). Framing, in contrast, is not limited to either accessibility or the distribution of new information. Rather, framing has a selective function whereby certain considerations receive more weight than others (Entman, 1993; Scheufele, 2000). As a result of this,
framing can lead to an increased accessibility of issue-specific information or even belief changes but not necessarily (Baden & Lecheler, 2012). Therefore, framing is similar to, but not the same as, priming or persuasion.

Scholars differentiate between two classes of frames, namely equivalency and emphasis frames. Equivalency frames have usually been studied in psychological research. Their identifying feature is that individuals are exposed to two invariant issue presentations; that is, the frame contains exactly the same or logically equivalent content (Chong & Druckman, 2007). For instance, the same option or choice can be represented as being positively valenced or negatively valenced. The underlying rationale is that people should maintain their preferences since the information they view is inherently the same. However, numerous empirical studies have shown that people will deviate from their initial preferences depending on how the information is framed (e.g., Kahneman & Tversky, 1984; Tversky & Kahneman, 1981).

In studies focusing primarily on preferences or decision-making, these types of equivalency frames do not represent a problem, as invariant options can be easily formulated (Chong & Druckman, 2007). In politics and media research, however, where issues are often very complex, it is difficult to devise frame alternatives that represent exactly the opposite of each other. Accordingly, when it comes to political contexts, equivalency frames are less likely to be encountered, with emphasis frames likely to be more prominent and considered as more realistic (see, for review, De Vreese & Lecheler, 2012). Emphasis frames also entail presentations of the same issue, but in this case each of the respective presentations offers a different focus (Chong & Druckman, 2007). More concretely, one version may deal with the social consequences of a policy, whereas the other may emphasize political or economic consequences. Beyond thematic differences, emphasis frames - similar to equivalency frames (see Druckman, 2011) - will also carry a positive or negative connotation. That is, an emphasis frame may illustrate an issue from an economic perspective while at the same time stressing either the negative or positive issue-relevant aspects. Valence is thus an important feature of news frames, as the overarching tone can substantially shape people’s reactions (e.g., De Vreese & Boomgaarden, 2003).

Emphasis frames can further be divided into two subgroups: issue-specific frames and generic frames (De Vreese, 2005). While issue-specific frames allow the study of presentations that are richer in detail, their issue-sensitivity obstructs the comparison of experimental findings across different issues. Generic frames, in contrast, are frames that span across issues, which means that they can be used for numerous issues as well as in different cultural and temporal contexts. This, in turn, facilitates commensurability across studies (see De Vreese & Lecheler, 2012). Because of that this dissertation uses generic as opposed to issue-specific frames.
Similar to a nomenclature, generic frames can be distinguished according to specific characteristics, namely their thematic focus and level of emotionality. For instance, according to Semetko and Valkenburg (2000), an economic consequences frame is proposed to have less emotionality. This frame deals primarily with an issue’s economic bottom-line, which is the reason why it is considered to be “emotionally neutral.” In contrast, a human interest frame is considered to have a stronger potential to strike people emotionally. It focuses on the testimonies of individuals or groups that are directly affected by the issue at stake (see Valkenburg, Semetko, & De Vreese, 1999). This focus, in turn, makes a human interest frame more personal and, hence, more emotional. In addition to these frames, Iyengar (1991) differentiates news coverage that is embedded within either an “episodic” or a “thematic” frame. According to Iyengar, while the former depicts an issue as an individual and concrete case, the latter provides general information and thus offers an issue presentation that is more general and more abstract. He further adds that “few news reports are exclusively episodic or thematic” (Iyengar, 1991, p. 14), which means that the majority of news coverage uses a combination of both frames. Furthermore, it is also important to note that these two frames, as well as generic or issue-specific frames, may not be mutually exclusive. Instead, a news article may be, for example, the product of a human interest frame combined with either a thematic or an episodic frame. Simply put, the presence of one specific frame does not presuppose the absence of another. Therefore, the stimuli in this dissertation may sometimes contain an exclusively generic frame (Chapter 1) and at other times a combination of the former with either an episodic or thematic frame (Chapter 4).

**The Diversity of Framing Effects**

The study of framing effects can be divided up into three pillars. Firstly, there is the study of cognitive framing effects, which deals primarily with the question of how cognitive processes are restructured, adjusted or supplemented following exposure to news frames. Secondly, scholars are also interested in the affective consequences of news framing; and thirdly, they focus on behavioral consequences. Rather than the latter two pillars, most studies have been aimed at cognitive framing effects (e.g., Nelson et al., 1997; Slothuus, 2008). These studies have helped us understand that framing effects may be apparent, for example, in terms of changes in belief content (Slothuus, 2008) or changes in belief importance (Lecheler, De Vreese, & Slothuus, 2009), with the former being a particularly strong mechanism of framing effects (Lecheler & De Vreese, 2012).

As mentioned above, a focus on emotions is central to the research in this dissertation. In particular, it is concerned with how news frames and emotions influence each other. With the increasing awareness of the role of emotions in human
life, affect-based research across many disciplines has gained momentum in recent decades (e.g., Marcus, 2000). This trend has not left framing research unaffected. In fact, an increasing number of studies aim to understand the relationship between news framing and emotions. For instance, Gross and Brewer (2007) found that attitudes towards stricter control of campaign financing influenced the extent to which participants felt angry or disgusted in response to framed news articles. Aaroe (2011) demonstrated that people’s emotional responses of compassion, pity, disgust and anger were more intense for news articles stressing an individual case than one presenting exclusively numerical information. Kühne and his colleagues (2015) not only studied framing effects on responsibility beliefs and anger but also how these effects were moderated by trait anger. Their experiment revealed that both beliefs and anger were the driving mechanisms behind framing effects, although they found that anger was a mediator only for people who were characterized by high trait anger.

Concerning cognitions, Chong and Druckman (2010) offered a comprehensive theory of cognitive framing effects. According to them, three conditions must be met for a framing effect to occur. Firstly, the individual must have a pre-existing belief schema related to the issue at stake. In other words, an issue-specific belief must be available. If no frame-relevant beliefs exist, then no effects will be observable. Secondly, the belief schema must be accessible for use; that is, the belief must be salient enough to be retrieved. It is also worthwhile mentioning that some scholars do not regard accessibility effects as framing effects because they do not entail a potential change in beliefs or knowledge but only indicate that certain information can be retrieved (Scheufele & Tewksbury, 2007). Finally, given that the belief schema is available and accessible, it should also be applicable to the issue at stake (Chong & Druckman, 2007).

Baden and Lecheler (2012), however, argued that while these three mechanisms play an essential role in news framing effects, they do not depend on each other. They also pointed out that the three mechanisms mentioned do not guarantee that a framing effect will actually persist over time. Instead, different types of persistence require actual changes in one of these three mechanisms. For example, “fleeting” framing effects, which disappear quite rapidly, can be observed only when exposure to the frame modifies the belief’s accessibility, while changes to the content of belief or its applicability may lead to effects that will last far beyond the initial exposure. Thus, cognitive framing effects are the product of several interrelated mechanisms which may have potentially long-lasting consequences.

Scholars interested in the behavioral consequences of news framing seek to determine the extent to which an individual will change or endorse issue-specific behavior in response to news frames. Thus far, this line of research has been directed towards investigating the effects of news framing on voter turnout (Valentino, Beckmann, & Buhr, 2001; Schuck & De Vreese, 2009) or behavior towards policies
(McLeod & Detenber, 1999). Despite the fact that these behavioral framing effects are interesting and important, there are not many studies actually dealing with "real" behavioral effects, since these are often difficult to capture (see Baumeister, Vohs, & Funder, 2007). Therefore, the existing research has primarily been oriented towards behavioral intentions, which are seen as valid and reliable proxies for actual behavioral effects (e.g., Aijzen, 1991; Webb & Sheeran, 2006).

Looking at the tripartite group of cognitive, emotional and behavioral framing effects it becomes clear that these have primarily been studied as independent entities rather than as constituent parts of the same model. Indeed, despite the respective number of framing studies, the field still lacks a more inclusive and comprehensive theory of news framing effects (see Vreese & Lecheler, 2012). Arguably, such a theory is needed to connect all available studies and offer guidance for future research. Nevertheless, I argue that the first step in doing so requires a framework that can hold all parts of a theory together. Each study in this dissertation can be viewed as a scaffold coupler that holds the unique parts of the scaffold together and, thus, may aid researchers in eventually building a comprehensive theory of news framing effects. This means that this dissertation offers a context where knowledge obtained from distinct studies can be used to establish such a theory.

**Affective News Framing Theory**

Most of the present affective news framing studies have relied on cognitive appraisal theories. According to these theories, emotions can be differentiated along numerous appraisal dimensions, which not only determine the conditions under which a specific emotional response is expected but also its intensity (Moors, 2009, 2013). In this case, appraisals are like assessors that qualify a current or impending situation in terms of its consequences for the individual. Along this line, this evaluative process assigns each emotion specific characteristics because different constellations of appraisal outcomes elicit specific emotions (Ellsworth & Scherer, 2003). Accordingly, certain contextual conditions, as well as cognitive and/or behavioral responses, are associated with some but not other emotions. This feature of appraisal theories is particularly useful for experimental research dealing with complex stimuli such as news frames. The underlying reason for this is that scholars are able to devise more fine-grained hypotheses, which are then also easier to test (e.g., Nabi, 2010; Petersen, 2010). Therefore, the work presented in this dissertation draws primarily on cognitive appraisal theories.

An important feature of these theories is their conceptualization of emotions, which are seen as processes or episodes rather than as static entities that have a clear beginning and end (Moors, 2009; Verduyn, Van Mechelen, & Tuerlinckx, 2011). Moreover, according to appraisal theorists, emotions are continuously evolving as a
result of changes in appraisals or other interoceptive subsystems\(^1\) (Scherer, 2005). This perspective presupposes that one emotional episode could translate into another through changes in appraisals or in the respective subsystems. The majority of affective framing studies, however, treat emotions as static entities that are independent and as usually occurring in parallel (e.g., Chapter 2; Kühne & Schemer, 2015). For example, using a multiple mediation model Lecheler and her colleagues (2013) tested the extent to which framing effects were mediated by two positive (enthusiasm and contentment) and two negative emotions (anger and fear). They found that only enthusiasm and anger, not contentment and fear, mediated the effects of news framing on political opinion. While such studies are crucial to the advancement of the field, their treatment of emotions as independent but parallel mechanisms offers only a narrow perspective regarding affective news framing. As a consequence, Chapter 3 adopts a perspective that is more in line with that of appraisal theories. More specifically, I test an emotional cascade whereby one emotion transforms into another. Testing alternative models allows us to acquire new insights which may either challenge or lend credence to the status quo argument of a parallel mediation of affective framing effects.

**Measuring Emotions**

Studying emotions immediately confronts the researcher with questions related to their measurement (e.g., Crigler & Just, 2012). The most basic approach is to ask participants about their current feelings – either prior to or following exposure to a stimulus. The use of emotional self-reports is advantageous in that scholars can easily obtain these reports and thus save time. In addition, such an approach reduces the need for any effort or time investment in designing emotion-specific inventories, as there are numerous pre-existing scales ready for use. Given these considerations, it is hardly surprising that self-reports have been the method of choice in affective news framing studies to date.

Nevertheless, even though self-reports are easier and more time-efficient (Mauss & Robinson, 2009), there are also some shortcomings that are worthwhile discussing. Firstly, assuming that emotions are rapidly occurring episodes (e.g., Moors, 2009), it is possible that self-reports may fail to capture emotions properly. This is because a person may be unable to gain access to his or her past emotions and, even if so, will be unable to accurately recollect what type of feeling they had in the first place (see Robinson & Clore, 2002). Secondly and related to this, self-reports presuppose that people share the same emotion labels (Larsen & Prizmic-Larsen, 2006), but given the fact that there are many individual and cultural differences it is not surprising that

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\(^1\) Appraisal theorists differentiate the following subsystems: a motivational component; a somatic component; a motor component; and a feeling component.
some terms for emotions are culturally specific rather than general (Mesquita & Frijda, 1992). For example, the emotion *Amae*, which is defined as “to depend and presume upon another’s love or bask in another’s indulgence” (Doi, 1992, p. 8), is unique to the Japanese culture. Along this line, Niiya, Ellsworth, and Yamaguchi (2006) provide evidence that even though “Amae” does not have an equivalent English word to label the emotion, it might be recognized to some degree in a Western culture.

While these considerations should be taken seriously, I argue that self-reports are nevertheless a legitimate measure of emotions. First and foremost, it is important to keep in mind that emotion research still lacks a “gold standard” for measuring emotions. This means that there is no single perfect emotion measure and that nearly all the available measurements have their strengths and weaknesses (Mauss & Robinson, 2009). For instance, while physiological measures of emotions provide information on stress levels, they are inappropriate when it comes to assessing specific emotions (Bradley & Lang, 2000). However, even among emotion-specific measures, there are differences. Marcus, Neuman, and McKuen (2015) showed that participants indicated more intense emotional responses when using sliders rather than radio buttons. Accordingly, as a researcher it is necessary to make an internal assessment about whether the chosen methodology is consistent with the overarching research question or not. Since I am primarily interested in specific or distinctive emotions rather than valence or arousal, the choice of self-reports is considered appropriate.

The problem with accessing one’s emotional experience can also be circumvented by decreasing the delay between exposure to the stimulus and the measurement of emotions. Therefore, most of the studies in this dissertation assessed people’s emotional responses shortly after their exposure to a news frame, thus minimizing the problem of accessibility. Last but not least, Wallbott and Scherer (1986) argued that, while people may differ in what they regard as anger or fear, sampling large numbers of self-reports and isolating conditions that are at the source of specific emotional experience may help reveal systematic patterns.

### Moderators of Framing Effects

Are people equally affected by framing effects? Inspired by this question, scholars interested in such effects have also directed their attention to what they call moderator variables, which could weaken or strengthen the effectiveness of framing (see Borah, 2011). Moderator variables can be either specific to the individual or to the circumstances under which frames are utilized and perceived (De Vreese & Lecheler, 2012). Individual-level factors have especially captured scientific attention. Examples

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2 Chapter 3 discusses a study which assessed people’s emotional traits in a pre-test measure. This was necessary in order to control for potential confounding effects of traits.
of these are a person's political knowledge (Cappella & Jamieson, 1997; Lecheler, Keer, Schuck, & Hänggli, 2015), self-efficacy (Schuck & De Vreese, 2012), open- or closed-mindedness (Nisbet, Hart, Myers, & Ellithorpe, 2013) or credibility (Druckman, 2001b). Meanwhile, contextual factors have been less well researched, which might be due to the fact that person-specific information can be more easily collected with comprehensive self-reports (e.g., Baumeister, Vohs, & Funder, 2007). Nevertheless, the few available studies underscore the notion that the effectiveness of framing effects can also be influenced by contextual factors (Druckman, 2001b; Schuck, Boomgaarden, & De Vreese, 2013).

In this dissertation I evaluate two largely underexplored contextual moderators. Firstly, Chapter 3 assesses the role of time (i.e., the temporal proximity or distance of an issue) as a factor that could influence framing effects on surprise and anger. Previous research has shown that temporally proximal events are perceived as more emotionally arousing than those more distant in time (e.g., Chang & Pham, 2013). As such, I expected that affective framing effects would decrease with extended time. Secondly, Chapter 4 tests the moderating function of incidental or issue-unrelated emotions, anger and sadness, with regard to framing effects. I also propose that both moderators are valuable to our knowledge of framing effects: temporal information is frequently mentioned in news reports as it determines the newsworthiness of an issue (e.g., Patterson, 1998), while news exposure does not take place in isolation as people bring along their “personal baggage” – their experiences, knowledge or feelings – which shapes perceptions and cognitions at any point in time. Accordingly, it is vital that we understand the impact of these factors.

In addition to individual and contextual moderators, De Vreese and Lecheler (2012) highlighted that people’s susceptibility to framing effects can also be influenced by the issue at stake. More specifically, framing experiments utilize issues without actually taking into account the possibility that the political issue used could possess characteristics that potentially moderate a framing effect. For instance, Lecheler, De Vreese and Slothuus (2009) demonstrated that the importance as well as the content of personal beliefs was differentially influenced by news framing, depending on the issue’s level of importance. The findings in their experiment showed that an issue of low importance facilitated changes to the content of issue-specific beliefs, while adjustments to belief importance, which presuppose the existence of relevant beliefs, were more common for important issues.

The work by Lecheler and her colleagues (2009) is valuable to research on framing effects, as neglect of an issue’s characteristics could threaten the validity of the findings or simply offer a distorted picture of what is actually behind an identified framing effect. For this reason, the research presented in this dissertation investigates also the impact of issue characteristics. More specifically, Chapter 3 demonstrates that the
level of importance of an issue can interfere with a framing effect as well as with an individual's pre-existing emotional state.

**Misinforming with Frames**

Assuming that framing plays an integral role in journalistic work, it is not surprising that some scholars have pointed to its relevance for the study of factually incorrect information; also known as *misinformation*. Misinformation can have substantial consequences – both at the individual as well as societal levels. This is also why some people such as political elites intentionally spread incorrect information to achieve their hidden agendas. However, misinformation can also reach the public accidentally, namely via the news media (e.g., Lewandowsky et al., 2012). The underlying reason for this is that in information-rich societies in particular, people are no longer dependent on the traditional news to stay updated. As such, journalists are increasingly facing more pressure to break the news as early as possible (Deuze, 2008). In doing so, they may not have sufficient time to verify or establish the credibility and validity of the information and, thus, they contribute to the distribution of factually incorrect information. In other words, misinformation may find its way into the news because competition with alternative forms of media leads journalists to be more careless in their work (e.g., Lewandowsky et al., 2012). The problem with factually incorrect information is that it can do harm and it is also difficult to overcome (see, for review, Seifert, 2002). People may readily internalize misinformation and be less willing to give it up even when they are aware of its incorrectness. Research on how to best correct misinformation is flourishing, but to date only a few methods have turned out to be effective in countering misinformation (see, for review, Lewandowsky et al., 2012).

What is the relationship between news framing and misinformation? On the one hand, framing might be used as a means to resolve the effects of misinformation. For instance, some scholars have posited that by using different terms or phrases that depict an issue in a positive or significant light, misinformation could be curbed and the corrective information be reinforced (Lewandowsky, Stritzke, Freund, Oberauer, & Krueger, 2013; Nisbett, 2009). Moreover, framing could also facilitate the acceptance and internalization of corrective information by presenting a retraction in a more familiar narrative, which has been shown to be easier to process, as people can rely on their pre-existing knowledge (see, for review, Kendeou, Rapp, & van den Broek, 2004).

On the other hand, framing has also been accused of accentuating the effects of misinformation (Lewandowsky et al., 2012). The underlying rationale here is that by framing news, journalists can reinforce very simple interpretations of otherwise complex problems. For example, during the Iraq War, journalists published substantially more news articles that used episodic frames depicting the military in a positive light (Pfau et al., 2005). In doing so, the public not only received a positive impression of
the war but was ultimately distracted from the larger issue. Therefore, much of the journalistic work came under fire retrospectively for stimulating and maintaining a culture of enthusiasm and support for the war (e.g., Lewandowsky, Stritzke, Freund, Oberauer, & Krueger, 2013).

Central to this dissertation is the focus on the second reason, namely framing as a means to enhance the effects of misinformation. While I agree that framing could play a role in strengthening misinformation in the public, I also think that framing may directly influence the persistence of misinformation. The reason for this is that negatively – as opposed to positively – valenced frames elicit more persistent framing effects (Lecheler & De Vreese, 2011). Applying this knowledge to misinformation research, it can be inferred that the perseverance of beliefs could be due to the way misinformation is presented in the first place. In Chapter 5, this assumption is put to the test using positively and negatively framed misinformation.

In line with the focus of this dissertation, I also investigate how emotional arousal impacts on the persistence of misinformation. Thus far, the role of emotions in explaining the effects of misinformation has received little attention (see for an exception Ecker, Lewandowsky, & Apai, 2011; Weeks, 2015) – even less so as a strategy that could influence the strength with which people disregard corrective information. This is surprising given the fact that there is an extensive body of research which demonstrates that memory can be differentially influenced by how people feel at the moment they store and recall information (see, for reviews, Cahill & McGaugh, 1995; Christianson, 1992; Kensinger, 2004). When people are highly aroused their focus will be limited to central information, thereby impairing memory of peripheral information (e.g., Mather, 2007; Storbeck & Clore, 2008). Applying this knowledge to research on framed misinformation, I expected that the extent to which people felt emotionally aroused would interfere with how they processed the retraction.

In addition to emotional arousal, I also investigate whether and how different delays shape the correction of misinformation. Misinformation studies usually provide the retraction simultaneously with the incorrect information (e.g., Ecker, Lewandowsky, & Tang, 2010; Johnson & Seifert, 1994; Nyhan & Reifler, 2010); however, in real-life news, corrective information often takes time – ranging from hours to days or weeks. Delays that have been previously tested may thus lack external validity. But even more importantly, it is possible that a delay that is too short or too long could prevent the integration of the new facts or the elimination of misinformation. Under short delays, the original memory traces of the incorrect information may still be too active or too strong to be corrected. Indeed, Ecker, Lewandowsky, Cheung and Mayberry (2015) showed that when two seemingly valid statements were retracted, the one that was most recent was more difficult to redress. At the same time, correcting misinformation after a longer delay, such as a week, may be equally ineffective, because over time the traces...
of misinformation may have decayed until they are no longer available for retrieval. Accordingly, time seems to play an important role with regard to misinformation.

**Outline of the Dissertation**

The present dissertation is organized into four studies, with each one testing the functionality of emotions with regard to framing effects on perceptions, beliefs or behavioral intentions. The purpose behind each of these studies is to move the field of framing research further towards a comprehensive theory of affective news framing. Figure 1.1 depicts the links between each study.

Starting with Chapter 2 (see path A of Figure 1.1), the dissertation pursues three objectives. Firstly, it is devoted to the question of whether emotional responses to the news could be the result of the issue’s characteristics rather than the underlying frame. Central to this question is the issue’s level of contestation – a characteristic that describes the way public opinion is aligned with regard to the issue at stake. Secondly, it investigates whether the effects of issue contestation are emotion-specific or more general; that is, will people experience some but not other emotions when the issue is more or less contested? Thirdly, this chapter scrutinizes the possibility that the effects of issue contestation on emotions are moderated by the salient frame. These objectives are tested with an online experimental survey.

Chapter 3 (see path B of Figure 1.1) is devoted to the question of whether framing effects might also be the result of an emotional cascade, whereby one emotion
overflows into another before the person’s ultimate response is produced. Currently, the vast majority of framing effect studies have viewed emotions as mechanisms that run in parallel (Major, 2011; Lecheler et al., 2013). However, findings from neighboring disciplines suggest that the emotional world is not necessarily parallel, but instead proceeds in a serial fashion, whereby parallel and iterative processes lead to a modification of an emotion episode (e.g., Delplanque et al., 2009; Grandjean & Scherer, 2008). Thus, using a second online survey experiment, I test this competitive model in form of an emotional cascade which passes through surprise and anger. In addition, the study investigates the moderating function of changes in time with regard to this cascade.

Chapter 4 (see path C of Figure 1.1) deals with the question of how pre-existing or induced emotions affect the way news framing effects are processed, and the corresponding effects on people’s beliefs. In addition, I test whether these effects are limited to specific boundary conditions that are defined by issue importance.

The final chapter (denoted as D₁ in Figure 1.1) goes one step further, testing the functionality of framing with regard to the persistence of misinformation. Specifically, it investigates if and how variance in the retraction time, as well as a person’s level of emotional arousal, may impact on the persistence of differently framed misinformation. Additionally, it poses the question of to what extent specific emotions account for people’s beliefs being infused by differently framed misinformation (see path D₂ of Figure 1.1).

**Research Design**

There are various ways to establish and understand the causal relationship between two or more constructs. In the past, scholars have attempted to make inferences regarding causality by means of observational or cross-sectional survey data (Bullock, Green, & Ha, 2010). Even though these methodologies may offer fruitful and interesting insights into relationships between different constructs, any attempts to draw causal connections from this data are error-prone and, therefore, may even lead to misleading claims (Gaines, Kuklinski, & Quirk, 2007). The problem is that other unexpected or unintended factors may be correlated with the constructs to be studied and will thus bias the researcher’s conclusion (Bullock et al., 2010; McDermott, 2002).

In this regard, survey experiments are the better alternative, as they can circumvent what has been called omitted-variable bias by means of manipulation and randomization (e.g., Arceneaux, 2010; Barabas & Jerrit, 2009). Typically, survey experiments differ from traditional experiments in that some elements within the survey are manipulated (Nock & Guterbock, 2010). For instance, previous studies on news framing effects have usually modified the news article but kept the rest of the survey constant for all participants (e.g., Lecheler & De Vreese, 2013). This procedure ensures that changes in an outcome variable are due to the stimulus constructed and not to some extraneous
variables. Randomization is another important feature of experiments as it allows the researcher to create groups that are as homogeneous as possible. In doing so, it is less likely that the obtained effects are the result of systematic differences between the groups under study and can instead be attributed to the experimental manipulation (Gerber & Green, 2012). Survey experiments can thus create an environment in which the experimenter is able to mimic the real world while maintaining control over the study constructs.

Since the overarching goal of this dissertation is to disentangle the complexity and determine the directionality of affective framing effects, all of the studies enlisted here were online survey experiments. An online survey experiment was more appropriate for my purposes as it facilitates access to larger and more diverse samples (see, for review, Evans & Mathur, 2006). Easier access to larger samples has two advantages. Firstly, the data collection period is less time-consuming, while achieving a desirable sample size; secondly and related to this, the ease with which larger sample sizes can be collected facilitates the focus on moderation effects. The underlying rationale is that smaller samples yield only low power, which could threaten the moderation (McClelland & Judd, 1993; Stone-Romero & Anderson, 1994) and mediation effects (Fritz & MacKinnon, 2007; MacKinnon, 2008).

To increase the completion rate while maintaining a representative sample, researchers can also cooperate with research agencies that have larger online panels. For example, the studies presented in this dissertation used panels provided by research agencies and the University of Amsterdam. Members of these panels are incentivized for their participation, such that the willingness to finish a round is much higher. Especially in longitudinal study designs where the participation rate is more likely to drop (e.g., Barry, 2005), a research agency may help the researcher keep the attrition rate lower than usual. Participation in online survey experiments is also more attractive to the panel members - contrary to a lab experiment, an online survey experiment offers participants more flexibility and autonomy, as they can access the survey whenever and wherever they want (Reips, 2000), requiring only a computer with internet access. Moreover, Iyengar (2010) argued that the quality of online and traditional experiments is equivalent, in the sense that neither design can be seen as inferior to the other.

However, it is important to keep in mind that, just like every method, online

3 The use of student samples has been criticized repeatedly because they are said to be less representative of the general population (e.g., Sears, 1986). However, recent work by Druckman and Kam (2009) suggested that student samples do not represent a limitation but instead are often a desirable feature of experimental work. Among several reasons, they explain that students are more likely to follow instructions, which raises experimental realism. Concerning the misestimation of effects as a result of using student samples, they argue that this is largely dependent on the hypothesized treatment effect.
survey experiments suffer from a number of limitations. Firstly, while flexibility can increase the participation rate, the problem is that researchers cannot ensure that all participants are exposed to the same intervening variables. For example, in lab studies all participants undergo the same treatment under the same circumstances. In an online survey experiment, it is possible that some participants may listen to music while filling out the survey, while others may do this on a train surrounded by the sounds of the tracks or a noisy crowd. Distractions like these could have an impact on an individual’s concentration and thus his or her survey responses. Secondly, studies conducted online do not allow the researcher to keep the time that is actually spent on the survey constant. In studies where time-sensitive variables are measured - such as emotional responses or memory performance – time becomes an important criterion (e.g., Rottenberg, Ray, & Gross, 2007). Fortunately, some questionnaire software allows the timing of an individual’s completion rate, so that the researcher can control or exclude participants who take far beyond the average time to complete the survey.

While these limitations are certainly points of concern, in some circumstances these limitations may be acceptable. This is particularly the case when researchers seek to determine effects in a natural environment (e.g., Gaines et al., 2007). Online survey experiments may thus offer a test environment that is more in line with the “natural world” than a ’sterile’ lab experiment. The studies in this dissertation deal primarily with the question of how people process news frames and the corresponding effects on people’s emotions, beliefs and behavioral intentions. Assuming that people consume their news in different places and at different times, the use of online survey experiments as a means to test the hypotheses appears the most appropriate option. In addition, Germine et al. (2012) demonstrated that performance on cognitive and perceptual tasks is comparable for lab and web experiments, which means that the online environment is appropriate for empirical work.

Most of the studies in this dissertation were conducted using a between-subject design (apart from Chapter 4, which uses a split-plot design with measurements over time). This type of experimental methodology has been used previously in framing effects studies (e.g., Lecheler et al., 2009). Between-subject designs are advantageous in that they lower the risk of carry-over effects, since all participants are measured only once.

However, a problematic feature of these designs is that they produce exclusively one-shot experimental effects, as participants’ responses are measured only once. As such, these types of designs cannot say much about the durability of the effects. According to Gaines and his colleagues (2007), the value of such studies remains questionable because in the absence of any repeated measure the researcher cannot determine whether the effect(s) will fade within seconds or persist over several days. This consideration also has implications for framing research, where the majority of the conclusions are derived from one-shot experiments (see as exceptions Chong
& Druckman, 2010; Lecheler et al., 2015; Tewksbury et al., 2000). For this reason, scholars have argued for the extension of the traditional framing experiment with multiple measurements (e.g., Gaines et al., 2007; Lecheler & De Vreese, 2013). The study presented in Chapter 4 follows this suggestion by testing the effects of multiple manipulations over two different delays.

Experiments are often criticized for having limited external validity because the experimental circumstances differ from those in the real world. McDermott (2002), however, argued that internal validity should be of much greater concern than external validity. The underlying rationale is that if a study cannot ensure that the obtained effects are the direct result of the experimental treatment, it is impossible to make inferences regarding causality. While in agreement with McDermott (2002) to some extent, I would still argue that questions related to external validity should not be taken lightly. The reason for this is that in news framing studies, the goal is to test real-world phenomena, or more precisely, the impact of traditional news on the audience (De Vreese & Lecheler, 2012). Accordingly, scholars need to make sure that the stimuli or treatments are as realistic as possible. This goal poses a problem when issues are inherently complex, as it is difficult to design issue presentations that are reflective of equivalency framing.

Demands such as these, cause the researcher to become a trapeze artist, swinging between mundane and experimental realism. To manage this balancing act, I followed the steps used in previous research (e.g., Gross, 2008; Holm, 2012; Lecheler, Bos, & Vliegenthart, 2015). In concrete terms, stimuli were designed that were as realistic as possible but still allowed comparisons across studies. This means that some content of the news articles was held constant (see Tewksbury & Scheufele, 2009) but frame-specific information was varied across the groups. In addition, only generic frames were used to ensure that commensurability was maintained.

As mentioned above, experiments are the best possible way to do research on causal relationships (e.g., Gaines et al., 2007). Being able to determine the cause and effect relationship between two constructs requires specific analyses such as mediation analyses. The ease with which this type of analysis can be done has led to a substantial increase in studies dealing with causality (e.g., Rucker, Preacher, Tormala, & Petty, 2011). Yet, even though these analyses bring us closer to identifying causality, there are also limits to whether we can actually speak of “real causality.” Bullock, Green and Ha (2010) stressed that “mediation is an inherently difficult subject - difficult even under favorable conditions,” (p. 555) which too often leads to an overstatement of causality. To increase the strength of the mediation analysis, Imai, Keele and Yamamoto (2010) proposed two solutions: On the one hand, it is possible to test causality with more advanced experimental designs such as the parallel encouragement design (Imai, Tingley, & Yamamoto, 2013); on the other hand, it is also possible to test some
additional assumptions by means of a sensitivity analysis. The sensitivity analysis gives the researcher an estimate concerning the extent to which the average causal mediation effect (ACME) is robust to the presence of pre- and post-test confounders (Imai et al., 2010). Since one of the goals of this dissertation is to disentangle the processes driving framing effects, mediation analyses appear constantly throughout it. In addition, as the issues raised above are important to this work, a sensitivity analysis is applied in Chapter 3 to test the directionality of two mediating variables.

In sum, the findings presented in this dissertation are the result of several experimental studies. Being aware of the shortcomings of experimentation, I have relied on different methodological and statistical means to mitigate these shortcomings. The following Chapters 2-5 provide more details on how this was done.
References


