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Content and consequences of pension reforms in the media

van den Heijkant, L.

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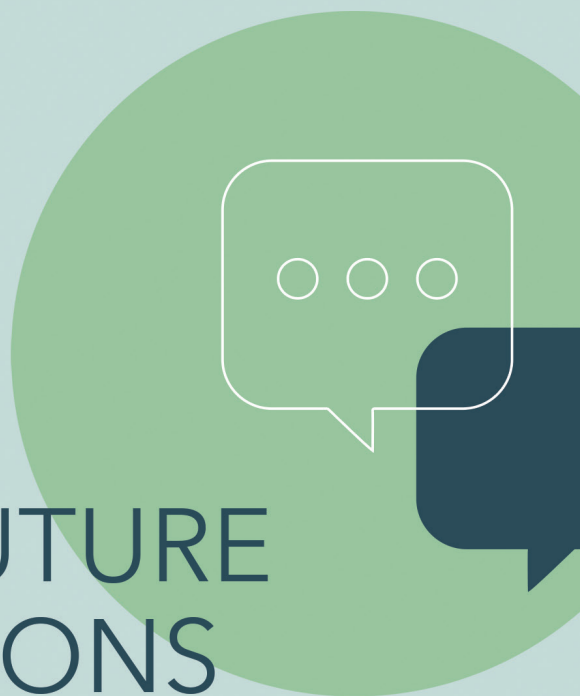
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Linda van den Heijkant



THE FUTURE OF PENSIONS

CONTENT AND CONSEQUENCES
OF PENSION REFORMS
IN THE MEDIA



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THE FUTURE OF PENSIONS

CONTENT AND CONSEQUENCES OF PENSION REFORMS IN THE MEDIA

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INTRODUCTION AND
DISSERTATION OUTLINE

It is widely established that news media are an important element of democratic societies. In particular, news media serve to inform citizens about issues they do not possess direct knowledge or experience of (Dimitrova et al., 2014; Eveland & Schmitt, 2015). The politically contested topic of pension reform is one such issue. As pension reforms need public support, and public support, in turn, requires a well-informed public that understands the necessity and underlying considerations of those reforms (Van Dalen & Henkens, 2005), news media are of crucial importance. This is exactly why this dissertation approaches the issue of pension reform through a news media lens.

SETTING THE SCENE

An aging population is putting pressure on pension systems around the world. In virtually all OECD countries, declining birth rates and a rising life expectancy are causing a shift in the population's age composition toward older ages (United Nations, 2019; Victor, 2010). In 2015, for every 100 persons of working age (those aged between 20 and 64 years), 28 people were 65 years and older on average in OECD countries. This so-called old-age dependency ratio was 14 in 1950 and is expected to increase to 58 by 2075 (OECD, 2015, 2017). The steep increase in the number of older people in national populations, in both absolute and relative terms, leads to a rise in the overall costs of pension provision, thereby challenging the sustainability of pension systems. An aging population is not the only shift that pension systems have to withstand; another challenge for the sustainability of pension systems comes from the changing labor market. It used to be very common for workers to work for the same employer for 40 years. This is no longer the case. Today's labor market is more dynamic and flexible: Short-term contracts are becoming more standard for (younger) workers, and the number of self-employed workers is on the rise (Hershey et al., 2017). A consequence is that pension systems no longer fit neatly into the contemporary labor market, which yields more risks for securing pension income (Hershey et al., 2017).

To adapt to the demographic, social, and economic changes mentioned above, many governments in OECD countries are in the process of reforming the pension system (Whiteford & Whitehouse, 2006). Pension reforms seem to be the evident answer; however, this can prove to be politically difficult

as reforms generally go hand in hand with disruptions of citizens' long- and widely-held expectations for their retirement (Eichhorst & Wintermann, 2006; Schumacher et al., 2013). These disruptions often involve short-term setbacks for citizens (such as the obligation to work longer), while positive effects (such as a more sustainable pension system) may take time (Eichhorst & Wintermann, 2006). Characterized by this aspect of time, pension reforms are essentially about a conflict between the present and future. Older generations may be biased to dislike pension reforms due to (comparatively) short-term interests, while younger generations with long-term interests are the ones benefiting from it eventually. It is a controversial issue that sparks societal resistance and a fierce public debate (Van Solinge & Henkens, 2017; Vermeer et al., 2016), and has the potential to fuel conflicts in society about the distribution of (welfare state) resources.

Citizens probably primarily learn about sociopolitical issues such as pension reforms through news media. News media have an important function of providing citizens with the information they need to make sense of issues in politics and society (Chaffee & Kanihan, 1997; Dimitrova et al., 2014; Eveland & Schmitt, 2015). Citizens may read in a newspaper about an increase in the eligible age to receive state pension, come across an item on TV about less generous occupational pensions, or see a post on social media about individual freedom in pensions. In serving this information function, traditional and social media may shape and influence public opinion. The assumption that the way traditional and social media present information influences how citizens think about pension reforms is at the heart of this dissertation.

FOCUS OF THE DISSERTATION

The information function of news media is arguably of particular importance for the pension issue, as the issue is characterized by low levels of knowledge within the public. Most people do not know the details of their own pension plan (Chan & Stevens, 2008; Finseraas et al., 2017; Prast & Van Soest, 2016), let alone the consequences of pension reforms for their situation. This lack of knowledge is recognized by workers themselves: When asked in the Dutch context, for example, nearly two-thirds of the workers considered themselves to have rather limited financial expertise (Van Rooij et al., 2007).

However, people need to know and understand their own pension situation as they should actively plan and prepare for retirement, but due to the complexity involved with multiple tiers of provision (discussed in more detail below), many citizens struggle to fully understand the way their pension income is organized (Sundén, 2006). Pension reforms add to this need for understanding and awareness, but at the same time also add to the struggle of understanding it, too (Sundén, 2006). In addition to this complexity, the retirement process is uncertain and prospective in nature (Hagelund & Grødem, 2017; Moffatt & Heaven, 2017). It requires forward-looking behavior under uncertainty (Debets et al., 2020), while retirement is often viewed as a life phase that is still too far away to think about for many people.

These distinctive elements of complexity, uncertainty, and future orientation make the information function of news media particularly important for the pension issue. The theory of media system dependency states that citizens are more dependent upon and sensitive to media messages when they cannot rely on social realities to provide frameworks for understanding (Ball-Rokeach & DeFleur, 1976). Due to the prospective and uncertain nature of (saving for) retirement, that chapter of life is beyond many people's real-life experience, which means that no (or very limited) personal sources of information are available to them. This is also reflected in Zucker's (1978) obtrusiveness hypothesis, which states that the less direct experience people have with a given issue, the more they rely on the media for information and interpretation of that issue. According to both theories, the more reliant people are on the media for information, the more potential there is for the media to affect people. The role of media should, therefore, not be underestimated for the pension reform issue. Nonetheless, in empirical research on the topic of pension reform, the content and consequences of the media have often been neglected. While a few studies signaled the role of news media (e.g., Hagelund & Grødem, 2017; May, 2013), studies that approach the issue from a media perspective remain scarce. This dissertation, therefore, looks at pension reforms through a news media lens.

Recently, the news media landscape has changed. In addition to traditional news media, people increasingly encounter and engage with news via social media platforms such as Facebook and Twitter (Bergström & Jervelycke Belfrage, 2018; Nielsen & Schrøder, 2014). For example, in the Netherlands, about 39% of people use social media as a news source (Newman et al.,

2019). Traditional and social media differ considerably in their production of news. While in traditional news media the news production and gatekeeping are in the hands of professionals (e.g., journalists, editors), everyone can contribute to the production and dissemination of social media content. This means that a typical news feed on social media consists of a blend of information from news organizations and interpersonal communication with friends, family, and other individuals or groups (Soroka et al., 2018; Thorson & Wells, 2016; Weeks & Holbert, 2013). The boundaries between producer and consumer that are characteristic of traditional news media become blurred on social media (Nielsen & Schrøder, 2014).

These differences between traditional and social media raise questions of whether citizens receive different information about pension reforms from social media than they do from traditional news media, and whether this eventually leads to differences in how citizens perceive the issue. This comparative perspective is at the center of this dissertation. The central research questions of this dissertation are: *How does media content about the issue of pension reform evolve (differently) in traditional and social media over time, and what are the subsequent consequences of the content and form of media on citizens' attitudes and behavioral intentions toward the issue?*

These questions will be addressed by approaching the issue of pension reform across reform measures and media types as well as over time, in the context of the Dutch news media landscape. The Netherlands is an exemplary case in the fierce societal debate on pension reforms, resembling many other European countries where similar reform measures have been contested (Van Solinge & Henkens, 2017). To understand the societal impact of traditional and social media in the context of pension reform, I will combine classical communication science theories—most importantly, agenda setting (McCombs & Shaw, 1972) and framing (Entman, 1993)—with theories and literature in the fields of journalism (e.g., on news values, gatekeeping) and the welfare state and (social) policy (e.g., on solidarity, justice). A multi-method approach will be applied to offer an integrated framework for analyzing the content and consequences of traditional versus social media in the context of pension reform. Before introducing the theoretical approach in this dissertation, I will first illustrate the key features of a pension system, the challenges it faces, as well as the subsequently proposed pension reforms.

THE ISSUE OF PENSION REFORM

PENSION SYSTEMS IN AN AGING CONTEXT

In many countries, pension income consists of several elements organized in a multi-pillar pension system that combines public and private pensions. In this respect, the Dutch pension system is exemplary with three main pillars: the basic state pension, the supplementary pension through the employer, and the voluntary individual pension provisions (Debets et al., 2020; OECD, 2015). Together, these pillars determine the amount of pension a person receives after reaching retirement age. In terms of capital, the first pillar represents approximately 50% of the Dutch pension system, the second pillar 45%, and the remaining 5% constitutes the third pillar (Molenaar-Cox & Woestenburg, 2018).

The first pillar is a flat-rate basic state pension that is arranged under the Dutch General Old Age Pensions Act (AOW). It is arranged as an insurance scheme that offers everyone who lives or works in the Netherlands a guaranteed pension income. The basic state pension is financed on a pay-as-you-go basis: Today's working population directly pays the pension benefits for the current retirees (Van Dalen & Henkens, 2005). Intergenerational solidarity is consequently a vital component of the pay-as-you-go system. The idea of transfer between generations essentially embodies an intergenerational contract (Komp & Van Tilburg, 2010). An aging population, however, challenges the financial robustness and intergenerational solidarity of the first pillar, as without adjustments to the retirement age, an ever-smaller working population needs to support a growing number of pensioners. Once the workers retire themselves, they can only hope for the same support from the younger generation (Gelissen, 2001).

The second pillar consists of the collective occupational pension schemes, referring to the pension a person accrues through employment. These pension schemes, administered by a pension fund or insurance company, are financed by capital funding (Van Dalen & Henkens, 2005). This means that pension benefits are funded from the premiums paid by participants (employers and workers) and the eventual investment return of this capital (Goudswaard et al., 2010). Collectivity is fundamental to the second pillar, which means that participants jointly build the pension capital from which all pension benefits are subsequently paid. This collectivity makes it possible

to share risks: Disappointing returns on investments are spread among the current workers and pensioners as well as the next generation, making intergenerational solidarity an essential part of the supplementary pensions, as well. Despite the extensive pension capital in the second pillar in the Netherlands, an aging population presents a challenge here as well: Pension fund expenditure on benefits is increasing as a growing number of longer-living participants are eligible for pension benefits, while the number of contributors is declining in proportion to retirees (Goudswaard et al., 2010).

The third pillar is formed by individual pension products that every citizen can arrange for him or herself. This is voluntary and mostly used by those who are self-employed and workers in industries without a collective pension scheme (Euwals et al., 2009; Goudswaard et al., 2010). The options to save for extra pension, perhaps to fill a pension gap or retire early, include annuities, single premium policies, and life insurance policies arranged through an insurance company or bank (Hoff, 2015).

A SOCIAL CONTRACT

A pension system is a social contract. It concerns agreements within generations and between generations, and therefore inevitably involves a question of justice (Schokkaert & Van Parijs, 2003; Vandenbroucke, 2020). Pension provision should be distributed fairly among the population in terms of contributions and benefits. Within generations, this, for example, entails justice considerations between people with high incomes and people with lower incomes or people with physically highly demanding jobs versus less demanding jobs. In particular, the intergenerational contract is at the heart of the pension system (Komp & Van Tilburg, 2010; Vandenbroucke, 2020). Pension systems are built on the principle that every generation honors its obligations to preceding and succeeding generations, thereby balancing contributions and benefits (Hudson, 2010; Sabbagh & Vanhuyse, 2010). As discussed above, an aging population disrupts this balance in pension systems because the working-age generation will have to provide for a growing number of retirees (Komp & Van Tilburg, 2010; Sabbagh & Vanhuyse, 2010). As the pressure from the rising ratio of older people to an ever-smaller working population continues, solidarity between generations may disappear, and the intergenerational contract is at risk (Euwals et al., 2009; Jaime-Castillo, 2013).

PENSION REFORMS

Pension systems can be reformed in different ways, for example, by relaxing solvency rules for pension funds or implementing new indexation rules leading to less generous benefits. This dissertation focuses on two pension reforms that sparked a broad societal debate: raising the retirement age and shifting toward more individual responsibility.

RAISING THE RETIREMENT AGE

One of the most common and visible pension reform measures has been the increase in the retirement age (OECD, 2013). The eligible age to start receiving (state) pension is a prominent aspect of the pension system. It is a key marker of when it is considered acceptable to stop working and move into retirement (OECD, 2013). This makes it a highly contested pension reform, raising societal resistance as it changes the current arrangement for the worse for many workers (OECD, 2017; Vermeer et al., 2016). For example, in France, Italy, and the United Kingdom, raising the retirement age has led to many reactions and protests (Van Solinge & Henkens, 2017). Previous research provides empirical support for this resistance by showing that older workers express negative emotional reactions (e.g., anger and worry) to the expectation to prolong their working lives and retire at a later age (Van Solinge & Henkens, 2017).

SHIFT FROM COLLECTIVE TO INDIVIDUAL RESPONSIBILITY

Within the broader context of the welfare state, a shift is visible in welfare state policies from collective responsibility to more responsibility onto the individual, which fits in with the general trend of individualization in society (De Beer & Koster, 2009). An example of this is the idea of individual responsibility for one's health (Michailakis & Schirmer, 2010; Van Kersbergen & Vis, 2016). This shift toward more individual responsibility is also reflected in changes to the pension system envisaged by the government (Van Dalen & Henkens, 2016). By reforming the balance of responsibility between government, employers, and individuals, the long-term sustainability of the pension system can be assured. Many (proposed) pension reforms, therefore, give rise to greater individual responsibility for pensions, accentuating responsibility for one's retirement savings and income (Hyde & Dixon, 2009).

THEORETICAL APPROACH TO THE STUDY OF PENSION REFORMS IN THE MEDIA

The notion that media influence how citizens think about pension reforms is at the core of this dissertation. When it comes to media effects, the influence is believed to be caused by two aspects: the content and the form (or type) of a particular medium (Eveland, 2003; McLeod et al., 1991). While most research on media effects has focused on either one of the aspects, primarily on the content (Eveland, 2003), this dissertation examines media effects in the context of the sociopolitical issue of pension reform by focusing on both the content and the form of media.

MEDIA CONTENT

In terms of media content, this dissertation examines two key characteristics: salience and frames. These content characteristics are captured in the theories of agenda setting (McCombs & Shaw, 1972) and framing (Entman, 1993), respectively. An important assumption underlying these theories is that media do not act as a neutral conduit for information but rather report a filtered and shaped reflection of reality.

SALIENCE

Salience refers to the visibility of objects (e.g., issues or actors) in the media. By forcing attention to certain issues over others, and making these issues stand out (i.e., salient), media influence what issues are regarded as most important among the public, which is the essence of agenda-setting theory (Cohen, 1963; McCombs & Shaw, 1972). The issues emphasized in the media become the issues that the public thinks about, and the more attention is given to an issue, the more important it is deemed by society. By choosing what to cover, the media and their agenda determine, to a certain degree, the agenda of the public (McCombs, 2014). This agenda-setting hypothesis has been widely studied in communication research. Empirical evidence that has accumulated over the years confirms the notion that media are able to set the agenda of the public, or more concretely, that the media determine what citizens think about (Dearing & Rogers, 1996; López-Escobar et al., 1998).

The transfer of the media agenda is not limited to the public agenda. The media agenda also transfers to and from the political agenda, often referred to as political agenda setting (e.g., Van Aelst & Walgrave, 2011). More

relevant in the context of this dissertation is the notion that agendas also transfer from one medium to the other, as set out in the theory of intermedia agenda setting (McCombs, 2005). In the same way as media determine the prominence of specific issues in the public's mind, media can also influence what other media consider to be salient issues. One reason for this is that reports by other media provide a cue for the importance and newsworthiness of an issue (Kruikemeier, Gattermann, et al., 2018; Vliegenthart & Walgrave, 2008). As mentioned earlier, the contemporary news media landscape is diverse: Citizens can access news through both traditional news media and social media, for example, by watching television, reading a newspaper, or scrolling through social media news feeds. Which of these media set the agenda for the others? So far, there is still relatively limited knowledge about the intermedia agenda-setting dynamics between traditional news media and social media, with mixed findings from the studies addressing this relationship (e.g., Hellsten & Vasileiadou, 2015; Kruikemeier, Gattermann, et al., 2018; Meraz, 2011; Rogstad, 2016). In this dissertation, I examine this relationship in more detail.

FRAMES

The influence of the media does not remain limited to determining the issues on the agenda. Media can also influence the public through the presentation of an issue, which is expressed in framing theory. In his frequently cited definition, Entman (1993) referred to framing as "...to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described" (p. 52). By selecting and emphasizing certain aspects or features of an issue and pushing others into the background, the media suggest a particular interpretation or judgment of the issue, providing a framework for how to make sense of an issue. This approach to framing is labeled as emphasis framing in the debate on the conceptualization of framing (see Cacciatore et al., 2016; Chong & Druckman, 2007). In this dissertation, I rely upon the conceptualization of frames as emphasis frames. It is important to note that emphasis frames are distinct from equivalent frames, as the latter involve presenting logically equivalent information (i.e., the same information) in different ways (Vliegenthart, 2012). An example of

this is '90% employment' versus '10% unemployment'; essentially the same information but presented in a positive versus negative light (Chong & Druckman, 2007).

Another conceptual debate in the framing literature relates to whether framing effects can be explained by the idea of accessibility or applicability (Cacciatore et al., 2016). Following the conceptualization of framing by Entman (1993), this dissertation applies framing based on accessibility. Framing effects can be attributed to the idea that individuals use cognitive shortcuts when processing information (Shen & Edwards, 2005). An emphasis frame accentuates particular aspects of a given issue. These emphasized aspects will be (temporarily) cognitively accessible to individuals, leading individuals to base their evaluations of the issue on these emphasized aspects. Scholars have repeatedly provided empirical evidence for the significant influence of media frames on public opinion (e.g., De Vreese et al., 2011; Shen & Edwards, 2005; Valkenburg et al., 1999).

MEDIA FORM

With regard to media form, this dissertation assesses two types of media: traditional news media and social media. Traditional and social media differ considerably from each other in news production and consumption. While news presented in traditional news media is professionally produced, a news feed on social media consists of a blend of professionally produced content and a sheer amount of non-professionally produced content by any (ordinary) user (Bergström & Jervelycke Belfrage, 2018; Nielsen & Schrøder, 2014; Park & Gil de Zúñiga, 2020). This dissertation examines whether differences in news production may lead to different streams of information across the two media types. Furthermore, traditional and social media differ in format features, hereby providing people with a different experience in news consumption (Weeks & Holbert, 2013). This dissertation, therefore, also assesses whether exposure to traditional versus social media may produce differences in how citizens are informed about and respond to a given issue.

TRADITIONAL NEWS MEDIA

In traditional news media, journalists and editors select and produce content, in which they are driven by a set of professional news values, norms, and work routines (Shehata & Strömbäck, 2018), the most important ones of which I shall explain. Limited by time and space, journalists and editors need

to be selective in their news stories. Driven by commercial motives, they pick out news stories most appealing to the audience. News value theory argues that journalists use guidelines or criteria (so-called news values) to determine whether events or issues are newsworthy (Galtung & Ruge, 1965). This implies that selecting an event or issue as a news story is determined by the existence and prominence of certain features (Donsbach, 2004). For instance, stories that are more negative, conflictual, sensational, or entertaining are more likely to be selected by journalists (Harcup & O'Neill, 2001; Soroka, 2012). In addition, given the pressure of deadlines when selecting news stories that conform to news values, a typical work routine for journalists and editors is the reliance on official sources related to government, policymaking, or other authorities (Manning, 2001; McChesney, 2012). According to Bennett's (1990) notion of indexing (1990), journalists report issues predominantly from the perspective of political elites (Livingston & Bennett, 2003; Neuman et al., 2014). In terms of journalistic norms in the news production process, a defining one is the objectivity norm (Skovsgaard et al., 2013). This entails the norm to produce balanced news reports, which in practice often means the inclusion of multiple points of view in the reporting of an issue or story (Bartholomé et al., 2015).

Regarding news consumption, traditional news media are characterized by inherent format features. For traditional news media, "consuming" news is an adequate description: News seekers are the consumers who receive news. News consumption through traditional news media can be best described as a one-way and sender-driven experience (Weeks & Holbert, 2013). The possibilities offered by traditional news media for further engagement with news content are fairly limited. For example, there are little to no options to interact with or comment on news content (Gil de Zúñiga et al., 2013; Weeks & Holbert, 2013). These distinctive format features may have possible consequences for media effects.

SOCIAL MEDIA

Different from traditional news media, social media are open to anyone in the production of content, without a procedure of selecting and filtering content (Baden & Springer, 2014). The boundaries between producer and consumer become, in that sense, blurred on social media (Nielsen & Schröder, 2014). As everyone is able to produce content on social media, it is oftentimes driven by personal interests, emotions, and motives, with the consequence

that a sheer amount of the available content contains personal stories and commentary (Guggenheim et al., 2015; Smith et al., 2012; Soroka et al., 2018).

In terms of news consumption, the social element is an inherent feature of social media (Bechmann & Lomborg, 2013; Kim & Jung, 2017). Social media are characterized by social contexts and interactive or two-way communication affordances. People exposed to news on social media are guided by expressive and conversational affordances of social media, such as hashtags and the option to share or comment on news. These distinctive format features of social media may elicit certain responses or effects among citizens.

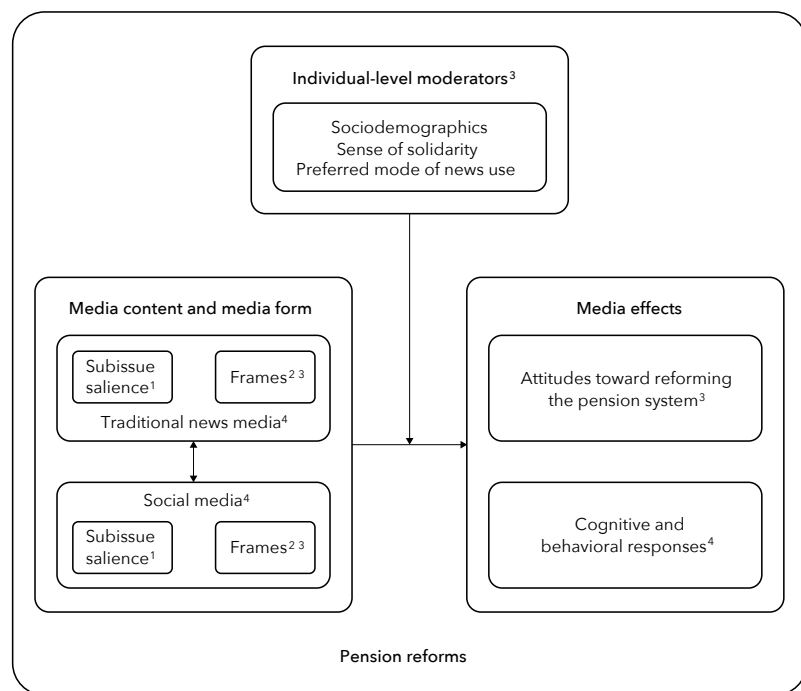
DISSERTATION OUTLINE

The dissertation consists of four chapters documenting empirical research. Each chapter is self-contained and can be read individually. An outline of the dissertation is presented in Figure 1. Chapters 1 and 2 examine the features of the content about the pension reform issue in traditional versus social media, focusing on the salience of subissues (Chapter 1) and frames (Chapter 2). Chapters 3 and 4 examine the consequences of the media on citizens' attitudes and behavioral intentions toward the issue, focusing on the effects of media content (Chapter 3) and media form (Chapter 4). The empirical studies in the dissertation are all conducted in the context of the debate on pension reforms in the Netherlands.

CHAPTER 1

This dissertation starts by examining the media content. Guided by the theoretical notion of agenda setting, Chapter 1 will focus on the salience (or visibility) of subissues regarding the pension reform issue. According to the (intermedia) agenda-setting theory, news media have the power to set the agenda by making some issues more salient than others. Whereas the role of traditional news media in public debates is generally acknowledged, the growth of social media raises questions about their potential power for setting the agenda. The aim of this chapter is twofold: To map the debate on the pension reform of raising the retirement age in traditional and social media, as well as to extend the theory of intermedia agenda setting

Figure 1. Dissertation Outline



Note. ¹ Chapter 1, ² Chapter 2, ³ Chapter 3, ⁴ Chapter 4

to the social media context. Moving beyond media attention across issues, this chapter studies the attention given to subissues within the pension reform issue.

Using automated content analysis, Chapter 1 starts by exploring the most prominently discussed subissues in traditional and social media content over time (2009-2016). Results reveal similarities and differences regarding the salience of subissues across the two media types. In traditional news media, the subissue of labor relations dealing with the negotiations and agreement between the labor unions and the government is most frequently discussed, while on social media, the subissue of pension arrangement is most prominent, discussing the practical and technical arrangements of the pension system. Similarity exists too: The subissue of sustainable

employability is highly salient in both traditional and social media content, focusing on labor market participation and the vitality and capability of (older) workers.

In a next step, Chapter 1 applies time series analysis using the monthly presence of subissues in traditional and social media content to assess the over-time dynamics of salience in both media types. Doing so, this chapter is able to trace who follows whom in the social media age at the meaningful level of subissues. Results indicate that although social media have some power to steer the agenda in public debates, traditional news media are (still) the more powerful agenda setter.

CHAPTER 2

From subissue salience in Chapter 1, this dissertation moves in Chapter 2 to another key content feature: frames. Relying on framing theory, Chapter 2 examines in more detail how traditional news media and social media present the pension reform of raising the retirement age. Given the differences in content production between traditional and social media, most notably due to the absence of institutional and journalistic norms and routines on social media, Chapter 2 assesses whether there are systematic differences between how journalists contextualize the issue in traditional news media and how the issue is contextualized on social media.

The study presented in this chapter uses a manual content analysis of newspaper articles and social media messages published in the period 2009-2016. Adopting Snow and Benford's (1988) approach of diagnostic (problem definition) and prognostic (solution definition) framing, the content analysis consists of two phases. The first phase involves an inductive exploration of how traditional and social media frame the retirement age issue. This qualitative phase reveals seven diagnostic (or problem) frames, in which the frame feature of conflict stands out, and five prognostic (or solution) frames. The next phase involves quantitatively coding the presence of the frames in traditional news media and social media.

Addressing the question of whether and how the two media types differ in framing the retirement age issue, results reveal the similarity that both media types emphasize problems with (instead of solutions to) the retirement age

issue. The findings also confirm differences: While traditional news media emphasize conflict-related frames more often than social media, social media present more frame diversity in solution perspectives.

CHAPTER 3

Moving beyond the content of traditional and social media, the consequences of the media are at the center of the next empirical section in this dissertation. As the framing of a given issue can have significant consequences for how the public perceives the issue, Chapter 3 examines the consequences of news framing on citizens' attitudes toward reforming the pension system. The relevant reform question under study in this chapter is whether a sustainable pension system should be based on collective or individual responsibility.

Using a preregistered survey-embedded experiment, Chapter 3 assesses how citizens' attitudes toward a pension system based on collective versus individual responsibility are affected by exposure to different news frames about reforming the pension system (collective versus individual responsibility is futureproof, unjust versus just) in either traditional or social media. In addition, this chapter provides insights into the extent to which framing effects are enhanced by various individual conditions, in particular age, educational level, sense of solidarity, and exposure to citizens' primary mode of news use (traditional versus social media).

Findings stress that news frames about pension reforms contribute to how citizens view a (potential) pension system. The justice frame played a more crucial role than the responsibility frame, and lower-educated people were more strongly affected by the latter than higher-educated people. Results showed no differences in the strength of framing effects between citizens of different ages or levels of solidarity, nor between citizens who received the frames via their preferred news media and the ones exposed to a less preferred mode of news use.

CHAPTER 4

Chapter 4 focuses on the inherent effects of media form (or type) on citizens' cognitive and behavioral responses toward the pension reform issue. Recognizing social media's conversational and interactive affordances and powerful elements that make it possible to reach a large and diverse audience,

Chapter 4 empirically explores whether these distinctive format features elicit certain responses among citizens that are relevant in the process of (political) learning. More concretely, the chapter explores whether social media have a greater potential than traditional news media to create public awareness and concern, as well as to stimulate interpersonal discussion and information seeking about the pension reform issue. Methodologically, relying on results from both the survey part *and* experimental part of a preregistered survey-embedded experiment, Chapter 4 distinguishes between self-reported and manipulated media exposure measures in disentangling these cognitive and behavioral responses prompted by traditional and social media.

Findings reveal interesting differences: People exposed to news on social media are more concerned about the issue and more likely to engage in interpersonal discussion as well as information seeking than those exposed to traditional news media. However, it is important to note that this is only the case for the self-reported exposure to traditional and social media in everyday life and not for the manipulated media exposure measure in the experimental setting.



CHAPTER 1

INTERMEDIA AGENDA- SETTING DYNAMICS BETWEEN TRADITIONAL AND SOCIAL MEDIA IN A PENSION REFORM DEBATE

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ABSTRACT

This study investigates intermedia agenda-setting dynamics between traditional news media and social media in a pension reform debate. Whereas the role of traditional news media in public debates is generally acknowledged, the growth of social media raises questions about their potential power to set the agenda. This study contributes to the intermedia agenda-setting literature by extending the theory to the social media context, aiming to unravel causal relationships between traditional and social media. We use an automated content analysis to identify prominent subissues in traditional and social media content about the Dutch pension reform of raising the retirement age between 2009 and 2016. Results of pooled fixed effects time series models show support for a mutual influence between the traditional and social media agendas. By looking at the effects per subissue, monthly level vector autoregression models provide more empirical support for the influence of traditional news media on social media than for the reverse direction.

INTRODUCTION

Increases in life expectancy are challenging the long-term financial sustainability of pension systems in many societies. To address this challenge, governments in, for instance, Germany, the United Kingdom, Italy, France, and the Netherlands are implementing the pension reform of raising the retirement age. In the Netherlands, for example, the age to receive a basic state pension (*Algemene Ouderdomswet*) is set to increase stepwise from 65 to 67 years in 2021. From 2022 onward, the retirement age will be linked to life expectancy estimates.

Such policy reforms are contested in society due to their high impact on citizens (Grünell & Houtman, 2011; Van Erp & De Hek, 2009), and therefore often the subject of heated public debates (Kroon et al., 2017; Van Erp & De Hek, 2009). Scholars have argued that the media serve as a central arena in which those public debates take place (Roggeband & Vliegenthart, 2007; Wolfsfeld, 2001) - an idea that draws attention to the media's role in constituting a space where ideas and opinions about the retirement age issue are articulated. Today's media arena consists of many communication environments, most notably due to the rise of social media (McCombs, 2014). This development introduces an important question about the potential role of social media in public debates: Do social media have the power to set the agenda in public debates, or do traditional news media still steer the agenda? While research in the field of social welfare has signaled and speculated on the central role of the media in the debate on pensions (e.g., May, 2013) and retirement age (e.g., Vyncke & Van Gorp, 2017), previous studies have largely neglected the different communication environments in which policy reforms are discussed. Moreover, relatively little is known about intermedia agenda setting between traditional news media and social media, with only a few studies addressing this relationship.

The aim of this study is, therefore, to investigate intermedia agenda-setting dynamics between the traditional news media agenda and the social media agenda, focusing on content about the Dutch pension reform of raising the retirement age. Both the Netherlands and the policy debate form an excellent case to study these dynamics. In the Netherlands, a heated public debate on raising the retirement age has been ongoing since 2009 (Vermeer et al., 2016). In this sense, the Netherlands resembles other (European) countries

where the reform measure has been contested (Van Solinge & Henkens, 2017). Given the controversy and high impact of this pension reform, it is widely covered in traditional news media and on social media, making it a compelling case to study intermedia agenda-setting dynamics in the social media age.

By employing an automated content analysis of media content in the period 2009–2016, we first explore the most discussed subissues within the pension reform debate. We then compare the intermedia agenda-setting patterns of traditional and social media content across these subissues. By examining a relatively long time period and applying advanced time series techniques, we are able to effectively test the intermedia agenda-setting dynamics between traditional and social media. This study contributes to previous research, which is still rather limited, by delving more deeply into one issue to discover how intermedia agenda setting works at the level of subissues.

NEWS MEDIA AS AN ARENA

From a functional perspective, news media can, among other things, be described as an arena (Roggeband & Vliegenthart, 2007; Snow, Soule, et al., 2007; Van Aelst & Walgrave, 2016). Drawing from Habermas' idea of the public sphere, which can be constituted through various institutions, the media arena is a more focused concept in which the media constitute a space where people can express and hear ideas, and where debates on social issues take place (Puddephatt, 2006; Roggeband & Vliegenthart, 2007). In this sense, news media can be referred to as a unique arena in which issues are defined and interpreted (Roggeband & Vliegenthart, 2007).

In today's media landscape, several different media types can be considered as subarenas (Coombs & Holladay, 2014; Vos, 2017). This study focuses on traditional news media and social media as two dominant ones. The prevailing way to learn about most issues and policies is through traditional news media (Van Aelst & Walgrave, 2016). In the news production process, professional journalists and editors in traditional news media decide which items or perspectives are newsworthy in a process (partly) ruled by media routines and news values (Cook, 2006; Van Aelst & Walgrave, 2016). Traditional news media have a significant role in determining the saliency

of issues along with defining and interpreting these issues (Van Aelst & Walgrave, 2016). In addition, social media contribute to the media arena. In today's media context, individuals' opinions and thoughts are ventilated through many social media platforms (Harder et al., 2017; McCombs, 2014). In essence, everyone is able to produce and share their content via, for instance, Twitter or Facebook. Hence, social media enable a wider range of people to get involved in societal debates (Hellsten & Vasileiadou, 2015), with no institutional constraints.

INTERMEDIA AGENDA SETTING

Traditionally, agenda-setting theory concerns the transfer of issue salience from the media to the public (McCombs & Shaw, 1972). Central to the agenda-setting theory is the idea that the prominence of issues in news media influences the prominence of these issues among the public (Carroll & McCombs, 2003; Scheufele & Tewksbury, 2007). The agenda-setting hypothesis gained much attention in communication research; hence, a wealth of evidence for the influence of the media agenda on the public agenda has accumulated over the years (Dearing & Rogers, 1996; López-Escobar et al., 1998).

With agenda setting as the starting point, some researchers have shifted their focus to understand how, in turn, the media agenda is shaped. By extending the original focus of agenda setting, they developed the notion of intermedia agenda setting, which focuses on how the content of one medium influences the content of another medium (Harder et al., 2017; López-Escobar et al., 1998; Sweetser et al., 2008). In the same way as media determine the prominence of specific issues in the public's mind, media can also influence what other media consider to be salient issues. Hence, the concept of intermedia agenda setting focuses on the influence of issue salience within the media arena. Previous studies have proven that the agenda of one medium follows the agenda of another medium. Some studies have examined the reciprocal influence of the same type of media, for example, newspapers (e.g., Breen, 1997), while others have examined the intermedia agenda-setting effects among different media types, for example, the mutual influence of newspapers and television (e.g., Protesse & McCombs, 1991; Reese & Danielian, 1989; Vliegenthart & Walgrave, 2008).

The rise of the Internet and social media has opened up a wide range of new media platforms, such as Facebook, Twitter, and blogs. These interactive platforms are widely used in society and enable people to initiate or participate in discussions relatively easily (Neuman et al., 2014; Zhang & Skoric, 2018). Hence, the (former) audience is, in addition to consuming information, now also able to produce its own content. Accordingly, journalists and editors in traditional news media are no longer the only ones who provide news (Harder et al., 2017; Jang & Park, 2017). This development provides a new perspective for studying intermedia agenda setting (Kim et al., 2016). So far, however, there is still limited knowledge about the intermedia agenda-setting dynamics between traditional news media and social media, with only a few studies addressing this relationship. For example, Meraz (2011) has investigated intermedia agenda setting between traditional media and online political blogs and concludes that blogs can exert a moderate influence on the traditional media agenda. In line with this, Hellsten and Vasileiadou (2015) find that, in the Climategate debate, blogs increased newspapers' attention to this topic. In contrast, the findings of Rogstad (2016) reveal that social media are following traditional media's content more than the other way around. In a recent study on politicians' visibility, Kruikemeier, Gattermann, et al. (2018) find a reciprocal influence between traditional news media and social media, although the size of this influence varies across politicians. A study by Jang and Park (2017) finds an influence of Twitter on news media coverage in the overall attention devoted to an issue (a ferry tragedy), while news media influenced Twitter regarding the target of blame in this disaster. The findings of Kim et al. (2016) provide evidence for an influence of first- and second-level intermedia agenda setting among political advertisements, newspapers, and tweets for two presidential candidates.

WHO SETS THE AGENDA IN THE MEDIA ARENA?

This study builds on previous research by examining the extent to which intermedia agenda-setting effects exist between traditional news media and social media, aiming to determine who sets the agenda at the specific level of subissues.

On the one hand, it can be argued that the direction of influence is from traditional news media to social media (Neuman et al., 2014). Traditional news media are an important source of information. People learn about the latest updates, developments, and events primarily by following traditional news media (Zhou & Moy, 2007), and they will perceive the information provided by news media as important (Searles & Smith, 2016). In addition to being a frequently used source, traditional news media are often considered to be credible and objective (Kroon & Van der Meer, 2018). Due to their professional character and resources, traditional news media are perceived as a reliable source of information (Kruikemeier, Gattermann, et al., 2018). Following this reasoning, we argue that the prominence of a subissue on the traditional news media agenda influences the prominence of the subissue on the social media agenda.

On the other hand, the question is whether social media content can influence the agenda of traditional news media. The Internet and especially social media provide an environment where people can communicate about important issues on their minds (Castells, 2007). Online discussions can add meaning and news value to a certain issue, which, in turn, can influence the issue's prominence in traditional news media (Zhou & Moy, 2007). Moreover, the production process of traditional news media has changed since the rise of social media. Today, many journalists use social media as an important source of information (Jang & Park, 2017; Lecheler & Kruikemeier, 2016). As a result of a deteriorating financial situation among traditional news media, social media are becoming even more important as a source (Parmelee, 2014). We expect that the subissues communicated on social media serve as input for the traditional news media agenda. Hence, we expect a reciprocal influence between traditional news media and social media. We formulate general hypotheses to test these intermedia agenda-setting effects rather than formulating separate hypotheses for each specific subissue. We elaborate on the specific subissues in the Discussion section and speculate on the role of subissue attributes in intermedia agenda-setting dynamics.

H1a. An increase in attention to a certain subissue in traditional news media leads to an increase in attention to the subissue on social media.

H1b. An increase in attention to a certain subissue on social media leads to an increase in attention to the subissue in traditional news media.

THE CASE OF RAISING THE RETIREMENT AGE IN THE NETHERLANDS

In the historical context of the Netherlands, the retirement age issue has been salient for many years (Van Selm & Van der Heijden, 2013). Since 2009, attention to this issue has intensified in light of the pension reform of (gradually) raising the age at which people receive a basic state pension from 65 to 67 years in 2021.¹ Further increases in the retirement age will depend on life expectancy estimates and economic factors in the years to come. These changes are captured in a bill first introduced in 2009 and officially adopted by the Dutch government in 2012.

Since it was first announced in 2009, the pension reform of raising the retirement age has evoked criticism and a fierce societal debate in the Netherlands (Vermeer et al., 2016). The Netherlands forms an exemplary case because it resembles many other European countries where similar reform measures have been contested. For example, in France, Italy, and the United Kingdom, raising the retirement age has led to many reactions and protests (Van Solinge & Henkens, 2017). The case of the Netherlands is particularly interesting because the reform measure was implemented in a relatively short period and faster than initially communicated (Van Solinge & Henkens, 2017), which may have intensified the policy debate under investigation.

METHOD

DATA

We collected longitudinal data on traditional news media and social media content about the retirement age issue, published between 2009 and 2016. The rationale for examining this time period is to capture different phases of the debate: the introduction (in 2009), adoption (in 2012), and aftermath of the bill. In addition, we collected a set of organizational communication

¹ The pension system in the Netherlands consists of three pillars: (1) the basic state pension (*Algemene Ouderdomswet*), (2) the supplementary pension through the employer, and (3) the voluntary individual pension provisions. The basic state pension (first pillar) is organized as a pay-as-you-go system, in which the current working population pays for the pensioners. It is ideally supplemented with benefits from personal pension plans (second and third pillars), which are organized as investment systems.

outlets. We included organizational media as a control variable because they potentially influence the relation between traditional news media and social media (further explained below).

TRADITIONAL NEWS MEDIA

For traditional news media, this study relied on national newspapers. Using newspapers has three significant advantages over other types of traditional news media: (1) compared with other countries, newspaper readership is relatively high in the Netherlands (Bakker, 2013; Boumans et al., 2018); (2) newspapers are considered important agenda setters (De Feijter, 2007; Palmgreen & Clarke, 1977); and (3) newspapers consist of written articles that are relatively easy to retrieve, which is a major advantage for automated content analysis (Van der Meer, 2016). In addition to these advantages, newspapers and television are fairly similar in the content of their news coverage in the Netherlands; hence, newspapers can be considered as a proxy for traditional news media (Kleinnijenhuis, 2003). We selected five subscription-based Dutch national newspapers with the highest circulation rates because these newspapers reach a large proportion of Dutch citizens. This selection included popular newspapers *Algemeen Dagblad* and *De Telegraaf* and quality newspapers *De Volkskrant*, *NRC Handelsblad*, and *Trouw*.

Newspaper articles were obtained through LexisNexis using a broad and extensive search string that was refined by trial and error. The reasoning behind the search string, consisting of the (broad) terms and synonyms for *pension*, *age*, and *raise*, was to maximize the inclusion of relevant articles (i.e., articles that deal with the topic of raising the retirement age) while avoiding irrelevant ones and without further specifying the content of the articles. This procedure resulted in 5,002 newspaper articles: 665 from *Algemeen Dagblad*, 937 from *De Telegraaf*, 1,368 from *De Volkskrant*, 1,058 from *NRC Handelsblad*, and 974 from *Trouw*. A manual check of a subset of the sample confirmed that the articles dealt with the retirement age issue.

SOCIAL MEDIA

We included social media messages, both posts and comments, from various platforms, aiming to get a general impression of the different social media types that exist in the media landscape. We selected Twitter, Facebook, blogs, and forums because these platforms differ in their use and functions (i.e., what the platform offers). Twitter is a microblogging site typically used

to share news, opinions, or what is currently happening, while Facebook is a social networking site, mostly used to build or maintain social relationships and stay up to date about peoples' lives and activities (Bakker & Bakker, 2011; Smith et al., 2012). Blogs capture current affairs and events rather than interpersonal matters and offer posts with a deep analysis or an opinion (Jang & Park, 2017; Kenix, 2009). Finally, forums are online communities that bring people together for more elaborate interaction on and conversation about various topics (Weinberg & Pehlivan, 2011).

We obtained social media messages through Coosto with the same search string used to collect newspaper articles.² This process resulted in a sample of 77,908 social media messages: 42,096 from Twitter, 1,533 from Facebook, 26,263 from blogs (e.g., *50-plusser*, *Das Kapital*, *De Dagelijkse Standaard*, *Effectory*, *InfoNu*) and 8,016 from forums (e.g., *DeBeurs*, *Fok! Forum*, *Gathering of Tweakers*, *lex*, *Vara Kassa forum*).

CONTROL VARIABLE: ORGANIZATIONAL MEDIA

We included organizational media as a control variable because organizations are an important source for journalists, most notably organizations' information subsidies such as press releases. Earlier studies have found that organizations often subsidize the media with material (Boumans, 2018; Erjavec, 2005). The role of organizations as sources of information may be even more significant in the context of the retirement age issue, as they constitute the places where the reform measure needs to be implemented. Since organizations are likely essential actors in the debate on raising the retirement age, it is important to control for their potential influence on both traditional news media and social media content. In addition, by including organizational media as a control variable, we aim to take a (small) step toward addressing the widely acknowledged problem of omitted variable bias in (intermedia) agenda-setting research. This bias occurs when relevant variables that potentially influence the independent and dependent variables are excluded from analyses.

² Due to Coosto's daily indexing of websites and social pages, the number of messages that appear in Coosto fluctuates constantly. For example, messages removed from social media are also removed from Coosto. To prevent these fluctuations from affecting our sample, all social media data was downloaded on the same day (October 20, 2017). Unfortunately, for Facebook, we could only collect posts and comments from 2016.

We collected two types of communication tools, that is, press releases and annual reports, from 14 organizations that were selected based on several criteria (e.g., being a large employer in the Netherlands, representing different sectors, and availability of press releases and annual reports). These 14 organizations together published 7,342 press releases and 108 annual reports throughout the period under study; they were all searched with the same search string we used for traditional news media and social media. This procedure resulted in 17 press releases and 64 (parts of) annual reports dealing with the retirement age issue, together constituting a (relatively small) sample of 81 organizational media materials.

INSTRUMENT

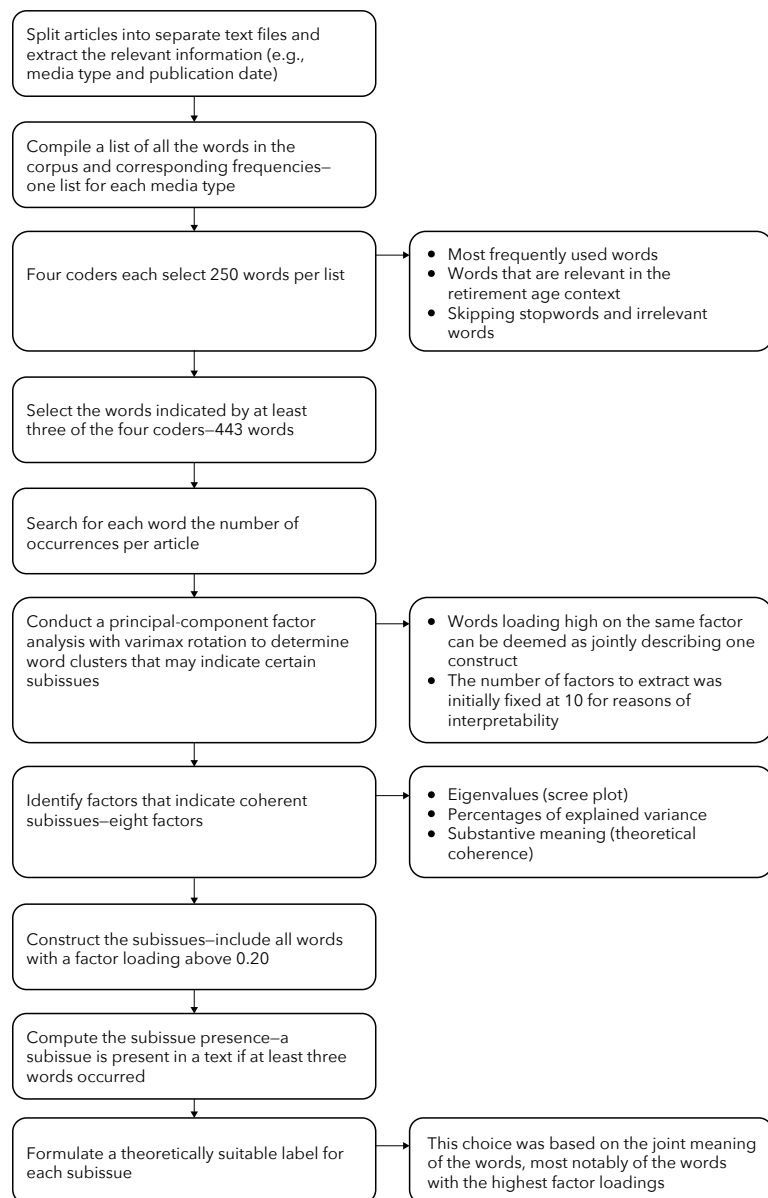
After collecting the data, we employed an automated content analysis by conducting a co-word occurrence analysis of newspaper articles, social media messages, press releases, and annual reports. We followed the approach of McLaren et al. (2018). The steps taken in the analysis are presented in Figure 1.1.

POOLED FIXED EFFECTS TIME SERIES MODELS

To test the general mutual effects of traditional news media and social media, we started estimating pooled fixed effects time series models. With these models, we considered the effects for all subissues together instead of singling out the effects for each specific subissue. Put differently, we pooled data from all subissues, enabling us to test the hypotheses in a more robust way (see e.g., Walgrave et al., 2017).

Since we expected a reciprocal influence between the traditional news media agenda and the social media agenda, we estimated two models: one with social media and one with traditional news media as dependent variable. First, we needed to determine whether the dependent series were stationary (Hollanders & Vliegthart, 2008). Pooled Dickey-Fuller tests (Fisher-type unit-root tests) yielded significant outcomes for the series of traditional news media and the series of social media, which indicated that the null hypothesis of nonstationarity could be rejected ($Z = -11.43$, $p < .001$; $Z = -9.35$, $p < .001$). Second, we investigated the issue of autocorrelation (i.e., the correlation between the current value and the previous value of an observation). Wooldridge tests suggested that the null hypothesis of no first-order autocorrelation can be rejected for the series of

Figure 1.1 Steps of Co-Word Occurrence Analysis



Note. For news media, the selection of words was based on a slightly longer period of time, including 2007 and 2008 as well. The selection of words differs little if we exclude those years.

traditional news media ($F(1, 7) = 5218.67, p < .001$) and the series of social media ($F(1, 7) = 257.70, p < .001$). We also tested the autocorrelation for each subissue separately: Portmanteau (Q) statistics indicated that both the series of traditional news media and social media yielded no white noise for any of the subissues. Therefore, we included a lagged dependent variable to account for autocorrelation.

Next, two pooled models were estimated. In these models, all interissue variation was removed by adding dummy variables for each subissue minus one. The first model estimated the effect of traditional news media on social media (H1a), and the second model assessed the effect of social media on traditional news media (H1b). The first model contained lagged values of social media and lagged three-month averages of traditional news media to predict current values of social media; the second model contained lagged values of traditional news media and lagged three-month averages of social media to predict current values of traditional news media.³ Both models also included lagged differenced values of organizational media as a control variable. We used differenced values because we expected organizational media to have an influence only when major changes occur in the coverage of organizations. We excluded the pension funds subissue from the analyses because it was rarely present in traditional news media and on social media (further discussed below).

After estimating these models, we investigated the presence of contemporaneous correlation and group-level heteroscedasticity. Contemporaneous correlation means that correlation exists among residuals at the same point in time. Group-level heteroscedasticity implies that the independent variable explains some units less well or better than others. Put differently, the size of the error terms differs across different units. Both models demonstrated the presence of substantial amounts of contemporaneous correlation, $\chi^2(21) = 1,435.07$, average $r = .859$; $\chi^2(21) = 1,609.51$, average $r = .911$, and group-level heteroscedasticity, $\chi^2(7) = 84.00, p < .001$; $\chi^2(7) = 123.04, p < .001$. Therefore, we estimated the models once again, this time using ordinary least squares regression with panel corrected standard errors. Such models take into account the issues

³ We used lagged three-month averages because we are especially interested in gradual changes in the debate and influence in the long term.

of contemporaneous correlation and group-level heteroscedasticity. These models yielded similar results; thus, we can (more) safely adhere to the fixed effects models and their results.

VECTOR AUTOREGRESSION TIME SERIES MODELS

Vector autoregression models were estimated to test the reciprocal influence between traditional news media and social media for each subissue separately. This gives us an idea of which subissues are steering the potential effects.

Once again, we first determined whether all series were stationary. Augmented Dickey-Fuller tests yielded significant outcomes in all instances, indicating that the null hypothesis of nonstationarity can be rejected. Based on fit statistics, we determined the best-fitted lag length per model with the maximum number of lags restricted to three (i.e., three months; presented in Table 1.3). Next, we estimated seven vector autoregression models: one model for each subissue (except for the pension funds subissue). These models included the series of traditional news media and social media as endogenous variables and the series of organizational media as an exogenous variable. After estimating these models, we performed additional tests to investigate the presence of autocorrelation and contemporaneous correlation. Ljung-Box Portmanteau (Q) tests for autocorrelation in the residuals resulted in a rejection of the null hypothesis of white noise for three models (i.e., there is no autocorrelation). One way to solve the issue of autocorrelation is to add extra lags (Vliegenthart, 2014). However, for reasons of parsimony, we decided to leave the models as they are and accept that some autocorrelation remains in the residuals. Additional tests indicated a strong contemporaneous correlation among residuals, with an average score of .86. This could indicate that traditional news media and social media were affected by external factors, resulting in similar changes at the same time (Vliegenthart, 2014). It could also be a sign that intermedia agenda-setting effects take place in shorter time intervals than the monthly level considered here; hence, a lower aggregation level might be desirable (Vliegenthart, 2014). However, disaggregating the data is, in our case, problematic because too few news items are published, for example, on a weekly basis, resulting in yet different statistical hurdles.

To examine and interpret possible intermedia agenda-setting effects, we conducted Granger causality tests to establish a causal relationship (Vliegenthart, 2014). If there appeared to be an effect, we consulted the cumulative impulse

response function and forecast error variance decomposition. These tests provide information about the direction (positive or negative), size, and strength of the effect (Vliegenthart & Montes, 2014).

RESULTS

PRESENCE AND OVER-TIME DYNAMICS OF SUBISSUES

From the co-word occurrence analysis, we identified eight prominent subissues: sustainable employability, pension arrangement, politics, European context, financial risks, purchasing power, labor relations, and pension funds. In general, the subissues were more salient in traditional news media than on social media. Interestingly, a comparison of both types of media revealed similarities and differences in the degree of subissues' presence (see Table 1.1). In traditional news media, the labor relations subissue was most frequently discussed. This subissue deals with the negotiations and agreements between labor unions (representing their members) and the government. Second, sustainable employability was also prominently discussed in newspapers: In many newspaper articles about the pension reform of raising the retirement age, journalists focused on (older) workers' employability and capability of lifelong working. On social media, the subissue that was discussed most is pension arrangement. In many messages related to the retirement age increase, actors discussed the practical and technical arrangements of the pension system. The sustainable employability subissue was also widely discussed on social media.

Figures 1.2 and 1.3 present the over-time dynamics of the presence of subissues in traditional news media and on social media (with varying values marked along the y-axes). In general, the presence of subissues in newspaper articles and social media messages was higher in the beginning years than in the later years. An explanation for this could be that there was still room to set the agenda for the debate when the Dutch government first presented the idea of raising the retirement age in 2009.

In both traditional news media and social media content, a peak occurred around October 2009 for almost all subissues. During this period, the Dutch government reached an agreement for the first time on the bill of raising the retirement age.⁴ Among all subissues (except pension funds), another peak

⁴ The bill was later withdrawn due to the fall of the Dutch government (Balkenende IV).

Table 1.1 Overview of Subissues: Outcomes of Varimax Rotated Factor Analysis and Subissues' Presence in Traditional News Media and Social Media

Subissue labels and words	Total variance explained		Presence in percentages	
	Eigenvalue	% of variance	TM N = 5,002	SM N = 77,908
Sustainable employability (65 words; $\alpha = .906$) Work, employees, job, labor market, organization, people, care, sustainable	28.500	6.433 (8.830)	89.4	32.7
Pension arrangement (58 words; $\alpha = .846$) Amount, right, social security, gross, age, law, employer, AOW	10.617	2.397 (8.830)	73.7	33.1
Politics (46 words; $\alpha = .891$) CDA, VVD, D66, PVV, PvdA, parties, elections, coalition	7.092	1.601 (10.431)	69.7	20.1
European context (43 words; $\alpha = .876$) European, countries, Europe, economy, Greece, banks, crisis, growth	6.672	1.506 (11.937)	63.5	16.6
Financial risks (27 words; $\alpha = .845$) Return, BKR, assumptions, save, money, income, average, risk	5.844	1.319 (13.256)	36.2	13.1
Purchasing power (31 words; $\alpha = .839$) Purchasing power, rise, decline, expensive, euro, incomes, pay, contribution	5.487	1.239 (14.495)	62.7	17.6
Labor relations (46 words; $\alpha = .849$) FNV, employers, agreement, unions, Jongerius, trade union, pension agreement, allies	5.134	1.159 (15.654)	98.3	26.3
Pension funds (33 words; $\alpha = .679$) Fund investments, discount rate, main fund, basic salary, assets, employee contribution, pension fund, coverage ratio	4.753	1.073 (16.727)	3.6	1.5

Note. Subissues are presented with the number of words per subissue and Cronbach's alpha in parentheses. Percentages of explained variance are presented with the cumulative percentage of variance in parentheses. TM = traditional news media; SM = social media.

Figure 1.2 Attention to the Sustainable Employability, Pension Arrangement, Politics, and European Context Subissues in Traditional News Media and Social Media

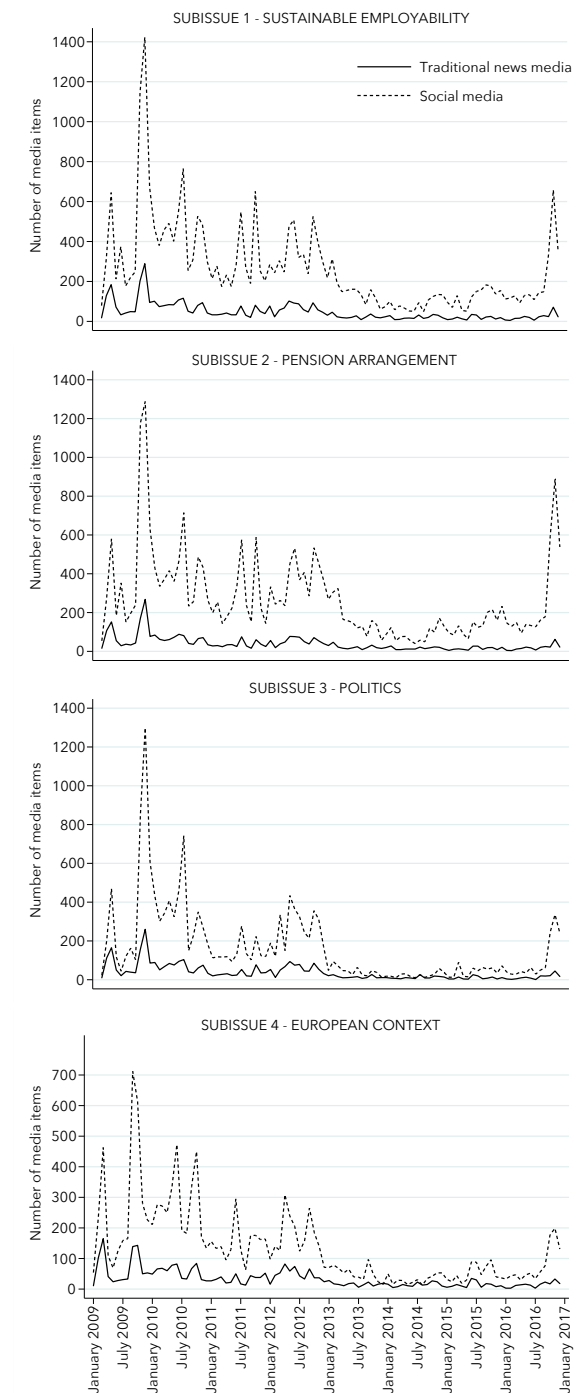
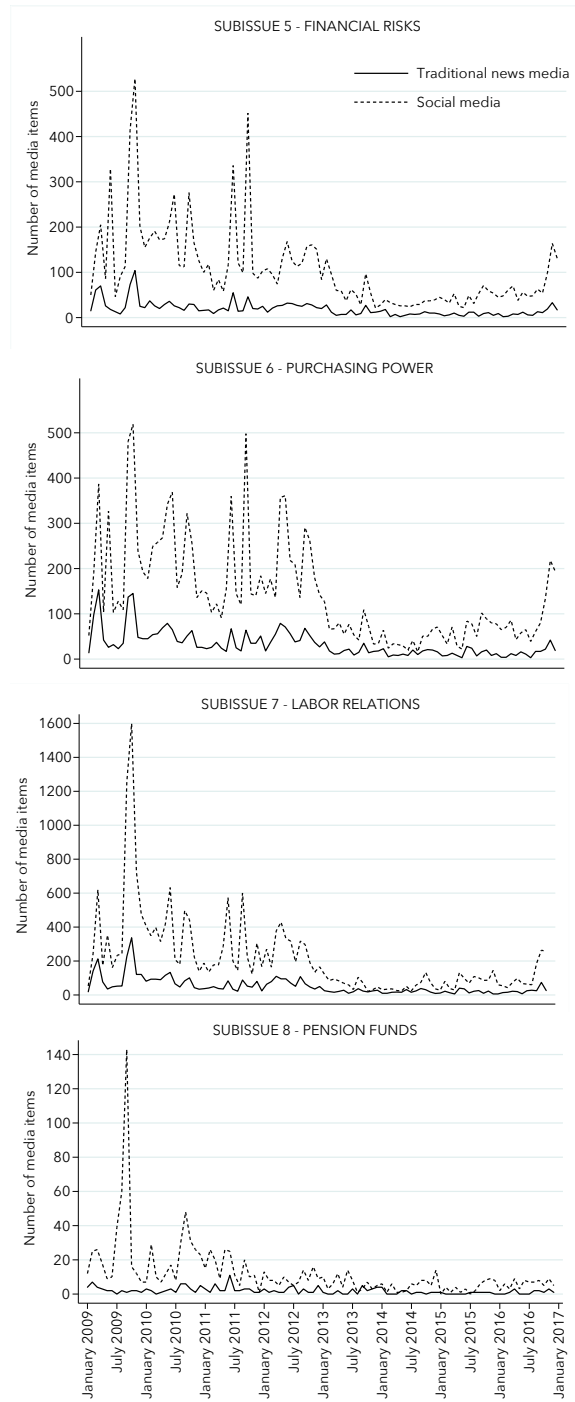


Figure 1.3 Attention to the Financial Risks, Purchasing Power, Labor Relations, and Pension Funds Subissues in Traditional News Media and Social Media



occurred around October and November 2016. Again, this could be explained by political decision-making: On October 31, 2016, the government announced that the retirement age for 2022 would increase to 67 years and three months. In general, the decreasing presence of subissues over the years could mean that the debate is fragmenting over time. Another explanation could be that the debate has become less salient because people are on the same page or due to a decline in interest and newsworthiness.

CAUSAL RELATIONSHIP BETWEEN TRADITIONAL NEWS MEDIA AND SOCIAL MEDIA

Table 1.2 presents the outcomes of the two pooled fixed effects time series models. The first model assessed the effect of traditional news media on social media. Outcomes indicated that social media's own past has a significant positive influence on the current value of social media. If a subissue was present in the previous month, chances were greater that attention was devoted to the same subissue in the following month. The key outcome relates to the influence of traditional news media on social media (shown in bold type in Table 1.2). Hypothesis 1a proposed that an increase in attention to a certain subissue in traditional news media would positively influence attention to that subissue on social media. Results support this hypothesis: We found a significant positive influence of lagged three-month averages of traditional news media on the current value of social media. Specifically, a one-unit increase in the attention to a subissue in traditional news media resulted in a .449 increase in attention on social media to that subissue. Hence, we accept H1a.

The second model examined the effect of social media on traditional news media. Results show that the value of traditional news media in the previous month significantly and positively affected the value of traditional news media in the subsequent month (see Table 1.2). Hypothesis 1b proposed that an increase in attention to a certain subissue on social media would lead to an increase in attention to that subissue in traditional news media. In line with this hypothesis, outcomes indicated a significant positive influence of lagged three-month averages of social media on the current value of traditional news media. A one-unit increase in social media's attention to a subissue resulted in a .023 increase in traditional news media's attention. Thus, we confirm H1b.

Table 1.2 Overview of Pooled Findings: Direction and Significance of Effects.

	Model 1 Social media	Model 2 Traditional news media
Social media ($t - 1$)	.627*** (.035)	
Social media ($t - [1-3]$)		.023** (.008)
Traditional news media ($t - 1$)		.592*** (.036)
Traditional news media ($t - [1-3]$)	.449* (.206)	
Organizational media (differenced; $t - 1$)	2.069 (12.021)	-.832 (2.296)
Constant	52.658*** (8.706)	9.711*** (1.662)
No. observations	644	644
R^2 within	.448	.430
R^2 between	.994	.985
$F(3, 634)$	171.24	159.09
Prob > F	.000	.000

Note. Coefficients are presented with standard errors in parentheses. * $p < .05$. ** $p < .01$. *** $p < .001$.

Diving more deeply into these effects, we used vector autoregression models to test the hypotheses once more, this time for each subissue separately. This provides insights into which subissues are potentially steering the effects. Outcomes of the Granger causality tests and cumulative impulse response functions are shown in Table 1.3. Addressing Hypothesis 1a, results indicate a significant effect of traditional news media on social media for two subissues: financial risks and purchasing power. The cumulative impulse response functions suggest positive effects, which are significant at all points in time.⁵ For instance, after a time span of five months, a one-unit increase in the presence of the subissues financial risks and purchasing power in traditional news media resulted in increases of 5.03 and 4.61, respectively, in the presence of these subissues on social media (90% CI [.97, 9.09]; [1.04, 8.18]). In addition, the forecast error variance decompositions show that, after five months, respectively, 72.4% and 77.2% of the variation in the monthly presence of the financial risks and purchasing power subissues on social media could be attributed to the monthly presence of these subissues in traditional news media, indicating a large effect. Thus, on the individual level of subissues, H1a is supported for two subissues.

⁵ The graphs of the cumulative impulse response function are available on request from the corresponding author.

Addressing Hypothesis 1b, results of the Granger causality tests indicate a significant effect of social media on traditional news media for one of the subissues: pension arrangement (see Table 1.3). The cumulative impulse response function indicates an overall null effect that was significant only at the first point in time.⁵ For example, after a five-month time span, a one-unit increase in the monthly presence of the pension arrangement subissue on social media resulted in a .03 decrease in the presence of this subissue in traditional news media (90% CI [-.26, .20]). Moreover, the forecast error variance decomposition showed that, after five months, 3.85% of the variation in the monthly presence of the pension arrangement subissue in traditional news media could be attributed to the monthly presence of this subissue on social media. This indicates a fairly small effect. Hence, on the individual level of subissues, H1b is not supported.

Table 1.3 Overview of Subissues Findings: Significance Levels of Granger Causality Tests and the Direction of Effects Based on Cumulative Impulse Response Functions.

Subissue	Traditional news media → Social media	Social media → Traditional news media
Sustainable employability (1 lag)	0	0
Pension arrangement (2 lags)	0	0*
Politics (1 lag)	0	0
European context (1 lag)	0	0
Financial risks (1 lag)	+*	0
Purchasing power (1 lag)	+*	0
Labor relations (1 lag)	0	0

Note. * $p < .05$.

DISCUSSION AND CONCLUSION

This study extends the intermedia agenda-setting theory to the social media context. We investigated intermedia agenda-setting dynamics between the traditional news media agenda and the social media agenda in a pension reform debate, and a reciprocal influence was expected. Considering the joint effect of all subissues, the key finding is that both hypotheses can be confirmed. Traditional news media and social media positively influence each other in the attention to subissues. Testing the effects for each subissue separately yielded support only for the effect of traditional news media

on social media (H1a). Because relatively little is known about intermedia agenda setting between the agendas of traditional news media and social media, this study's findings are relevant for theorizing this relationship. Our results indicate that social media have some power to set the agenda in public debates; however, traditional news media are (still) the more powerful agenda setter. Our findings provide support for the standing answer to the question of who sets the agenda: Traditional news media (Neuman et al., 2014).

Rather than focusing on general issues, the study reported here contributes to previous research by exploring in detail a particular policy issue. Hence, our study sheds light on intermedia agenda-setting dynamics at the detailed level of subissues. Remarkably, by singling out the effects for each subissue separately, only three subissues triggered effects: pension arrangement, financial risks, and purchasing power. It seems, then, that intermedia agenda-setting effects are dependent on attributes of subissues. Although our study did not focus on these differences, we speculate that the degree of obtrusiveness is important. The obtrusiveness hypothesis entails the notion that the impact of media is stronger for unobtrusive issues that are more abstract and less directly experienced by individuals than for obtrusive issues that individuals can personally experience (Soroka, 2002; Zucker, 1978). Following the distinction between obtrusive and unobtrusive issues, we would consider the pension arrangement and financial risks subissues and, to a lesser extent, the purchasing power subissue to be unobtrusive, referring to matters that are more abstract and system dependent and beyond individuals' everyday encounters and experiences. In contrast, the sustainable employability subissue can, for example, be considered an obtrusive issue, as individuals might personally experience (problems with) their vitality and capability of lifelong working. The distinction between unobtrusive and obtrusive subissues might be a valid explanation for whether intermedia agenda-setting effects are detected; however, future research is needed to empirically examine this line of reasoning.

Among this study's limitations, the most important one is the problems the study faces with omitted variable bias; an acknowledged issue in (intermedia) agenda-setting research. Although we did include organizational media, we did not control for several other contextual variables that might have impacted the independent and dependent variables, meaning that our

results may be biased (Vliegenthart & Montes, 2014). The debate on raising the retirement age does not solely take place in the media arena; various developments and events such as the economic crisis, elections, or election campaigns may have affected the debate and thus the attention devoted to the issue in media content. Hence, future research needs to consider the larger social context (see e.g., Park et al., 2018). For instance, by enriching the content data with data about the economy or political events. Furthermore, shortcomings in the data collection and analysis are attributable to certain (pragmatic) choices. First, in the selection of social media messages, we did not exclude messages from organizations and traditional news media outlets. Therefore, it might be that the organizations or newspapers that we selected also appeared in the social media data. Since we consider social media as another type of societal media that includes not only content from the "voices of the public", but also content produced by, for example, politicians and journalists, this is not problematic as long as we are aware of it. In future research, it would be beneficial to make a distinction between stakeholders and assess the social networks of stakeholders on social media. Another issue with the data relates to organizational media. Our sample of press releases and annual reports of 14 organizations is too small to be representative of all organizational media. In addition, the selection of organizations was based on the availability of press releases and annual reports for the years 2009 to 2016. In this sense, the sample could be biased because we gathered data on those organizations that voluntarily disclose (a lot of) information.

Notwithstanding these limitations, by covering a relatively long time period and applying advanced time series techniques, our study is an important empirical contribution to the field of intermedia agenda setting. This study provides convincing evidence that the traditional news media agenda positively influences the subissue agenda on social media, which brings us one step closer to understanding the causal direction of the relationship between traditional news media and social media. In addition to this contribution to the body of communication science literature, our results have important pragmatic implications for the intermedia agenda-setting dynamics in the retirement age policy debate. Social media seem to have little influence on traditional news media. Although it feels as if everyone can share their opinion and actively participate in the retirement age debate, these voices on social media do not spill over to traditional news media. This has implications for how the debate develops, as journalists and their (elite)

sources have a more influential voice in the policy debate than the voices on social media. In addition, the insights into who is steering the agenda could be used by all types of stakeholders to become more aware of the role of different types of media in setting and shaping the debate. Moreover, the results shed light on how policy reforms, particularly the pension reform of raising the retirement age, are perceived and shaped in the media arena. For instance, showing that sustainable employability and purchasing power are prominently discussed facets in the media arena will increase awareness among politicians and policymakers about workers' vitality, capability, and spending power. In this sense, examining the pension reform debate provides insights into whether the measure is perceived as legitimate and what concerns prevail in society. These insights could help improve future communication on policy reforms with high societal impact.

Moving beyond intermedia agenda-setting dynamics and how the media agenda is set at the aggregate level, future research could build on the current study by addressing individual-level media effects and explore how media content influences individual perceptions about this policy issue.



CHAPTER 2

FRAMING PENSION REFORM IN THE NEWS: TRADITIONAL VERSUS SOCIAL MEDIA

This chapter is under review as: Van den Heijkant, L., Van Selm, M., Hellsten, I., & Vliegthart, R. (2021). Framing pension reform in the news: Traditional versus social media

ABSTRACT

Next to traditional news media, social media are increasingly important in the news menu of media users. Differences in news production processes between traditional and social media may affect how political and societal issues are depicted, and this may, eventually, affect how citizens are being informed and respond to these issues. By comparing the framing of news content in traditional and social media, this study contributes to the larger question of how social media shape the public debate compared to traditional news media. We rely on a content analysis of newspaper articles and social media messages to compare news frames of the socially contested issue of raising the retirement age. Results reveal the similarity that both media types emphasize problems with (instead of solutions to) the retirement age issue. Our findings also confirm differences: While traditional news media emphasize conflict-related frames more often than social media, social media present more frame diversity in solutions.

INTRODUCTION

In recent years, the nature of the news media landscape has changed. People increasingly use social media as a news source (Gil de Zúñiga et al., 2018). While news production in traditional news media is based on professional journalists and editors following institutional norms and routines, the rise of social media has integrated a wider array of actors in the news cycle, who are driven by rather different considerations (Bergström & Jervelycke Belfrage, 2018; Nielsen & Schröder, 2014). This shifting nature of the news media landscape may have an impact on the information that reaches citizens as the information on social media may be essentially different from the information in more traditional sources (Soroka et al., 2018). Eventually, this may have consequences for citizens' perceptions and opinions about current issues and events.

Scholars have recently started to examine differences in information across traditional and social media, hereby focusing on different content characteristics. Regarding the tone of information, Soroka et al. (2018) reveal that traditional media reflect a negativity bias in their reporting of the economy, while the economic information circulated through Twitter reflects a positivity bias. Other studies focus on the style and logic of journalists' news reporting across their own (traditional) platforms and social media (Hågvar, 2019; Welbers & Opgenhaffen, 2019). For example, Welbers and Opgenhaffen (2019) show that Facebook status messages of news organizations are more subjective and positive than headlines and leads of the actual news content.

The present study compares the *framing* of news content across traditional and social media. Investigating whether the framing of social and political issues is different in traditional and social media fosters our understanding of how social media shape public debate compared to traditional media. We examine this question in the context of a fundamental sociopolitical issue: the retirement age issue. As a response to an aging population, many governments around the world are pursuing pension reforms in which people are expected to retire later (OECD, 2017). The retirement age issue forms a rich case to compare framing across the two media types for two particular reasons. First, given the profound impact on citizens, the reform measure is controversial and subject of fierce public debate (Van Solinge &

Henkens, 2017), making it a prominent and dynamic news topic in traditional and social media. Second, a distinctive element of the retirement age issue is that it is about extending benefits available today to future generations, making the issue comparable to other future-oriented and contested issues (e.g., climate change). Remarkable is that working and older generations are biased to dislike the pension reform at hand due to (relative) short-term interests (Van Solinge & Henkens, 2017), while younger and future generations are the ones benefiting from it in the long run (Naumann, 2014). In terms of news consumption, older generations are more likely to primarily rely on traditional news media for (political) news, while younger generations mainly use social media for (political) information (Holt et al., 2013; Lauf & Scholtens, 2019). In the case of different information streams across these media types, this may produce differences in how citizens of various generations are being informed and respond to the reform measure, which may widen the gap in attitudes and opinions even further.

This study relies on a content analysis of Dutch newspaper articles and social media messages about the retirement age issue in the timespan 2009-2016. Doing so, we aim to uncover frames in the media content about the retirement age issue and explain systematic differences between how journalists frame the issue in traditional news media and how users frame it on social media, as well as explain systematic differences over time.

APPROACH TO FRAMING

Framing deals with the presentation and meaning construction of issues (Ashuri & Halperin, 2017). Many of the conceptualizations proposed correspond to Entman's (1993) classical definition: "To select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described" (p. 52). Central to this definition is selection and salience: A frame draws attention to selected aspects of an issue at the expense of others by making them more salient, which refers to emphasis framing (De Vreese, 2005). Distinct from this is equivalence framing, which involves presenting logically equivalent information in different ways (Vliegenthart, 2012).

Framing provides an excellent way to systematically analyze variation across media content (Vliegenthart, 2012). In this study, we focus on some of the essential frame features in news reporting. Frames of the issue at hand are identified based on elements central to Entman's (1993) definition: the problem and solution definition. The problem formulation (*diagnosis*) and the solution formulation (*prognosis*) are conceptualized as two core frame features by Snow and Benford (1988). Diagnostic framing deals with identifying a problem, attributing responsibility for it, and identifying associated victims. Prognostic framing identifies a solution to the problem and attributes responsibility to the one accountable for solving the problem (Iyengar, 1991; Snow & Benford, 1988). This diagnostic and prognostic framing approach proved useful in studying variation in frames across a range of contexts. For example, in the context of framing social movements and events in traditional media (Snow, Vliegenthart, et al., 2007), framing immigration and integration in traditional media and parliament (Vliegenthart & Roggeband, 2007), and framing older workers' employability in traditional and corporate media (Kroon et al., 2017).

We rely on an inductive approach to identify diagnostic and prognostic frames in the news content of the issue at hand. Rather than analyzing a priori defined frames, frames emerge naturally from the data. An inductive approach is well-suited to assess variation in frames across traditional and social media, as it allows openness to frames used in *both* media types, avoiding the risk of overlooking relevant frames in one of the media types.

From the frame identification process, it became clear that conflict plays a key role in framing the retirement age issue in the news (full description of inductive procedure and outcomes is included in the Methods and Results sections). Many studies have identified the importance of conflict as a distinctive storytelling technique. For example, conflict proved to be an important news value. News values represent a set of guidelines that journalists and editors use to determine which events become news. According to the news value of conflict, events or issues are more newsworthy when they involve disagreement, controversies, or arguments (Harcup & O'Neill, 2017). Furthermore, the conflict frame has been identified as an often-used generic frame in traditional news media content, especially common in political news. In such a frame, aspects of conflict between individuals, groups, or institutions are emphasized (De Vreese et al., 2001;

Valkenburg & Semetko, 2000). Given the key role of conflict in media content in general as well as in the issue at hand, it is a relevant frame feature to include in studying variation in frames across traditional and social media.

PRODUCTION OF NEWS CONTENT IN TRADITIONAL AND SOCIAL MEDIA

Due to distinctive features that characterize traditional and social media, there are vast differences in content production between them. Central to these differences is the concept of media logic, which concerns the processes through which media produce and transmit content. Following media logic, the way media communicate issues depends on the distinctive features of each medium, including format, style, production process, and routines (Altheide, 2013; Altheide & Snow, 1979). More concretely, media logic refers to “the news values and the storytelling techniques the media make use of to take advantage of their own medium and its format, and to be competitive in the ongoing struggle to capture people’s attention” (Strömbäck, 2008, p. 233).

Traditional news media, such as newspapers, have a distinct logic based on professional journalists following institutional norms and routines in their gatekeeping role (Singer, 2010). Dramatizing news, presenting negative or conflicting information, and ‘indexing’ content to the governmental discourse are some of the most identified tendencies in the news production of traditional news media. In contrast, news production on social media is driven by different considerations. On social media platforms, everyone can participate in producing and disseminating content. A diverse group of users produces social media content based on personal motivations and preferences rather than following specific norms and routines (Klinger & Svensson, 2015; Weeks & Holbert, 2013). Some studies argue for a social media logic characterized by particular dynamics (Enli & Simonsen, 2018). For instance, in the sense that content generation on social media comes from amateur production and so-called ‘produsage’ by (lay) users (Klinger & Svensson, 2015), and is based on a more interpersonal and subjective logic (Welbers & Opgenhaffen, 2019). The current study is in line with the

argumentation of these studies; however, we are careful to adopt the term of social media logic since we focus on multiple social media platforms and do not distinguish between different types of users.

VARIATION IN FRAMES ACROSS TRADITIONAL AND SOCIAL MEDIA

Characterized by economic pressure and commercial influence, traditional news media need to compete with other outlets and sell news. To be competitive in this ongoing struggle for public attention, journalists and editors are inclined to dramatize news (Bennett, 2004; Kunelius, 2006). Previous research suggests that journalists and editors tend to highlight problems in the coverage of social issues more than providing a solution-focused perspective (Kroon et al., 2017; Snow, Vliegthart, et al., 2007). In the context of pension reforms, Hagelund and Grødem (2017) also find that newspaper articles problematize pension reforms, especially in terms of pension wealth distribution. In addition, traditional news media are faced with limited space for news stories. Consequently, journalists and editors need to decide what (not) to include in the news. To determine what kind of information is newsworthy and appealing to the audience, they use news values (Harcup & O’Neill, 2017; Kruikemeier, Gattermann, et al., 2018). Negativity is an important news value, and we know from previous research that frames that receive journalistic attention reflect news values (Luther & Zhou, 2005). Following this reasoning, we expect journalists to be more inclined to use diagnostic frames than prognostic frames.

Although social media are also about re-distributing traditional news stories, the production of content on social media does not follow a structured editorial process. Instead, social media users are driven by personal motives and, therefore, the content on social media (often) includes personal stories and commentary (Guggenheim et al., 2015; Smith et al., 2012; Soroka et al., 2018). Following this personalized character, previous research has suggested that social media content contains more emotional expressions than content in traditional sources (Guggenheim et al., 2015; Klinger & Svensson, 2015; Welbers & Opgenhaffen, 2019). The pension reform of raising the retirement age received fierce opposition from citizens, as the measure causes disruptions in long- and widely held expectations of

citizens' retirement (Eichhorst & Wintermann, 2006). Since many citizens may experience short-term implications of the measure but do not (necessarily) benefit from it, we expect negative emotions to be prevalent among citizens. This is also reflected in previous research in which older workers indicated to be angry and worried about working longer and retiring later (Van Solinge & Henkens, 2017). These emotionally engaged citizens are probably particularly likely to be actively involved in the debate on social media, mainly emphasizing problems related to the issue. For these reasons, we also expect social media content to be focused on diagnostic frames rather than prognostic frames.

H1a. Both traditional news media and social media content will contain more diagnostic frames than prognostic frames.

Journalists and editors are also characterized in their norms and routines by a heavy reliance on official sources that are associated with, for example, governmental departments or the policy-making process (Dimitrova & Strömbäck, 2009). The reliance on official sources is in line with the indexing theory about state-press relations, which refers to the notion that traditional news media primarily cover policy issues from the governmental perspective (Bennett, 1990; Neuman et al., 2014). We, therefore, anticipate that journalists depend on official sources in their news reporting on the retirement age issue, which will be reflected in how journalists frame the issue (Dimitrova & Strömbäck, 2009). Government officials probably focus on the purpose and (future) benefits of the measure and may release information related to solutions more than problems in an effort to collect support for the policy measure. Therefore, we expect that—although generally using more diagnostic frames—journalists and editors are also likely to provide an account of the retirement age issue from a solution-focused angle (using prognostic frames). Previous research has also suggested that journalists shift their attention from diagnostic to prognostic framing over time, as identifying solutions becomes the focal concern when a debate or event progresses (Snow et al., 2007). Hence, we expect that traditional news media content contains fewer diagnostic frames over time.

Since producing content on social media is guided by personal interests and motives, framing depends on users' own opinions and preferences. Due to opposition and negative emotional reactions such as anger and worry,

we expect that social media content contains prognostic frames to a lesser extent than traditional news media. Looking at social media content over time, we expect that negative emotional reactions become even stronger, especially after the government's official implementation of the pension reform. Hence, contrary to the decrease in diagnostic framing in traditional news media content over time, we expect that social media content remains focused on diagnostic framing.

H1b. Traditional news media content will contain more prognostic frames than social media content.

H2a. Over time, the presence of diagnostic frames will decrease in traditional news media content.

H2b. Over time, the presence of diagnostic frames will remain the same in social media content.

Adhering to the norm of objectivity, journalists and editors in traditional news media face the challenge of bringing more than one view into a news item. To balance different views, journalists try to highlight different interpretations of an issue in their reporting, thereby leaving the interpretation to the audience (Baden & Springer, 2014; Skovsgaard et al., 2013). In practice, this norm of objectivity means that journalists tend to present conflicting or opposing views (Bartholomé et al., 2015), especially in political news (Vliegenthart et al., 2011). Based on the prominent role of conflict in news content (e.g., Harcup & O'Neill, 2017; Valkenburg & Semetko, 2000), and given that conflicting interests dominate the retirement age issue, we expect journalists to be likely to present the issue in terms of conflict-related frames. Over time, however, we expect the presence of conflict-related frames to decrease because the level of disagreement declined, at least in political terms, as the reform process to raise the retirement age matured (Parlevliet, 2017).

Different from journalists following norms and routines, social media users are more independent in framing policy issues (Neuman et al., 2014). Frame construction is in the hands of many (ordinary) users. Social media platforms allow them to produce any issue interpretation, as no selection procedure exists for publication (Baden & Springer, 2014). In this sense, social media users can challenge discourses and share alternative perspectives (Loader

& Mercea, 2011). We anticipate that the content about the retirement age issue is divided across various frames, leading to the expectation that frame diversity is large for social media.

H3a. Traditional news media content will contain more conflict-related frames than social media content.

H3b. Over time, the presence of conflict-related frames will decrease in traditional news media content.

H4. Social media content will contain more frame diversity than traditional news media content.

METHOD

SAMPLE

Using manual content analysis, we investigated how the retirement age issue was framed in traditional and social media content over a period of eight years (2009-2016). This period covered the first moment the Dutch government introduced its plan to raise the retirement age (2009), the actual implementation (2012), and its aftermath in subsequent years. The Netherlands forms an exemplary case for many other European countries where the pension reform of raising the retirement age has led to heated public debates (Van Solinge & Henkens, 2017).

We selected newspapers to represent traditional news media in this study. Although television news programs are the main traditional news source for many people in the Netherlands, printed newspapers are still widely read (Newman et al., 2019). Besides, newspapers are the more generic form of traditional news media as journalistic norms and practices dominate the outlet. We included the five largest Dutch national newspapers: two popular newspapers (*Algemeen Dagblad*, *De Telegraaf*) and three quality newspapers (*De Volkskrant*, *NRC Handelsblad*, *Trouw*).

We selected Facebook, Twitter, and various blogs and forums to represent the diverse social media landscape. Facebook and (to a lesser extent) Twitter are among the most frequently used social media platforms for news in the

Netherlands (Newman et al., 2019). In addition, a large number of blogs and forums exist in the social media landscape (Smith et al., 2012). Content on social media can be produced by any actor, including politicians and journalists. As social media users can potentially be exposed to all these messages, we did not distinguish between different types of users and selected all content related to the issue.

We used an extensive search string to collect newspaper articles and social media messages via LexisNexis and Coosto¹, respectively (see Chapter 1). We narrowed the focus by using a second search string, mainly to exclude items focusing on related subissues (e.g., sustainable employability, pension funds). Taking the message length of the different media into account resulted in two slightly different search strings: one for newspapers, blogs, and forums and one for Facebook and Twitter. Wildcards were used to account for plurals and grammatical variations of words. This search resulted in 1.072 newspaper articles and (after removing duplicates) 10.191 social media messages.

A stratified random sample of 414 newspaper articles (38.6%) and 2.771 social media messages (27.2%) was manually coded in our content analysis. Only media items explicitly referring to the pension reform of raising the retirement age in the Netherlands were further analyzed in the content analysis. For traditional news media, this resulted in 382 newspaper articles: 43 from *Algemeen Dagblad*, 84 from *De Telegraaf*, 100 from *De Volkskrant*, 81 from *NRC Handelsblad*, and 74 from *Trouw*. For social media, the process resulted in 2.130 social media messages: 875 from Twitter, 142 from Facebook², and 1.113 from blogs (e.g., *50-plusser*, *De Dagelijkse Standaard*, *Effactory*) and forums (e.g., *Fok! Forum*, *DeBeurs*, *Vara Kassa Forum*).

CODING PROCEDURE AND RELIABILITY

The coding procedure consisted of two phases. In the first phase, we inductively identified issue-specific frames through a qualitative pre-study. We analyzed a random subset of newspaper articles and social media messages with sensitizing questions to identify issue-specific diagnostic

¹ Coosto stores social media messages that are publicly available. This means that, for example, private Facebook posts are not included in our study.

² For Facebook, we could unfortunately only collect posts and comments from 2016.

and prognostic frames: “what is seen as the problem?”, “who is seen as responsible for causing the problem?”, “whose problem is it seen to be?”, “what should be done to solve the issue?” and “who is taking responsibility to solve the issue?” (for a similar approach, see Kroon et al., 2017; Vliegthart & Roggeband, 2007). We continued this qualitative analysis until no new framing elements emerged (theoretical saturation; $n = 262$), resulting in seven diagnostic frames and five prognostic frames. Table 2.1 gives an overview of these frames.

In the second deductive phase, after developing the coding instrument based on the qualitative pre-study, four coders were trained in coding the materials until a satisfactory level of consensus on all categories in the codebook was reached. The coders coded media items using a series of closed-ended questions. Each question was designed to measure the presence of a frame, and multiple frames could be coded per unit.

Intercoder reliability was established, at different moments, on a representative sample of 245 randomly selected items from a popular and quality newspaper ($n = 31$) and each social media platform ($n = 214$). We relied on standardized Lotus coefficients to assess intercoder reliability, which corrects for agreement based on chance and is particularly suitable for dichotomous variables that are skewed or score low on “positives” (Aaldering & Vliegthart, 2016). Standardized Lotus coefficients and percentage agreement yielded satisfactory results (see Table 2.2).

ANALYSIS

We computed the scores of all diagnostic frames into one variable representing the presence of diagnostic frames, ranging from 0 to 5 diagnostic frames present in a media item. We did the same for the presence of prognostic frames, and this scale ranged from 0 to 3. Given the unequal number of seven diagnostic and five prognostic frames in our codebook, we recoded the scale of diagnostic frames into the same scale as prognostic frames for the analyses in which we compared the presence of both frame types. In the analyses in which we compared across media, we relied on the share (percentage) of a particular frame type relative to all frames. For H3a and H3b, we grouped inequality between groups, generational conflict, and political disagreement as conflict-related frames as these frames are the ones that emphasize disagreement between individuals, institutions, or countries (De Vreese et al., 2001).

Table 2.1 The Identified Diagnostic and Prognostic Frames in Traditional and Social Media

Diagnostic frames	Typical examples	
	Traditional news media	Social media
<i>Disruption of financial plans</i> Financial problems, uncertainty, or disruption of life plan	‘The rise in the state pension age leads to an additional increase of elderly people needing social assistance benefits’ (De Volkskrant-August-2016).	‘Because the retirement age is shifting to 67 years and partner state pension is abolished for people born after 1-1-1950, I have a gap of more than €70.000’ (Facebook-December-2016).
<i>Confusion about pension</i> Confused, ignorant, or unrealistic about one’s own pension	‘Many young citizens don’t even know that their pension accrual rate was reduced the moment the retirement age was raised’ (Trouw-August-2015).	‘67 years is known information for many customers, but that the increase continues even further is new information for many people’ (Forum-October-2014).
<i>Inequality between groups</i> Ignorance of differences between individuals or groups	‘Quite a few people think that raising the retirement age is unfair and puts a disproportionate burden on certain, especially lower, income groups’ (De Volkskrant-October-2009).	‘Let’s be honest, in the better jobs, people take care of themselves, and there are many who can retire early. It is again the people in the jobs that are already struggling, physically, to reach the finish line, who suffer’ (Facebook-November-2016).
<i>Poor labor market position of older workers</i> Negative images and stereotypes of older workers	‘Raising the state pension age will not improve the willingness of employers to hire older workers’ (De Volkskrant-June-2015).	‘There is no point in #raising the state pension age as long as employers are not forced to hire and retain older people #cpb’ (Twitter-March-2012).
<i>Generational conflict</i> Pressure on the solidarity between young and older people	‘With the discussion about the retirement age, solidarity between generations has also come under pressure’ (Trouw-December-2010).	‘Criticism Council of State on bill #pensionagreement: State pension age increase too slow and imbalance in interests young and old’ (Twitter-October-2011).
<i>Political disagreement</i> Political negotiation and commotion around the pension reform	‘Raising the retirement age is a clear decision by coalition parties CDA, PvdA, and ChristenUnie, while opposition parties SP and PVV are resolutely against this idea’ (NRC Handelsblad-March-2010).	‘Senate agrees grumbly with the rise in the state pension age: The state pension age will increase in steps from January 1, 2013’ (Twitter-July-2012).

<i>Unjustified austerity measure</i> Pension reform serves the government's own financial problems	'Why should 2009 be the benchmark for linking the state pension age to life expectancy? Because it has become clear that a handful of greedy bankers have brought the world economy on the verge of collapse' (NRC Handelsblad-October-2009).	'The government has already reduced so much of our pension and increased the retirement age. Now they need more money, so the retirement age needs to be raised again' (Facebook-October-2016).
Prognostic frames		
<i>Alternative ideas</i> Alternative ideas and suggestions to improve the reform measure	'Jongerius sees more in a flexible setup. Workers should be able to choose when they retire, between the ages of 65 and 70 years. If you quit working later, you will also receive a higher benefit' (De Telegraaf-Februari-2010).	'You can think of a system where the group up to 40 years retires one month later, the group from 40 to 50 years retires half a month later, and always entitled to retire at 65 years after 40 years of working' (Forum-February-2009).
<i>Innovating labor market</i> Need for a modern labor market, improving the employability of (older) workers	'Minister Bos wants to oblige employers to take measures to keep workers fit, via a change in the legislation of working conditions' (Trouw-September-2009).	'Entitled to training, a mandatory career policy, fewer vacation days, and a lower salary. These are some measures that should make it more attractive for employers to keep employees working up to 67 years' (Blog-December-2009).
<i>Fostering individualization</i> People need to take responsibility for their own retirement	'A Dutch professor of pension sociology points to the possibility of individual saving in order to be able to retire earlier' (De Telegraaf-September-2010).	'If you are confronted with a reduction in your income, it is important to take a good look at your expenses' (Blog-November-2016).
<i>Improving communication about pension</i> Providing more insights into and overview of people's pensions	'During these three days, more than 250 organizations are committed to giving Dutch people more insights into and overview of their pension situation, now and later' (De Telegraaf-October-2014).	'A partnership between the government, business community, and other parties, is organizing the Pensioen3daagse. The aim is to encourage people to be actively involved in their own pension situation' (Blog-September-2011).
<i>Reversing the decision</i> Reversing the decision to raise the retirement age	'Nothing needs to be reversed. The bill for raising the retirement age to 67 years has not yet been passed by the chamber. The cabinet has resigned, so the bill is put on hold. It simply should not be introduced' (De Telegraaf-February-2010).	'The retirement age simply should be reversed to 65 years' (Facebook-November-2011).

Table 2.2 Intercoder Reliability Results

	Intercoder reliability	
	Standardized Lotus	Average pairwise percent agreement
Diagnostic frames (n = 755)		
Disruption of financial plans	.83	88.05
Confusion about pension	.92	96.45
Inequality between groups	.87	92.78
Poor labor market position of older workers	.92	96.82
Generational conflict	.91	95.83
Political disagreement	.80	86.00
Unjustified austerity measure	.92	96.92
Prognostic frames (n = 755)		
Alternative ideas	.80	87.15
Innovating labor market	.91	95.87
Fostering individualization	.92	97.48
Improving communication about pension	.93	98.13
Reversing the decision	.88	93.45

Note. n represents the number of codings on which the comparison is based.

For the hypotheses dealing with over-time expectations, we created a time variable that included all months in our research period, from month 1 to month 96. Finally, to measure how widely attention is distributed across frames, we relied on the Herfindahl Index, which is often used in economics to measure market concentration. The maximum score of 1 represents a complete concentration of one frame in the news, while a Herfindahl Index that approaches zero indicates more diversity in frames. We used the monthly share of each frame to calculate the Herfindahl Index for both media types.

RESULTS

DESCRIPTIVE RESULTS

Before testing the hypotheses, we start by describing the diagnostic and prognostic frames that emerged from the qualitative pre-study. These descriptions are presented in Table 2.1, including typical examples. Although representing the same diagnostic and prognostic frames in terms of content,

the qualitative analysis did reveal a clear difference in the language and style of framing across traditional and social media, which is in line with other comparative studies of these media types (Hågvar, 2019; Klinger & Svensson, 2015; Welbers & Opgenhaffen, 2019). Frames on social media exhibit a more subjective and emotional style, expressed from the author's perspective and state, which is marked as a distinctive feature of content production on social media (Welbers & Opgenhaffen, 2019). For instance, as shown in Table 2.1, a newspaper presents the frame inequality between groups rather objective and distant, while the same frame on social media is written from the emotional state of the author, which is reflected in the subjective language. Frames on social media also have a more personalized nature compared to the ones in traditional news media (Klinger & Svensson, 2015). This is, for example, reflected in the frame disruption of financial plans, where the example on social media showed a more personal focus than the one in a newspaper.

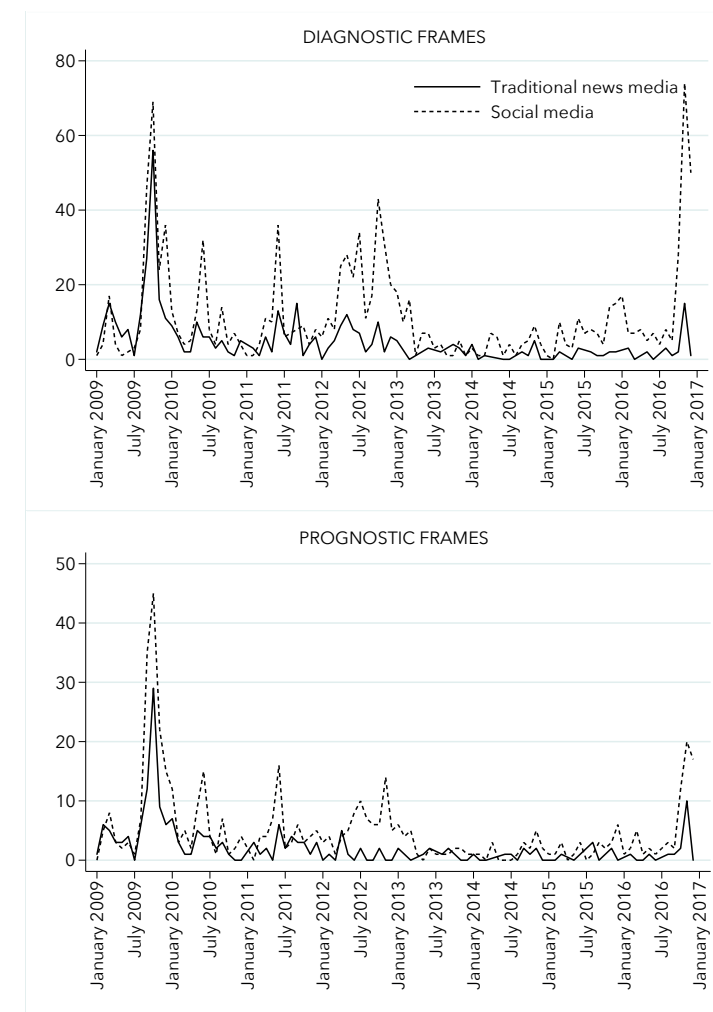
Beyond language and style, we examined the over-time presence of diagnostic and prognostic frames in traditional and social media (see Figure 2.1). We see a similar trend over time for the monthly presence of diagnostic frames and prognostic frames, as well as for the two media types. Table 2.3 shows similarities and differences in the presence of each issue-specific frame across traditional and social media. Regarding diagnostic frames, journalists in traditional news media highlight political disagreement most in their content, while social media users emphasize disruption of financial plans the most, being closely followed by political disagreement as well. When framing the retirement age issue from a solution-focused angle, alternative ideas are emphasized the most in both traditional and social media content, while reversing the decision is the second most prominent prognostic frame present on social media.

VARIATION IN FRAMES ACROSS TRADITIONAL AND SOCIAL MEDIA

We now address our hypotheses assessing the use of diagnostic and prognostic frames across traditional and social media. H1a predicted that both traditional and social media would cover more diagnostic frames than prognostic frames. To test this, two paired samples *t*-tests were performed—one for each media type—to compare the means of the presence of diagnostic and prognostic frames per item, on a scale from 0 to 3. For traditional news media, the average presence of diagnostic frames ($M = 1.11, SD = .96$)

was significantly higher than that of prognostic frames ($M = .51, SD = .68$). This difference is statistically significant, $t = 12.025, p < .001, df = 381$. The same statistical difference was found for social media, $t = 17.539, p < .001, df = 2129$. The average presence of diagnostic frames ($M = .52, SD = .74$) was significantly higher than that of prognostic frames ($M = .22, SD = .48$). This means we accept H1a.

Figure 2.1 Over-Time Presence of Diagnostic and Prognostic Frames in Traditional and Social Media



Note. The graphs have different values marked along the y-axes.

Table 2.3 The Presence of Diagnostic and Prognostic Frames Across Traditional and Social Media

	Traditional news media		Social media	
	<i>n</i>	%	<i>n</i>	%
Diagnostic frames	263	68.8	846	39.7
Disruption of financial plans	99	25.9	326	15.3
Confusion about pension	20	5.2	68	3.2
Inequality between groups	71	18.6	148	6.9
Poor labor market position of older workers	42	11.0	145	6.8
Generational conflict	38	9.9	62	2.9
Political disagreement	148	38.7	320	15.0
Unjustified austerity measure	20	5.2	46	2.2
Prognostic frames	159	41.6	417	19.6
Alternative ideas	103	27.0	212	10.0
Innovating labor market	42	11.0	85	4.0
Fostering individualization	19	5.0	46	2.2
Improving communication about pension	4	1.0	14	0.7
Reversing the decision	27	7.1	119	5.6

Note. Regarding the overall presence of diagnostic and prognostic frames (presented in bold), *n* and % represent the number of articles in which at least one diagnostic or prognostic frame was present.

H1b, which predicted that traditional news media would cover more prognostic frames than social media, was tested with an independent samples *t*-test to compare the share of prognostic frames (i.e., the presence of prognostic frames relative to the presence of all frames) across traditional and social media. Results show no significant difference in the share of prognostic frames across traditional news media ($M = .28$, $SD = .32$) and social media ($M = .28$, $SD = .38$); $t = .153$, $p = .878$, $df = 549.469$). Thus, H1b was not supported.

H2a proposed that, over time, the presence of diagnostic frames would decrease in traditional news media content. Linear regression analysis indicates that time is not a statistically significant predictor of the presence of diagnostic frames in traditional news media content, $F(1,380) = 3.638$, $p = .057$, $R^2 = .009$. Although the negative coefficient hints at a small decrease, it is not significant, and therefore we reject H2a. For social media,

we proposed in H2b that the over-time presence of diagnostic frames remained the same. Linear regression analysis shows that time is a statistically significant predictor of the presence of diagnostic frames in social media content, $F(1,2128) = 5.702$, $p < .05$, $R^2 = .003$. The negative coefficient points to a small decrease of diagnostic frames over time here, which means we reject H2b.

H3a proposed that traditional news media content would contain more conflict-related frames than social media content. We performed an independent samples *t*-test to compare the share of conflict-related frames across traditional and social media. Significant differences were found, $t = 4.166$, $p < .001$, $df = 488.586$. The average share of conflict-related frames in traditional news media content ($M = .60$, $SD = .41$) was significantly higher than that in social media content ($M = .47$, $SD = .46$). Hence, we accept H3a.

H3b predicted that, over time, the presence of conflict-related frames would decrease in traditional news media content. A linear regression analysis indicated that time is a statistically significant predictor of the presence of conflict-related frames in traditional news media, $F(1,261) = 20.261$, $p < .001$, $R^2 = .072$. For every additional month, the share of conflict-related frames in newspaper articles decreased by .004. Although this indicates a small decrease, we accept H3b.

H4 proposed that there would be more diversity across frames in social media content than in traditional news media content. To test this, two independent samples *t*-tests were performed to compare the Herfindahl Index across traditional and social media—one for diagnostic frames and one for prognostic frames. For diagnostic frames, there was more frame diversity in social media content ($M = .46$, $SD = .26$) than in traditional news media content ($M = .52$, $SD = .28$), but this difference is not significant ($t = 1.417$, $p = .158$, $df = 168$). For prognostic frames, there was also more frame diversity in social media content ($M = .60$, $SD = .27$) than in traditional news media content ($M = .71$, $SD = .28$); and this difference is significant ($t = 2.240$, $p < .05$, $df = 144$). Based on this, H4 can be accepted for prognostic frames, but needs to be rejected for diagnostic frames.

DISCUSSION

Traditional and social media are powerful information sources able to influence public perceptions of issues, foremost by framing issues in a particular way. The present study compared the framing of the socially contested issue of raising the retirement age across traditional and social media. Comparing the framing of news content in traditional and social media is essential to contribute to the larger question of how social media shape public debate compared to traditional news media. Although traditional and social media differ considerably in content production, findings tell us that the framing of the retirement age issue on social media is not that different from the depiction of the issue in traditional news media. It seems, therefore, that different content production processes can, in some cases, still lead to similar outcomes and, in others, to differences that are ultimately not *that* strong.

First, as anticipated, we found that in both media types, emphasis was placed on problems with (rather than solutions to) the retirement age issue. Contrary to the expectation, this emphasis on diagnostic frames did not decrease over time in newspapers, while this was unexpectedly the case for diagnostic frames on social media. This potentially means that negative emotional reactions toward raising the retirement age have decreased as the reform measure matured, which is in line with previous research suggesting that public opinion in the Netherlands gradually developed to be more favorable toward later retirement (Parlevliet, 2017). Contrary to the expectation, traditional news media did not frame the issue more often in solution-oriented (or prognostic) terms compared to social media. It seems, then, that the tendency of traditional news media to highlight problems is strong for the complex and controversial issue of raising the retirement age.

Additionally, we found that newspaper articles contained more conflict-related frames than social media messages. As expected, the emphasis on conflict-related frames in newspapers decreased over time. Moreover, as anticipated, social media content about the retirement age issue is divided across more frames than traditional news media content. This implies that social media enable people to consider multiple views, while newspapers present only a limited range of perspectives, for which they are frequently criticized (Baden & Springer, 2017). However, this difference in frame diversity

was only significant for prognostic frames and not for diagnostic frames, indicating that social media present more frame diversity than newspapers when it comes to solving the issue, but not when it comes to problematizing the issue. Probably all kinds of solutions can be shared on social media, feasible or not, as no selection process exists before publication, while journalists may be more selective in publishing solutions to the problem in traditional news media. The lack of significant differences in frame diversity for diagnostic frames may be explained by the large amount of attention devoted to them in both media types: The more attention an issue receives, the more room to diversify interpretations (Boydston, 2013).

Although traditional and social media differ considerably in the production of content, our findings show that similarities exist in how both media types frame the retirement age issue. The most important similarities between traditional and social media are that more attention was devoted to diagnostic frames than to prognostic frames and that the share of prognostic frames was comparable. This is coherent with previous research suggesting that social media follow the agenda set by traditional news media in the context of the retirement age issue (Chapter 1). Interestingly, differences also exist in how the issue is framed in traditional and social media, although substantially relatively small. First, compared to traditional news media, the style and language of frames on social media are more subjective, emotional, and personalized. This may imply that (younger) people who follow the issue via social media respond more emotionally to raising the retirement age than (older) people who follow the issue by reading newspaper articles. Second, newspaper articles contain more conflict-related frames than social media messages. This means that (older) people who tend to follow news via traditional news media may perceive the retirement age issue as a conflicting issue and may respond therefore more negative to the issue relative to (younger) people who follow the issue on social media where the emphasis lies less on conflicts. Another important difference relates to frame diversity. Diversity across prognostic frames is larger for social media than for traditional news media, which potentially implies that (younger) people who are active on social media have a broader range of solution perspectives to choose from than (older) people who are generally exposed to a rather limited range of solutions in traditional news media. This may influence how people respond to the issue.

This study is not without limitations. Most notably, we considered social media as one type of media without looking further into the differences between various social media platforms. Some of these platforms (e.g., blogs) might be more similar to traditional news media in terms of use and purposes, while others (e.g., Twitter) might differ more from traditional news media. An interesting direction for future research would be to split social media into parts to which you can ascribe a certain logic. Moreover, although newspaper content is largely published by professional journalists following institutional norms and routines, some content might not be written in a journalistic style (e.g., guest columns, entertainment components). This can be problematic for our argumentation; however, we rarely encountered non-journalistic messages in traditional media during our qualitative pre-study and content analysis.

The present study moved beyond extant research by demonstrating important similarities and differences in issue framing across traditional and social media. More concretely, this study contributes by showing that traditional and social media focus on problems with (rather than solutions to) complex and controversial issues, as well as by showing that social media provide a platform with more openness to solutions. This knowledge on issue framing helps to understand information streams in these distinct media types, which is crucial to take a step toward understanding (differences in) public perceptions and support or opposition for issues with high social relevance.



CHAPTER 3

JUSTICE MATTERS: NEWS FRAMING EFFECTS ON OPINIONS ABOUT PENSION REFORM

This chapter is under review as: Van den Heijkant, L., Van Selm, M., Hellsten, I., & Vliegthart, R. (2021). Justice matters: News framing effects on opinions about pension reform

ABSTRACT

A prominent policy issue in contemporary societies is that of pension reform. Citizens learn about these kinds of issues primarily through news media. By framing issues in particular ways, news media can have a considerable impact on opinions about sociopolitical issues. This study investigates the role of news frames in constructing and confirming citizens' attitudes toward (reforming) the national pension system. By conducting a survey-embedded experiment ($N = 762$), we provide insights into news framing effects in both traditional and social media and examine whether framing effects are enhanced by age, educational level, sense of solidarity, and exposure to citizens' preferred mode of news use. Findings stress that news frames about pension reforms contribute to how citizens respond to a (potential) national pension system. The justice frame (unjust versus just) plays a more crucial role than the responsibility frame (collective versus individual responsibility), and lower-educated people are more strongly affected by the latter frame than higher-educated people. Results show no differences in the strength of framing effects between citizens of different ages or levels of solidarity, nor between citizens who received the frames via their preferred news media and the ones exposed to a less preferred mode of news use.

INTRODUCTION

The financial sustainability of pension systems is a pressing concern across the world. As the population ages, the ratio of pension recipients to contributors increases, leading to a rise in the overall cost of pension provision and a decline in contributions (Hess, 2017). To cope with this threat, pension reforms are high on the political agenda in many European countries (Carrera & Angelaki, 2020; OECD, 2019; Van Groezen et al., 2009). Common reform measures include raising the retirement age and changes in how benefits are calculated (OECD, 2015; Whitehouse et al., 2009). Another important question of reform is whether responsibility for securing a sufficient income in retirement should shift more to the individual (Gelissen, 2001; Hagelund & Grødem, 2017). This development from collective toward individual responsibility is also reflected in other aspects of the welfare state, for example, in more individual responsibility for one's own health (Van Kersbergen & Vis, 2016).

News media are a primary source for citizens to learn about current sociopolitical issues (Eveland & Schmitt, 2015). As the main provider of information, news media can influence citizens' perceptions and opinions about sociopolitical issues, foremost by framing issues in a particular way (De Vreese, 2005). In a frame, certain aspects of an issue are emphasized at the expense of others, to propagate a particular interpretation of the issue (De Vreese, 2005; Entman, 1993). The impact of news framing on public opinion may be even more significant in the context of pension reforms as retirement is a distant-future life phase for many people rather than something they already experience at first hand, and media effects are often found to be larger for such future-oriented issues (Damstra & Boukes, 2018).

Yet, empirical investigation of the role of news media in how citizens respond to pension reforms has (almost) not happened so far. While existing research has focused on explaining citizens' attitudes toward reforms of pension systems (Boeri et al., 2002; Gelissen, 2001; Jaime-Castillo, 2013; Parlevliet, 2017), little is known about the role of news media in shaping public attitudes toward pension reforms. This study addresses the impact of news media—distinguishing between traditional and social media in today's evolving news media landscape—by examining the effects of news framing on citizens' attitudes toward (reforming) a national pension system.

We conduct an online experiment ($N = 762$) in which participants are exposed to different news frames about reforming the pension system (collective versus individual responsibility; unjust versus just) in either traditional or social media. We examine whether exposure to these different frames leads to differences in attitudes and assess the extent to which these news framing effects are enhanced by relevant individual conditions, in particular age, educational level, sense of solidarity, and exposure to a preferred mode of news use. We study this in the Dutch context. The Netherlands offers an excellent case as the rising life expectancy and changing labor market feed a sociopolitical discussion about keeping pension provision sustainable. Our findings may potentially be generalizable to other (European) countries with a similar debate on pension reforms and to other (social) policy issues that share a similar acknowledgment of obligations toward the future (generation), such as policy in terms of other scarce welfare state resources (e.g., with regard to health care) or environmental policy.

FRAMING EFFECTS

Entman (1993) referred to framing as "...to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described" (p. 52). In the debate on the conceptualization of framing, this approach to framing is labeled as *emphasis* framing, which is distinct from *equivalence* framing. Emphasis frames highlight certain bits of information at the expense of others, whereas equivalent frames involve presenting logically equivalent information in different ways (Vliegenthart, 2012).

Over the years, scholars have provided solid evidence for the strong influence that framing can exert on public opinion (De Vreese et al., 2011; Shen & Edwards, 2005; Valkenburg et al., 1999). Framing effects can be ascribed to the idea that people use cognitive shortcuts when processing information. As an emphasis frame highlights certain aspects of an issue, this relevant part of the information will be cognitively accessible for an individual, at least temporarily, and will, in turn, be used when evaluating the issue (Shen & Edwards, 2005).

From a framing perspective, not all angles of the pension reform issue can be given the same visibility in news media content. Instead, certain aspects of the pension issue will be highlighted in news media content, while others will be toned down (see e.g., Chapter 2; Hagelund & Grødem, 2017). These frames provide citizens a framework that helps them to make sense of pension reforms. An important aspect of pension reforms is the degree of individual responsibility on the part of citizens, making it a relevant question whether a future-proof pension system should be arranged individually or collectively. In accordance with empirical evidence for framing effects, whether a future-proof pension system is framed in news media as a system based on collective or individual responsibility may sway people's opinions in the direction of such a pension system. More concrete, we expect that if news media frame a collective pension system as future proof, people will consequently be more positive toward a collective national pension system. On the other hand, we expect people to be more positive toward a pension system based on individual responsibility if such a system is framed as future proof.

H1a. A news frame stressing a collective (vs. individual) pension system as future proof positively affects citizens' preferences for such a national pension system.

Particularly relevant to pension systems and the welfare state are conceptions of justice (Schokkaert & Van Parijs, 2003). Justice is broadly defined as a fair distribution of entitlements and obligations, with all individuals receiving their rights (Caney, 2018). Literature refers to this phenomenon as distributive justice, which implies the fair allocation of resources across people in society (Hyde & Dixon, 2009). Pension provision is an example of a resource that should be fairly distributed among people. This is the essence of the intergenerational contract that is at the core of pension systems: These systems are built on the principle that every generation honors its obligations to preceding and succeeding generations, hereby balancing contributions and benefits (Hudson, 2010; Sabbagh & Vanhuyse, 2010). Population aging, however, disrupts this balance in pension systems because the working-age generation will have to provide for a growing number of retirees (Komp & Van Tilburg, 2010; Sabbagh & Vanhuyse, 2010). The question of who gets what kind of pension income is not only relevant for *intergenerational* justice considerations but also for *intragenerational* ones: Justice between

different people within the same generation, such as higher- versus lower-educated individuals, or workers with physically highly demanding versus less demanding jobs.

In the conceptualization of justice, news media play a fundamental part. News media content may be framed in terms of justice, which potentially affects justice judgments or perceptions of individuals exposed to them (Besley & McComas, 2005). These perceptions of justice, in turn, have proven to be an important predictor of policy acceptance, for example, in the field of environmental policy (Clayton, 2018). In the current study, we analyze this mechanism by examining whether emphasizing a proposed pension system as either just or unjust will affect citizens' attitudes toward (reforming) the pension system.

H1b. A news frame stressing a pension system as unjust (vs. just) negatively affects citizens' preferences for such a national pension system.

INDIVIDUAL-LEVEL MODERATORS OF FRAMING EFFECTS

Scholars have increasingly paid attention to the question under which conditions framing effects are enhanced or limited (Lecheler et al., 2009). News media content does not affect all citizens to the same extent, and therefore we aim to investigate whether individual conditions enhance framing effects in the context of pension reforms.

AGE-BASED SELF-INTEREST

Individual preferences and opinions toward the welfare state are largely determined by self-interest (Busemeyer & Lober, 2019). This implies that people are driven by one's own needs and interests, maximizing their advantage and minimizing their disadvantage (Prinzen, 2014). Among the range of potential characteristics on which self-interest can be based, age is arguably an important one. Age-based self-interest is often discussed in the context of demographic aging and scarcity of resources in the welfare state (Prinzen, 2014), and especially relevant in the context of pensions (Busemeyer & Lober, 2019). The older an individual is, the closer he or she gets to the eligible retirement age. After contributing for years to the current

pension system, older people may be skeptical toward pension reforms and may have a preference for keeping the system as it is (Svallfors, 2008; Van Groezen et al., 2009). Besides, they may be less concerned about the long-term financial sustainability of the pension system because they will start receiving pension benefits in the near future. Since this study is conducted in the Netherlands, where the current pension system is based on collective responsibility, we expect that older individuals are more strongly influenced by news media framing a collective pension system as future proof.

Compared to older people, younger individuals may have opposite interests in pensions. With years of contributing to the pension system ahead and being aware of increasing pension costs, younger workers lose faith that they can still benefit from old age pensions when they reach the eligible age (Prinzen, 2014; Svallfors, 2008). Accordingly, they may be less willing to support the current collective pension system and more open to pension reforms (Parlevliet, 2017). In line with the process of individualization in society, younger people may be more willing to support a pension system with individual responsibility (Gelissen, 2001; Parlevliet, 2017). Hence, we expect that younger individuals are more strongly affected by a frame that emphasizes an individual pension system as future proof. See Hypotheses 2a and 2b below.

EDUCATION-BASED SELF-INTEREST

Age is not the only potential condition under which framing effects on one's pension system preferences could be enhanced. The educational level plays a role as well, which is closely related to the level of income and type of occupation. Gelissen (2001) showed that the more education people have received, the more likely they are to favor individual responsibility for pension provision. This may be explained by the fact that higher education usually coincides with a higher income and more confidence in one's own future career and prospects (Parlevliet, 2017). This may increase higher-educated people's willingness to be responsible for their pension situation and interest in having freedom of choice. This interest and willingness may influence how higher-educated people process news media content that is positively framed toward a pension system based on individual responsibility, in the sense that we expect them to be more strongly affected by such a frame.

In contrast, lower-educated people commonly hold more vulnerable occupational positions with less favorable working conditions (Hess, 2017), making them less prepared and with fewer resources to adapt to changes in the pension system or take responsibility for securing a sufficient income in retirement. Education is also known to positively correlate with knowledge about the pension system (Hess, 2017; Parlevliet, 2017). Due to limited knowledge and understanding of pension regulations in general, lower-educated individuals may be less aware of the rising pressure on the national pension system and how this may affect one's future pension income (Hess, 2017; Parlevliet, 2017). Therefore, lower-educated individuals may be more supportive of the status quo. As the status quo in the Netherlands is a pension system based on collective responsibility, we expect that lower-educated individuals are more strongly influenced by a news frame stressing a collective pension system as future proof.

SENSE OF SOLIDARITY

Beyond mere self-interest, a sense of solidarity is arguably an essential determinant of individual attitudes toward pension systems. Solidarity refers to people's willingness to share risks with each other, for example, between younger and older workers, pension contributors and recipients, and men and women (Hoff, 2015). The principle of solidarity is an important foundation for pension systems based on collective responsibility. The solidarity within pension provision has been taken for granted for years; however, as a consequence of the individualization in society and the need for freedom of choice, it may no longer be self-evident that people stand in solidarity with each other, across and within generations (Hoff, 2015). People's sense of solidarity may be relatively low, which, in turn, may make them more open to a potential move to a system that leans less (or not at all) on solidarity, such as a pension system based on individual responsibility. We expect that people with a weaker sense of solidarity are more strongly affected in their pension system preferences by a news frame stressing an individual pension system as future proof. In contrast, we expect that for people with a stronger sense of solidarity, the framing effect on their pension system preferences will be stronger in the case of emphasizing a future-proof collective pension system.

H2a. The positive effect of framing a collective pension system as future proof on citizens' preferences for a collective national pension system is stronger (I) the older a citizen is, (II) the lower a citizen is educated, and (III) the stronger sense of solidarity a citizen has.

H2b. The positive effect of framing an individual pension system as future proof on citizens' preferences for an individual national pension system is stronger (I) the younger a citizen is, (II) the higher a citizen is educated, and (III) the weaker sense of solidarity a citizen has.

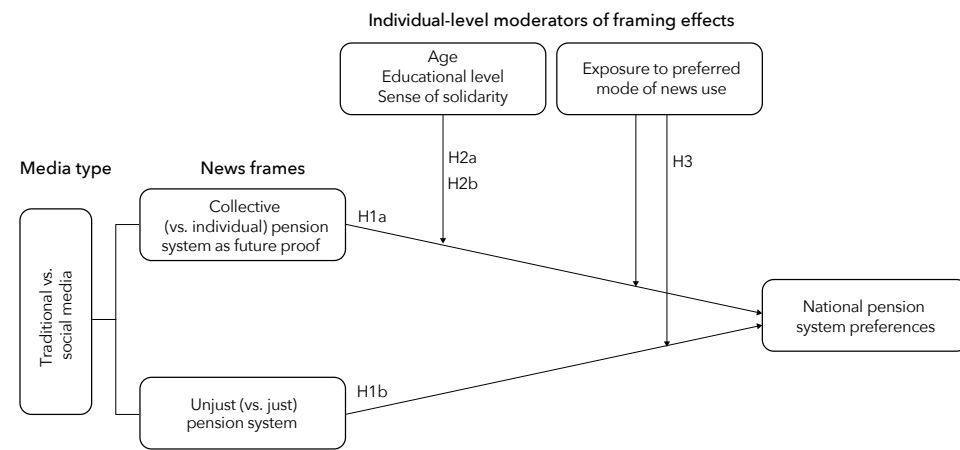
PREFERRED MODE OF NEWS USE

Media dependency theory states that the more an individual relies on news media for information, the more influence news media can exert on an individual (Ball-Rokeach & DeFleur, 1976). The underlying explanation is that the more individuals want to fulfill their information needs, the stronger the motivation is to seek information in news media; hence the higher the dependency on news media and, as such, the more susceptible these particular persons are to media effects (Ruggiero, 2009).

Originally, media dependency theory was focused on news media in general. However, nowadays, various forms of news media dominate the evolving media landscape. Next to traditional news media, social media have vastly expanded the news environment (Nielsen & Schröder, 2014). People probably differ in their preference for news media since they actively choose media based on their personal motives, needs, and expectations, as explained in the uses and gratifications theory (Ruggiero, 2009; Strömbäck et al., 2018). For instance, older citizens more frequently rely on traditional news media for (political) information, while younger people often use social media (Holt et al., 2013). Miller and Reese (1982) suggested that the general hypothesis of media dependency also holds for specific media. This implies that dependency on a specific news medium strengthens the opportunity for that medium to have effects (Miller & Reese, 1982; Moy et al., 2005). In this sense, framing effects may be dependent upon citizens' preferred mode of news use. Following this logic, we expect that if newspapers are an individual's preferred news media, framing effects will be stronger through exposure to newspapers, and we expect the same mechanism for social media. Figure 3.1 summarizes our expectations.

H3. The effects of both frames on citizens' preferences for a national pension system are stronger when citizens are exposed to their preferred mode of news use (vs. a less preferred mode of news use).

Figure 3.1 Conceptual Model



METHOD

STUDY DESIGN

We conducted an online survey-embedded experiment with a 2 (news item in *traditional vs. social media*) × 2 (news frame stressing a *collective vs. individual pension system as future proof*) × 2 (news frame stressing the respective pension system as *unjust vs. just*) between-subjects factorial design with a control group. The experiment was preregistered at the Open Science Foundation (OSF).¹

¹ Our preregistration can be found following this link: https://osf.io/r4ead/?view_only=fb55654be2f64284a56505fd44ba1777. We have deviated slightly from the preregistration plan. We tested all hypotheses with the originally preregistered dependent variable *evaluations of the current national pension system*, and found virtually no significant effects. In an attempt to explain the insignificant results, we ran into two questions: Do people actually have enough knowledge of the *current* Dutch pension system? and in case they do, is it perhaps an attitude that is difficult to change? On reflection, we believe that *preference for a collective or individual pension system* is a more compatible dependent variable for our preregistered hypotheses and research design. The variable was included in the preregistration and measures what type of national pension system people prefer.

PARTICIPANTS

A sample of Dutch citizens was recruited from a panel provided by I&O Research ($N = 832$). We only included participants in the analyses who had taken at least five seconds to absorb the news item, resulting in a final sample of 762 participants. Five seconds was considered sufficient exposure time as the title already covered the manipulations, just like the summary lead of the newspaper articles and images of the social media post. Participants were between 19 and 64 years old ($M = 50.90$, $SD = 11.14$), and females represented 45.54% of the sample. Regarding the highest completed educational level, 43.18% were lower educated, and 56.82% of the participants were higher educated. Participants were rewarded with credits for the I&O Research savings program.

INDEPENDENT VARIABLES AND STIMULUS MATERIAL

Participants were invited by email to take part in the online survey-embedded experiment. After giving explicit informed consent, participants read a short introduction stating that population aging is challenging the financial sustainability of the Dutch pension system, to ensure some familiarity with the issue. Participants were then randomly assigned to one of the eight experimental conditions or the control group, and exposed to the stimulus material (see Table 3.1 for an overview of the conditions).

We based the stimuli on recent newspaper articles about the pension debate published in *de Volkskrant* and *NRC Handelsblad* (i.e., widely read Dutch quality newspapers). The stimulus material was also inspired by a content analysis of Dutch newspaper articles and social media messages about raising the retirement age in the timespan 2009-2016 (Chapter 2). In this way, content characteristics of day-to-day Dutch news coverage on the ongoing pension debate were combined and manipulated, herewith increasing the external validity of the experiment (Vliegenthart, 2012).

A different version of the news item was created and manipulated on the independent variables for each of the eight experimental conditions.² We manipulated the type of news media to which participants were exposed by creating four newspaper articles and four Facebook posts. The content of the news items was kept virtually the same across both news media

² A pilot test among a convenience sample ($n = 89$) showed that the manipulations were successful.

types but reflected the differences in features (e.g., whether or not an image, emoticons, headline, or summary lead were used). The news items were framed in different ways. Regarding the responsibility frame, half of the newspaper articles and Facebook posts contained a frame stressing an *individual* pension system as future proof, according to a fictional committee established by the Ministry (the individual pension system condition). The other four news items included a frame stressing a *collective* pension system as future proof, according to the same fictional committee (the collective pension system condition). In terms of the justice frame, half of the news items stressed the relevant pension system (that is, either a collective or individual pension system) as unjust, according to employers and trade unions (the unjust condition). In the other half of the news items, the relevant pension system was framed as just, according to the same voices (the just condition). In the control condition, participants read a neutral online news article that was supposedly published on the popular online news platform *NU.nl*. A complete overview of the stimuli can be found in Appendices A and B.

After exposure to the news item, participants answered questions regarding manipulation checks, dependent and moderating variables.³ Sociodemographic characteristics were also measured. At the end of the questionnaire, participants were fully debriefed about the purpose of the study and the fact that the news item was fictional. All regulations regarding ethical procedures were closely followed.

MANIPULATION CHECKS

Participants spent on average 106.05 seconds reading the news item (*Median* = 50, *SD* = 605.02). Regarding the responsibility frame, Fisher's exact test revealed a significant difference between the conditions, $p < .001$. Most participants in the individual pension system condition (96.9%) indicated that the news item stressed an individual pension system, while almost all participants in the collective pension system condition (99.1%) pointed out a collective pension system. For the justice frame, Fisher's exact test showed again a statistical difference between the conditions, $p < .001$. Most participants in the just condition (95.7%) responded that the pension system was described as just, while the majority of participants in

the unjust condition (74.2%) indicated it to be unjust. These results confirm the soundness of the manipulations, allowing us to attribute differences between conditions to the experimental manipulations.

MEASURES

DEPENDENT VARIABLE

NATIONAL PENSION SYSTEM PREFERENCES. We measured pension system preferences by asking participants the question "What type of pension system would you prefer in the Netherlands?" on a 7-point scale (1 = completely individual pension system, 7 = completely collective pension system). A higher score indicated a greater preference for a collective national pension system ($M = 4.31$, $SD = 1.68$). Dependent upon the responsibility frame, we were either interested in the preference for a collective pension system or the preference for an individual pension system. Therefore, we created another variable in which a higher score indicated a greater preference for an individual pension system, by reversing the answers to the question ($M = 3.69$, $SD = 1.68$). In addition, we used two three-item scales to obtain more information about the support for a collective and individual pension system separately (items are included in Appendix C), based on measures used by Berden and Kok (2013). These items were measured on a 7-point scale from strongly disagree to strongly agree; a higher score indicated higher support for the relevant pension system (*support for collective pension system*: $M = 4.65$, $SD = 1.19$, $\alpha = .73$; *support for individual pension system*: $M = 4.06$, $SD = 1.41$, $\alpha = .82$).

MODERATING VARIABLES

AGE AND EDUCATIONAL LEVEL. Age was measured in years ($M = 50.90$, $SD = 11.14$). Educational level was measured by asking participants to indicate their highest level of education on a 7-point scale, ranging from (1) no education or only primary education to (7) a Master's or Doctoral degree ($M = 4.99$, $SD = 1.36$).

*SENSE OF SOLIDARITY.*³ To examine feelings of solidarity toward different groups, we asked participants to position themselves on six statements about their willingness to contribute to the pensions of others (items are included in Appendix C), adapted from Berden and Kok (2013) and Hoff (2015). These

³ A one-way ANOVA revealed no significant mean differences between conditions in terms of sense of solidarity ($F(8,753) = 1.50$, $p = .154$). This indicates that it is unlikely that it was affected by exposure to the stimuli.

items were measured on a 7-point scale from strongly disagree to strongly agree, with a higher score indicating a stronger sense of solidarity ($M = 4.41$, $SD = 1.15$, $\alpha = .83$).

PREFERRED MODE OF NEWS USE. Participants were asked to indicate how many days in a typical week they use certain media to follow news on an 8-point scale ranging from 0 to 7 days per week, adapted from Boomgaarden et al. (2011). Drawing from participants' reports about their use of printed newspapers ($M = 3.10$, $SD = 2.61$) and social media ($M = 3.81$, $SD = 2.98$), participants' preferred mode of news use was calculated by subtracting the score of social media use from the score of newspaper use. A value above 1 indicated that printed newspapers are a citizen's preferred news media ($n = 187$). A value more negative than -1 indicated social media as a citizen's preferred media for news ($n = 278$). We omitted participants with a value of 0, 1, or -1 ($n = 297$), as they did not have a (clear) preferred mode of news use.

CONTROL VARIABLES

SOCIODEMOGRAPHICS. Several sociodemographic characteristics were used as controls, namely gender, income, age, and educational level (except for the analyses in which the last two were included as moderators, see description above). Income was measured by asking participants the question, "In which category does the total gross annual income of your household fall?" on a 5-point scale (1 = minimum and below average/up to €26,500, 5 = twice the middle income or more/€66,000 or more). A higher score indicated a higher income ($M = 3.54$, $SD = 1.26$). Participants also had a "no answer" option, but this category was not included in the analyses.

POLITICAL ORIENTATION. Political orientation was measured using the question, "Some people talk about left and right to describe political parties and politicians. With this in mind, where would you place yourself on a scale ranging from (1) left to (10) right?". A higher score indicated a right-leaning political orientation ($M = 5.32$, $SD = 2.09$).

ANALYSIS

Table 3.1 shows descriptive statistics regarding the differences in participants' pension system preferences across conditions. Regression models were performed to assess the hypotheses. Dummy variables represented the

control and experimental conditions, with one serving as a reference category, dependent on the relevant hypothesis. For each frame, several regression models were specified to test the effect of the respective frame exclusively. We assess the effect of the news frame stressing a future-proof collective rather than individual pension system separately for participants in the just condition and participants in the unjust condition. In the same way, we test the effect of the news frame stressing a pension system as unjust rather than just one by one for participants in the collective pension system condition and participants in the individual pension system condition. Simultaneously, we control for gender, age, educational level, income, and political orientation.

Table 3.1 Overview and Descriptive Statistics of Experimental and Control Conditions

Condition	Manipulations			Preference for a collective pension system	
	Group	News media type	Responsibility frame	Justice frame	<i>M</i>
1 ($n = 88$)	Newspaper	Individual	Just	3.80	1.52
2 ($n = 92$)	Newspaper	Individual	Unjust	4.61	1.49
3 ($n = 86$)	Newspaper	Collective	Just	4.92	1.43
4 ($n = 99$)	Newspaper	Collective	Unjust	3.93	1.87
5 ($n = 70$)	Facebook	Individual	Just	3.96	1.56
6 ($n = 76$)	Facebook	Individual	Unjust	4.47	1.84
7 ($n = 80$)	Facebook	Collective	Just	4.49	1.72
8 ($n = 74$)	Facebook	Collective	Unjust	4.15	1.80
9 ($n = 97$)	Online article	Control	Control	4.46	1.59

RESULTS

FRAMING EFFECTS

We start by assessing the main framing effects. We predicted that a news frame stressing a collective rather than individual pension system as future proof would positively affect citizens' preferences for such a national pension system (H1a). Table 3.2 displays the results of two regression models predicting participants' pension system preferences. Model 1 captures the results for the just condition. These results imply that, compared to the reference category of framing a *future-proof individual* pension system,

exposure to a news frame stressing a *collective* pension system as *future proof* significantly and positively affected participants' preference for a *collective* national pension system, $b = .789, p < .001$ (see Model 1 in Table 3.2). This finding is in line with H1a. The results for the unjust condition are shown in Model 2, and here the opposite direction is true: Exposure to a news frame stressing a *collective* pension system as *future proof* significantly and negatively affected participants' preference for a *collective* national pension system compared to the reference category of framing a *future-proof individual* pension system, $b = -.705, p < .001$ (see Model 2 in Table 3.2). We therefore partially accepted H1a⁴: Framing a pension system as future proof positively affected the preference for such a national pension system, but only in case the respective pension system was also framed as just.

In H1b, we predicted that a news frame stressing a pension system as unjust (vs. just) would negatively affect citizens' preferences for such a national pension system. Results from two regression models, one for participants in the collective pension system condition and one for those in the individual pension system condition, support our expectation (see Model 3 and Model 4 in Table 3.2). Compared to the reference category of framing a collective pension system as *just*, exposure to a news frame stressing a collective pension system as *unjust* significantly and negatively affected participants' preference for such a collective national pension system, $b = -.717, p < .001$. In the same way, compared to the reference category of framing an individual pension system as *just*, exposure to a news frame stressing an individual pension system as *unjust* significantly and negatively affected participants' preferences for such an individual national pension system, $b = -.728, p < .001$. Both results demonstrated that people have a lower preference for a collective or individual national pension system if such a system is framed as unjust rather than just, confirming H1b.⁴

⁴ To check the robustness of the main framing effects, additional analyses were conducted with support for an individual pension system and support for a collective pension system alternating as dependent variable (see method section and Appendix C for measurement description). Although a few effects were not significant, results of the robustness checks were generally in line with the (direction of) framing effects found in the main analyses, confirming the robustness of our findings.

Table 3.2 Main Framing Effects on Pension System Preferences

	Preferences for a collective pension system															
	Model 1 Just				Model 2 Unjust				Model 3 Collective				Model 4 Individual			
	b	SE	p		b	SE	p		b	SE	p		b	SE	p	
Constant	3.578	.618	.000	4.683	.684	.000		4.435	.623	.000		4.138	.668	.000		
Responsibility frame [0=Individual]																
Collective	.789	.185	.000	-.705	.194	.000										
Control	.397	.215	.065	-.383	.229	.095										
Justice frame [0=Just]																
Unjust																
Control																
Female [0=Male]	-.346	.171	.044	-.385	.185	.039		-.329	.179	.067		.387	.176	.029		
Age	.022	.007	.004	.031	.008	.000		.029	.008	.000		-.024	.008	.002		
Educational level	-.007	.066	.920	-.062	.072	.390		-.000	.065	.995		.066	.073	.365		
Income	.005	.072	.943	-.053	.077	.496		-.020	.075	.791		.031	.074	.674		
Political orientation	-.112	.040	.005	-.171	.043	.000		-.182	.040	.000		.098	.043	.022		
	$R^2 = .110$				$R^2 = .129$				$R^2 = .140$				$R^2 = .099$			
	$F(7,353) = 6.24$				$F(7,366) = 7.71$				$F(7,362) = 8.44$				$F(7,357) = 5.62$			
	$p < .001$				$p < .001$				$p < .001$				$p < .001$			
	$n = 361$				$n = 374$				$n = 370$				$n = 365$			

INDIVIDUAL-LEVEL MODERATORS OF FRAMING EFFECTS

SELF-INTEREST AND SOLIDARITY

Next, we assessed whether the effect of the responsibility frame on citizens' pension system preferences was moderated by age, educational level, and sense of solidarity. In terms of age, we posed that the older a citizen is, the stronger the positive effect of framing a *future-proof collective* pension system on one's preference for a *collective* national pension system would be (H2a). Second, we predicted that the younger a citizen is, the stronger the positive effect of framing a *future-proof individual* pension system on one's preference for an *individual* national pension system would be (H2b_i). Results of two regression models, one for the just condition and one for the unjust condition, demonstrated non-significant interaction terms between the responsibility frame and age (see Model 5 and 6 in Table 3.3). This implies that age did not enhance the effect of the responsibility frame as we expected in this context, and therefore we rejected H2a_i and H2b_i.

Table 3.3 Interaction Effects of the Responsibility Frame and Age

	Preference for a collective pension system					
	Model 5 Just			Model 6 Unjust		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	3.867	.766	.000	4.389	.880	.000
Responsibility frame [0=Individual]						
Collective	-.103	.848	.904	-.759	.936	.418
Control	.317	.918	.730	.588	.982	.550
Age	.015	.012	.204	.036	.013	.004
Responsibility frame × age						
Collective × age	.018	.016	.282	.001	.018	.959
Control × age	.002	.018	.925	-.019	.019	.310
Female [0=Male]	-.338	.172	.050	-.396	.186	.034
Educational level	-.003	.066	.960	-.055	.072	.446
Income	.009	.073	.905	-.054	.077	.482
Political orientation	-.109	.040	.006	-.169	.043	.000
	<i>R</i> ² = .114			<i>R</i> ² = .132		
	<i>F</i> (9,351) = 5.00			<i>F</i> (9,364) = 6.14		
	<i>p</i> < .001			<i>p</i> < .001		
	<i>n</i> = 361			<i>n</i> = 374		

Additionally, we predicted that the effect of the responsibility frame on citizens' pension system preferences would be affected by their educational level; in the sense that the lower educated a citizen is, the stronger the positive effect of framing a *future-proof collective* pension system on one's preference for a *collective* national pension system would be (H2a_{ii}), and the higher educated a citizen is, the stronger the positive effect of framing a *future-proof individual* pension system on one's preference for an *individual* national pension system would be (H2b_{ii}). Table 3.4 shows the results of two regression models: one for the just condition (Model 7) and one for the unjust condition (Model 8). In both regression models, we found significant interaction terms between the responsibility frame and educational level. To facilitate interpretation, the interaction effects are visualized in Figure 3.2. For the just condition, Figure 3.2a shows that the lower educated a participant is, the stronger the positive effect of framing a *future-proof collective* pension system on one's preference for a *collective* national pension system was. As with H1a, for participants in the unjust condition, the effect of framing a *future-proof collective* pension system on participants' preference for a *collective* national pension system turned out to be negative, which is contrary to our expectation of a positive effect. Figure 3.2b shows, nonetheless, that the moderating influence of educational level was in the expected direction, indicating the same mechanism as in the just condition: The lower a citizen was educated, the larger, in this case, the negative effect was. These results offer (partial) support for H2a_{ii}: The effect of the responsibility frame was indeed more pronounced the lower a citizen was educated, although we need to stress that the framing effect was negative (rather than positive) in the unjust condition.

Given that we already compared framing a collective pension system as future proof to framing an individual pension system as future proof, and the dependent variable *preference for an individual national pension system* essentially the same is as the dependent variable *preference for a collective national pension system*, but then with reversed answers, we do not need separate analyses to test H2b_{ii}. Based on the results presented above, we have to reject H2b_{ii} because the effect of the responsibility frame did not become stronger as the educational level of people increased (but rather as the educational level decreased).

Table 3.4 Interaction Effects of the Responsibility Frame and Educational Level

	Preference for a collective pension system					
	Model 7 Just			Model 8 Unjust		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	2.280	.763	.003	6.361	.845	.000
Responsibility frame [0=Individual]						
Collective	2.473	.687	.000	-3.410	.730	.000
Control	2.278	.835	.007	-1.367	.890	.125
Educational level	.225	.104	.032	-.346	.112	.002
Responsibility frame × education						
Collective × education	-.337	.133	.012	.542	.141	.000
Control × education	-.376	.162	.021	.187	.172	.277
Female [0=Male]	-.307	.170	.073	-.399	.182	.029
Age	.024	.007	.002	.027	.008	.001
Income	-.002	.072	.979	-.047	.076	.536
Political orientation	-.102	.039	.010	-.179	.043	.000
	$R^2 = .130$			$R^2 = .164$		
	$F(9,351) = 5.84$			$F(9,364) = 7.93$		
	$p < .001$			$p < .001$		
	$n = 361$			$n = 374$		

Subsequently, we examined the potential moderating function of a sense of solidarity. Regarding solidarity, we predicted that the stronger sense of solidarity a citizen has, the stronger the positive effect of framing a *future-proof collective* pension system on one's preference for a *collective* national pension system would be (H2a_{iii}). Second, we posed that the weaker sense of solidarity a citizen has, the stronger the positive effect of framing a *future-proof individual* pension system on one's preference for an *individual* national pension system would be (H2b_{iii}). Regression results showed that the interaction terms between the responsibility frame and sense of solidarity were not significant (see Model 9 and Model 10 in Table 3.5). This implies that, contrary to our expectations, feelings of solidarity did not play a significant role in strengthening framing effects in the context of pension reforms. Therefore, we rejected H2a_{iii} and H2b_{iii}.

Figure 3.2 Marginal Effect Plots for the Interaction Between the Responsibility Frame and Educational Level

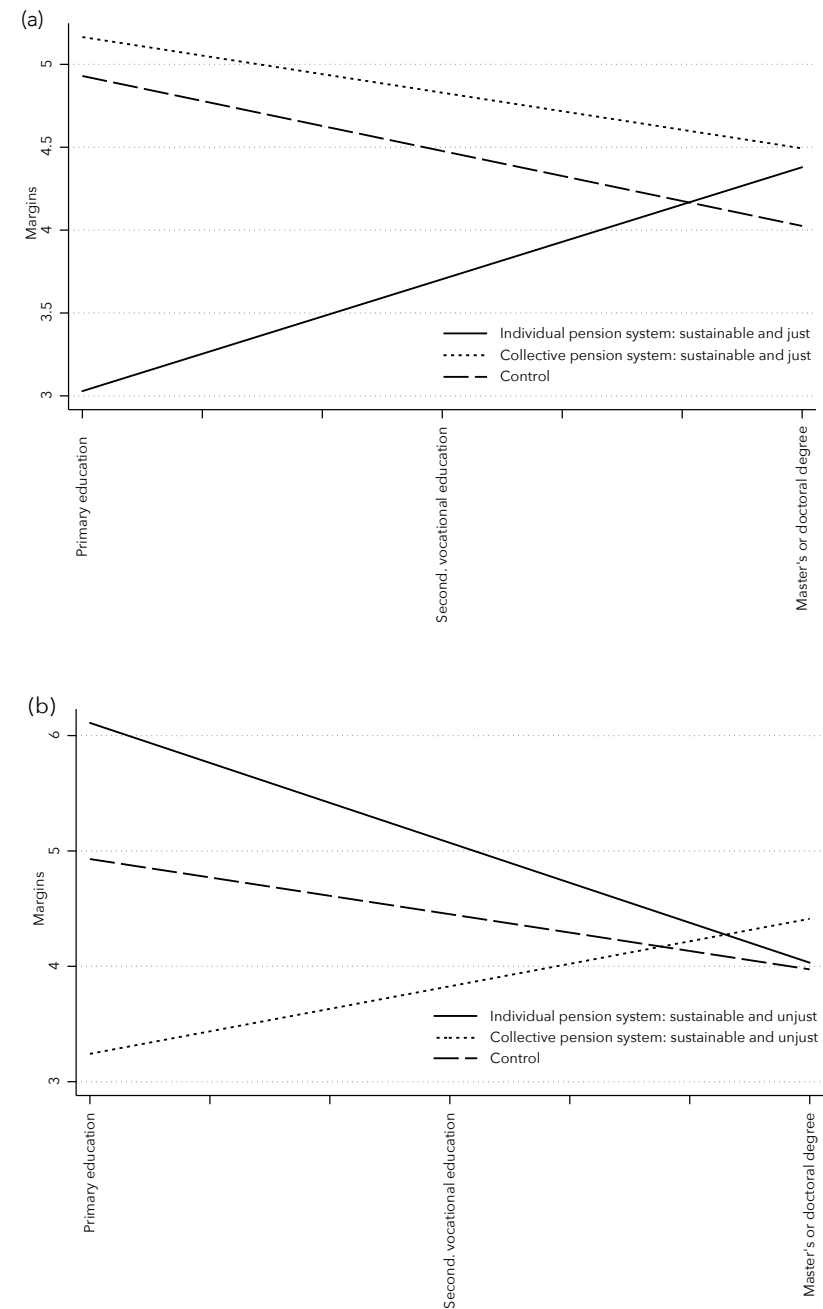


Table 3.5 Interaction Effects of the Responsibility Frame and Sense of Solidarity

	Preference for a collective pension system					
	Model 9 Just			Model 10 Unjust		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	.754	.745	.312	1.605	.813	.049
Responsibility frame [0=Individual]						
Collective	-.191	.674	.777	-1.003	.706	.157
Control	.606	.767	.430	.410	.819	.617
Solidarity	.574	.109	.000	.646	.113	.000
Responsibility frame × solidarity						
Collective × solidarity	.229	.144	.113	.113	.157	.474
Control × solidarity	-.013	.166	.939	-.155	.180	.391
Female [0=Male]	-.132	.153	.391	-.282	.168	.093
Age	.011	.007	.087	.023	.007	.002
Educational level	-.054	.059	.365	-.091	.065	.165
Income	.088	.065	.177	.009	.070	.896
Political orientation	-.003	.037	.927	-.085	.040	.035
	<i>R</i> ² = .306			<i>R</i> ² = .296		
	<i>F</i> (10,350) = 15.45			<i>F</i> (10,363) = 15.28		
	<i>p</i> < .001			<i>p</i> < .001		
	<i>n</i> = 361			<i>n</i> = 374		

PREFERRED MODE OF NEWS USE

Finally, we examined the moderating role of exposure to citizens' preferred mode of news use. In H3, we posed that the effects of both frames on citizens' preferences for a respective national pension system would be stronger when citizens are exposed to their preferred mode of news use (vs. a less preferred mode of news use). We assessed this hypothesis by considering the (in)congruence between participants' preferred news media and the type of news media to which they were exposed in the experiment. Testing this separately for newspapers and social media, results of regression analyses demonstrated non-significant interaction terms between the frames and exposure to participants' preferred mode of news use (see Model 11 to 14 in Table 3.6). This means that the strength of the framing effects on citizens' preferences for a respective national pension system was not dependent upon exposure to one's preferred news media, or more precisely, while being

Table 3.6 Interaction Effects of Frames and Congruence between Exposed and Preferred News Media

	Model 11 Just			Model 12 Unjust			Model 13 Collective			Model 14 Individual		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	2.937	.936	.002	4.259	1.047	.000	3.753	.934	.000	3.999	1.002	.000
Responsibility frame [0=Individual]												
Collective	1.097	.321	.001	-.679	.349	.053	-	-	-	-	-	-
Justice frame [0=Just]												
Unjust	-	-	-	-	-	-	-.837	.329	.012	.846	.341	.014
News media congruence [0=Incongruent]												
Congruent	.552	.313	.080	.006	.360	.987	-.196	.353	.579	.532	.324	.102
Responsibility frame × news media congruence	-.726	.456	.114	.379	.494	.443	-	-	-	-	-	-
Justice frame × news media congruence	-	-	-	-	-	-	.590	.482	.223	-.450	.468	.337
Female [0=Male]	-.054	.243	.825	-.347	.265	.192	-.147	.253	.560	-.227	.249	.364
Age	.029	.011	.010	.041	.012	.001	.042	.012	.001	.026	.011	.025
Educational level	-.011	.092	.909	-.081	.102	.426	.028	.088	.748	-.174	.108	.107
Income	.053	.097	.586	.011	.112	.921	.010	.102	.922	.072	.106	.498
Political orientation	-.150	.056	.008	-.214	.064	.001	-.220	.060	.000	-.150	.059	.012
	<i>R</i> ² = .155			<i>R</i> ² = .191			<i>R</i> ² = .214			<i>R</i> ² = .139		
	<i>F</i> (8, 163) = 3.75			<i>F</i> (8, 165) = 4.88			<i>F</i> (8, 164) = 5.59			<i>F</i> (8, 164) = 3.32		
	<i>p</i> < .001			<i>p</i> < .001			<i>p</i> < .001			<i>p</i> < .01		
	<i>n</i> = 172			<i>n</i> = 174			<i>n</i> = 173			<i>n</i> = 173		

exposed to a newspaper article, framing effects did not differ for citizens who prefer to follow news via newspapers versus people who prefer to follow news via social media (or vice versa). Therefore, we rejected H3.

DISCUSSION

This study moves beyond extant research by demonstrating that news frames about pension reforms contribute to how citizens view and respond to a (potential) pension system. Our findings showed that citizens exposed to a news frame stressing a collective or individual pension system as future proof showed a higher preference for such a national pension system; however, this effect was only positive if the relevant pension system was also framed as just. Framing a collective or individual pension system as unjust evoked a negative effect on citizens' preferences for such a national pension system, meaning that people showed a lower preference for the respective pension system if it was framed as unjust. These results stress that the justice frame played a more crucial role in influencing citizens' attitudes than the responsibility frame. This could perhaps be explained by previous research suggesting that not all frames have the same impact and that the *valence* of a frame is important (De Vreese et al., 2011). Valenced news frames emphasize the inherent positive or negative aspects of an issue. The justice frame inherently contains more positive or negative connotations than the responsibility frame. This stronger valence could explain why citizens seemed to be more affected by this frame. Within the effect of the justice frame, the unjust frame appeared to have a stronger impact than the just frame, which can be explained by its negative connotation. This finding represents another confirmation of the negativity effect: People are more strongly impacted by negative information than by positive information (Damstra & Boukes, 2018; Soroka, 2006).

Additionally, this paper contributed by examining the relevant conditions that could potentially strengthen framing effects in the context of pension reforms. We demonstrated that the effect of the responsibility frame was more pronounced the lower a citizen was educated. Since this may stem from lower knowledge of pension systems (Hess, 2017), it can be considered problematic that this group of people is particularly susceptible to news media content. Lower educational levels probably indirectly reflect weaker cognitive capacity and less background knowledge, making lower-educated individuals more

likely to be influenced by a news frame. Contrary to our expectations, citizens' age and sense of solidarity did not appear to enhance or limit the effect of the responsibility frame. Rather than influencing how people process news media content that is positively framed toward a collective pension system, a sense of solidarity turned out to be a direct (positive) predictor of the preference for a (collective) national pension system, which makes sense as solidarity is inherently related to collective responsibility. Age also appeared to have partially significant direct effects on citizens' pension system preferences rather than that it influenced how they processed information from news media.

Furthermore, this paper contributed to the literature by distinguishing between traditional and social media while examining news framing effects. Drawing from participants' preferred mode of news use, we were able to test whether exposure to a preferred news media enhanced framing effects. Strikingly, our findings demonstrated that people with different news media preferences were not affected differently by their preferred mode of news use than their less preferred one. This unanticipated finding may be explained by the idea that people in their daily life do not rely on only one news media and are used to (incidentally) being exposed to different types of news media. When it comes to the moderating function of preferred news media, it might depend on which role a particular news source, for instance, Facebook, takes within a personal news repertoire (Strömbäck et al., 2018), which could be an important direction for future research.

Alternative explanations can also be found in the limitations of our study. When testing the moderation of citizens' preferred news medium, our measurement indicated participants' preference for social media in general, while we exposed them to a Facebook post. People with a preference for social media in their daily life may prefer to follow news via, for example, Twitter rather than Facebook, meaning that Facebook may not have represented their preferred news media. However, we do know that among the different social media platforms, Facebook is used the most for news in many countries, including the Netherlands, where around 28% of the Dutch population use Facebook regularly for news (Newman et al., 2019). Furthermore, we acknowledge that one framing experiment can only explain a small part of how news frames affect citizens' attitudes.

Mechanisms demonstrated in this study may be generalizable to other OECD countries that deal with pension or welfare state reforms (OECD, 2019), and in particular to countries that share a similar discussion about moving toward a welfare state or pension system with individual responsibility, such as Norway, the UK, and Denmark (Ervik et al., 2015). Citizens' susceptibility to news media and their frames about pension reforms can perhaps best be explained by the prospective and slightly uncertain nature of pension saving, for which, thus, no social reality yet exists. Our findings may also apply to other (social) policy issues that share a future-oriented and uncertain nature, such as policy in terms of other scarce welfare state resources (e.g., with regard to health care) or environmental policy.

This study was one of the first to provide empirical evidence for the occurrence of framing effects in light of citizens' attitudes toward pension reforms. As pension reform often trigger emotional reactions and persistent opposition among citizens (Scheubel et al., 2013), we contributed by uncovering the essential role that news media content plays in shaping public opinion toward proposed pension reforms. By assessing framing effects in both traditional and social media, we provided initial evidence that framing effects might not be contingent upon exposure to one's preferred news media. Future research may want to focus more on understanding public opinion toward (social) policy issues from the perspective of news media content.



CHAPTER 4

DIFFERENTIAL RESPONSES TO TRADITIONAL VERSUS SOCIAL MEDIA: EXAMINING SELF- REPORTED AND MANIPULATED MEDIA EXPOSURE MEASURES

This chapter is under review as: Van den Heijkant, L., Van Selm, M., Hellsten, I., & Vliegthart, R. (2021). Differential responses to traditional versus social media: Examining self-reported and manipulated media exposure measures

ABSTRACT

This study explores whether social media have a greater potential than traditional news media in the process of (political) learning. Relying on a survey-embedded experiment that includes both self-reported and manipulated media exposure measures, we examine to what extent the type of media affects cognitive and behavioral responses to news. Findings reveal that people exposed to news presented on social media are more concerned about the issue at hand and more likely to engage in interpersonal discussion as well as information seeking about the issue than those exposed to traditional news media. However, this effect of media type only holds for the *self-reported* exposure to media in everyday life and not for the *manipulated* exposure in the experimental setting.

INTRODUCTION

News media play a crucial role in informing citizens about what is going on in politics and society, and consequently affect how citizens perceive sociopolitical issues. In the contemporary news media landscape, citizens increasingly encounter and engage with news via social media (Bergström & Jervelycke Belfrage, 2018; Park & Gil de Zúñiga, 2020). The growing prominence of social media in the news environment and the distinctive features compared to traditional sources (e.g., printed newspapers, television, radio) raise the question of whether exposure to news on social media triggers different cognitive and behavioral responses relevant to the process of (political) learning compared to exposure to news in traditional news media. To date, scholarly knowledge about the role of social media in (political) learning is still limited (Park & Gil de Zúñiga, 2020). Recognizing social media's distinctive conversational and interactive affordances and ability to reach a large and diverse audience, we aim to explore whether social media have a greater potential to create public awareness of and concern about sociopolitical issues, as well as to stimulate interpersonal discussion and information seeking about these issues compared to traditional news media.

In studying potential differences in the extent to which traditional and social media induce these responses, the second objective of this study relates to the methodological issue of measuring media exposure. A substantial amount of extant research focusing on media exposure and its impact on the public in the context of learning relies on measures of self-reported media exposure, mainly by using (panel) surveys (e.g., Boukes & Vliegthart, 2019; Chaffee et al., 1994; McLeod & McDonald, 1985). In these studies, the focus lies on citizens' exposure to media in *everyday life*. Yet, other existing studies have been conducted in an experimental setting, putting the focus on *manipulated* (i.e., controlled) exposure to media (e.g., Kruikemeier, Lecheler, et al., 2018; Norris & Sanders, 2003; Walma van der Molen & Van der Voort, 2000). The key contribution of the current study lies in disentangling cognitive and behavioral responses prompted by exposure to media in everyday life and exposure to media in an experimental context, by bringing both measures of media exposure together in a survey-embedded experiment. In this way, we are able to assess how closely the media effects resulting from both measures approach each other.

Accordingly, relying on measures from both the survey part *and* experimental part of this study, we empirically explore the inherent effects of the type of media on public awareness of and concern about an issue in the news, as well as on the intention to engage in interpersonal discussion and information seeking about the issue. The issue selected in this study is that of pension reform, as we believe the complex nature of this salient issue provides an excellent case for examining potential differences in news responses related to (political) learning. An important consequence of several of the pension reforms adopted across Western European countries is that individuals are made more responsible for securing their own level of pension income. This individual responsibility increases the need for understanding and awareness of one's own complex pension situation (Finseraas et al., 2017; Hagelund & Grødem, 2017; Sundén, 2006).

COGNITIVE AND BEHAVIORAL RESPONSES TO NEWS MEDIA

The role of news media in society cannot be underestimated. News media provide citizens with the information they need about political, social, and current issues to participate, engage and take their responsibilities in democratic societies (Strömbäck, 2005). In this information function, it is evident that news media contribute to (political) learning (e.g., Chaffee & Kanihan, 1997; Delli Carpini & Keeter, 1996; Strömbäck, 2017). Becoming aware of and concerned about an issue is perhaps the most important prerequisite for, or the first step in, learning from news media. As expressed in the agenda-setting theory, media determine public awareness of and concern about issues by focusing attention on particular issues and transferring the salience of issues to the public (McCombs, 2005; McCombs & Shaw, 1972).

Beyond these cognitive responses, we turn our attention to behavioral responses and, more specifically, to individuals' intentions to take actions to learn more about the issue they encounter in news presented in traditional and on social media. Issues featured in (news) media often spark interpersonal conversations (Moeller & De Vreese, 2019). This so-called interpersonal discussion plays a key role in the process of (political) learning (McLeod et al., 1999). The reasoning behind this mechanism is that engaging

in interpersonal discussion can contribute to higher levels of understanding; in the sense that talking with others and exchanging information and interpretations about what one has read or heard in the media about an issue can help people to understand these issues in all its complexity (Cho, 2005; Scheufele, 2002; Yamamoto & Nah, 2018). Interpersonal discussion, therefore, enables citizens to process (news) content more carefully and could eventually foster knowledge-building processes (Hoffman et al., 2007; Vermeer et al., 2020). In a similar way, searching for information plays a key role in (political) learning as it increases people's understanding of complex issues that are featured in the news (Mokros & Aakhus, 2002). Seeking out additional information allows people to process what they have read or heard in the news, which, in turn, helps them to learn more effectively about and engage with issues (Yamamoto & Nah, 2018).

FORMAT FEATURES ACROSS TRADITIONAL AND SOCIAL MEDIA

The news media landscape has been dominated by traditional news media for a long time, but nowadays, citizens increasingly encounter and engage with news via social media (Bergström & Jervelycke Belfrage, 2018). Traditional and social media differ considerably in terms of format features, and these distinctions may potentially lead to differences in triggering cognitive and behavioral responses. Given powerful elements such as hashtags and the option to share (news) content, social media can reach large numbers of users, also beyond the audience of 'usual suspects' for an issue (Enli & Simonsen, 2018). Recognizing the inherent ability to reach a large and diverse public, social media may, nowadays, create more public awareness and concern about issues compared to traditional news media. In addition, characterized by social contexts and two-way communication affordances, the *social* element is unique to social media (Bechmann & Lomborg, 2013; Kim & Jung, 2017). People exposed to (news) content on social media are guided by interactive and conversational affordances of social media, such as commenting on or sharing content (Park & Gil de Zúñiga, 2020). Along with online activity, these affordances may influence people's willingness to take offline actions (Gil de Zúñiga et al., 2012; Lane et al., 2017). Although traditional news media have developed interactive elements as well, news presented in traditional news media is, in essence, characterized by one-

way, sender-driven communication (Weeks & Holbert, 2013). There is little incentive for further engagement with news, in the sense that traditional news media provide limited opportunities for people to interact with or respond to content, which may also limit offline activity resulting from news exposure (Gil de Zúñiga et al., 2013; Weeks & Holbert, 2013). Recognizing these inherent affordances of traditional and social media, we might expect that people exposed to news presented on social media are more aware of and concerned about issues, as well as more likely to engage in interpersonal discussion and information seeking about the issues than the ones exposed to news presented in traditional news media.

Previous research focusing on the question of whether the medium matters for learning-related outcomes—mainly conducted in the context of audiovisual media (e.g., television) versus textual media (e.g., newspaper)—provided mixed findings (e.g., Boukes & Vliegenthart, 2019; Chaffee et al., 1994; McLeod & McDonald, 1985; Norris & Sanders, 2003; Walma van der Molen & Van der Voort, 2000). Some of the inconsistencies between these studies may be ascribed to methodological issues, such as differences between survey and experimental research (Eveland et al., 2002). Media exposure is approached in a different way in these methodologies, where both approaches entail advantages and disadvantages in measuring the concept, primarily in terms of causality and external validity (see e.g., Moeller & De Vreese, 2019). The present study, therefore, relies on a comprehensive measure of media exposure by using both self-reported exposure to media in everyday life (from cross-sectional survey data) and manipulated exposure to media in a forced context (from experimental data), aiming to disentangle these effects.

To explore whether traditional and social media elicit cognitive and behavioral responses to a different extent, and what exactly in media exposure produces these effects, we pose the following research questions¹:

RQ1. To what extent does exposure to news presented via traditional versus social media affect cognitive (issue awareness, issue concern) and behavioral (interpersonal discussion, information seeking) responses?

¹ This study follows from a preregistered design. For this follow-up study, we did not preregister a priori expectations, and therefore the expectations are inherently exploratory.

RQ2. Do these responses differ across media exposure in everyday life (self-report measure in the survey) and media exposure in a forced context (stimulus in the experiment)?

DATA

We relied on data from an online survey-embedded experiment² examining the impact of news content in traditional and social media on the attitudes of Dutch citizens toward proposed pension reforms (see Chapter 3). This dataset includes information on participants' exposure to news via traditional versus social media and its effects on relevant cognitive and behavioral responses. The total number of participants was 762³, of which the ages ranged from 19 to 64 years old ($M = 50.90$, $SD = 11.14$). Females represented 45.54% of the sample; 43.18% of the participants were lower educated, and 56.82% were higher educated.

INDEPENDENT VARIABLES

Exposure to news via traditional and social media was operationalized in two ways: (1) exposure to news presented via traditional versus social media in everyday life (self-report measure in the survey) and (2) exposure to news presented via traditional versus social media in a forced context (stimulus in the experiment). Regarding the latter, participants were randomly exposed to either a newspaper article ($n = 365$) or a social media post ($n = 300$)⁴ about reforming the pension system, both specifically created for the original study. The content across these media types was kept constant. The newspaper articles were presented with a title, summary lead, and the text presented in two columns in the layout style of one of the most-read Dutch quality newspapers (*NRC Handelsblad*). The social media posts were presented in Facebook layout,

² This online survey-embedded experiment was preregistered at the Open Science Foundation (OSF): https://osf.io/r4ead/?view_only=fb55654be2f64284a56505fd44ba1777.

³ A sample of 832 Dutch participants was recruited by I&O Research. To ensure participants paid sufficient attention to the manipulated news item, minimum exposure time was set to at least five seconds (which was sufficient as it was a strong and clear manipulation of media type). This condition was not met by 70 participants, resulting in a final sample of 762 participants.

⁴ In the original study, 97 participants were randomly assigned to the control condition. This control condition, in which participants were exposed to a neutral online news article, is excluded in the current study.

including characteristic features such as an image, the number of comments, shares, and likes indicated with Facebook's iconic thumbs up and appropriate emoticons, and at the bottom, a bar with options to like, comment on or share the post. A complete overview of the stimuli can be found in Appendices A and B. Regarding the self-report measure in the survey, participants were asked to indicate how many days in a typical week they use certain media types to follow news, from 0 to 7 days per week, adapted from Boomgaarden et al. (2011). To withstand challenges with the validity and reliability of self-reports, we used a careful measure in which all participants were asked about their use of (1) television, (2) radio, (3) printed newspapers, (4) online newspapers, (5) online news websites and (6) social media, for news. In the response options, participants were presented with concrete categories referring to the number of days per week rather than subjective categories such as 'seldom', 'regularly', and 'often' (Andersen et al., 2016; De Vreese & Neijens, 2016). Drawing from participants' reports about their use of *printed* newspapers ($M = 3.10$, $SD = 2.61$) and social media ($M = 3.81$, $SD = 2.98$) for news, we produced a variable that represented participants' self-reported exposure to news via traditional versus social media in everyday life. By subtracting the score of newspaper use from the score of social media use, we constructed a 15-point scale ranging from -7 (sole preference for consuming news via printed newspapers in everyday life) to 7 (sole preference for consuming news via social media in everyday life; $M = .71$, $SD = 4.14$). Given that this measure represents the *relative* importance of traditional news media over social media and vice versa, participants' under- or overestimation of their media use in everyday life is less of a problem. Participants who over- or underestimate their use of printed newspapers probably also over- or underestimate their use of social media for news. This means that the relative importance is fairly accurate.

MEASURES

All items were measured on a 7-point scale ranging from strongly disagree to strongly agree.

ISSUE AWARENESS

To examine the cognitive response of issue awareness among participants, they were asked to indicate the extent to which they agree with two statements: "I am well aware of my expected income after retirement" and "I delve deeply into my own pension situation" ($M = 4.69$, $SD = 1.64$, $\alpha = .89$).

ISSUE CONCERN

Another relevant cognitive response relates to concern about the issue among participants, which was measured by asking to what extent they agreed with the following statement: "I am worried about the level of my pension" ($M = 4.29$, $SD = 1.64$).

INTERPERSONAL DISCUSSION

Beyond cognitive responses, participants also answered statements to measure behavioral responses. To examine the intention to engage in interpersonal discussion about the issue, participants were asked to indicate the extent of agreement with two statements: "By reading the news item at the beginning of this questionnaire, I am inclined to talk to friends, family, or colleagues about the Dutch pension system" and "By reading the news item at the beginning of this questionnaire, I am inclined to discuss the future of the Dutch pension system" ($M = 3.34$, $SD = 1.38$, $\alpha = .83$).

INFORMATION SEEKING

To measure the behavioral response to search for additional information about the issue, participants were presented with the following statement: "By reading the news item at the beginning of this questionnaire, I am inclined to search for more information about the Dutch pension system" ($M = 3.54$, $SD = 1.49$).

CONTROL VARIABLES

To provide a conservative test of the effects of self-reported and manipulated exposure to news via traditional versus social media, we included a set of control variables in the analyses. We controlled for gender, age, educational level, and income⁵, as previous research has shown that these variables impact pension-related outcomes (e.g., Hershey et al., 2010; Parlevliet, 2017). We also controlled for interest in news about political and current affairs⁶,

5 Age was measured in years ($M = 50.90$, $SD = 11.14$). Educational level ranged from 1 (no education or only primary education) to 7 (a Master's or Doctoral degree) ($M = 4.99$, $SD = 1.36$). Income, measured by the question "In which category does the total gross annual income of your household fall?", ranged from 1 (minimum and below middle income/up to €26,500) to 5 (twice the middle income or more/€66,000 or more) ($M = 3.54$, $SD = 1.26$). Participants who selected the "no answer" option were not included in the analyses.

6 We asked participants to rate their degree of interest in (a) politics and (b) current affairs and information on a 7-point scale ranging from not interested to extremely interested. A mean score was used to measure participants' interest in news about political and current affairs ($M = 5.21$, $SD = 1.29$, $\alpha = .74$).

as this may also impact the relevant behavioral and cognitive responses. In addition, we controlled for the content of the manipulated news items, in which two news frames about reforming the pension system were portrayed: A news frame stressing a pension system based on collective vs. individual responsibility as future proof and a news frame stressing the respective pension system as unjust vs. just (see Chapter 3). Both news frames were included as controls in the analyses.

ANALYSIS

To answer RQ1, multiple regression models were performed to assess the cognitive (issue awareness, issue concern) and behavioral (interpersonal discussion, information seeking) responses prompted by exposure to news presented via traditional versus social media. In these regression models, we included two different independent variables to answer RQ2: (1) media exposure in everyday life (self-report measure in the survey) and (2) media exposure in a forced context (stimulus in the experiment). Doing so allows us to control for the type of media (traditional or social media) to which participants were exposed in the experimental context while testing the effects of their self-reported exposure to media in everyday life.

RESULTS

ISSUE AWARENESS AND ISSUE CONCERN

Table 4.1 displays the results of two regression models predicting participants' awareness of and concern about the pension issue. As shown in Model 1, we found no significant effect of media type on issue awareness, which implies that there is no significant difference in the extent to which traditional and social media affect participants' issue awareness, neither in the manipulated setting nor in everyday life. Model 2 captures results regarding participants' issue concern. In terms of the manipulated exposure, we did not find a significant difference in the extent to which traditional and social media affect participants' issue concern. However, regarding the self-reported exposure to media in everyday life, we found a significant and positive effect: A one-unit increase in the preference for following news via social media in everyday life (relative to newspapers) leads to a .044 increase in the level of concern about the pension issue. This implies that citizens who are used to consuming news via social media are more concerned about the issue than those used to consuming news via traditional news media.

Table 4.1 Effects of Media Type on Cognitive Responses

	Issue awareness			Issue concern		
	Model 1			Model 2		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	-.081	.454	.858	5.330	.528	.000
Manipulated media exposure						
Social media [0=Traditional news media]	.065	.118	.582	.078	.137	.569
Self-reported media exposure	-.018	.015	.219	.044	.017	.011
Gender [0=Male]	-.044	.126	.726	-.061	.147	.677
Age	.059	.006	.000	.002	.007	.792
Educational level	-.046	.047	.334	-.020	.055	.716
Income	.257	.052	.000	-.222	.060	.000
News interest	.211	.049	.000	-.053	.057	.349
News content: responsibility frame	-.152	.117	.195	.023	.136	.863
News content: justice frame	.185	.117	.113	.015	.136	.913
	<i>R</i> ² = .307			<i>R</i> ² = .051		
	<i>F</i> (9, 559) = 27.57			<i>F</i> (9, 559) = 3.32		
	<i>p</i> < .001			<i>p</i> < .001		
	<i>n</i> = 569			<i>n</i> = 569		

Note. Cell entries are unstandardized coefficients, standard errors, and *p*-values.

INTERPERSONAL DISCUSSION AND INFORMATION SEEKING

Table 4.2 presents the results of two regression models predicting participants' intention to engage in interpersonal discussion and information seeking about the issue. Model 3 captures results related to interpersonal discussion. In terms of the manipulated media exposure, we did not find a significant effect of media type on the intention to engage in interpersonal discussion. However, regarding media exposure in everyday life, we found a significant and positive effect: A one-unit increase in the preference for following news via social media in everyday life (relative to newspapers) leads to a .043 increase in the intention to engage in interpersonal discussion. This finding suggests that people who are used to consuming news via social media are more likely to engage in interpersonal discussion than those used to consuming news via traditional news media.

As presented in Model 4, we found similar results in terms of information seeking. Regarding the manipulated media exposure, we did not find a significant effect of media type on the intention to engage in information seeking. However, in the case of participants' everyday news exposure via traditional versus social media, we found a significant and positive effect: A one-unit increase in the preference for following news via social media in everyday life (relative to newspapers) leads to a .049 increase in participants' intention to engage in information-seeking behavior. This means that people who are used to consuming news via social media in their everyday life are more likely to engage in information seeking than the ones used to consuming news via traditional news media.

Table 4.2 Effects of Media Type on Behavioral Responses

	Interpersonal discussion			Information seeking		
	Model 3			Model 4		
	<i>b</i>	<i>SE</i>	<i>p</i>	<i>b</i>	<i>SE</i>	<i>p</i>
Constant	2.737	.438	.000	3.674	.483	.000
Manipulated media exposure						
Social media [0=Traditional news media]	.143	.113	.209	.020	.125	.875
Self-reported media exposure	.043	.014	.002	.049	.016	.002
Gender [0=Male]	.190	.122	.119	.421	.134	.002
Age	.002	.006	.764	-.005	.006	.406
Educational level	-.144	.046	.002	-.180	.050	.000
Income	.063	.050	.212	.022	.055	.684
News interest	.166	.047	.000	.159	.052	.002
News content: responsibility frame	-.116	.113	.304	-.101	.124	.415
News content: justice frame	.031	.113	.780	-.167	.124	.180
	$R^2 = .056$			$R^2 = .070$		
	$F(9, 559) = 3.71$			$F(9, 559) = 4.64$		
	$p < .001$			$p < .001$		
	$n = 569$			$n = 569$		

Note. Cell entries are unstandardized coefficients, standard errors, and p-values.

DISCUSSION

Relying on both self-reported *and* manipulated media exposure measures, this study empirically explored cognitive and behavioral responses prompted by traditional versus social media. Findings reveal interesting differences: People exposed to news presented via social media are more concerned about the issue at hand and more likely to engage in interpersonal discussion and information seeking about it than those exposed to news presented via traditional news media. However, this effect of media type only holds for the *self-reported* exposure to traditional and social media in everyday life and not for the *manipulated* exposure in the experimental setting.

Our findings show that the responses triggered by social media are to some extent distinct from the responses induced by traditional news media, indicating the potential of social media in the process of (political) learning. Our study lends support to the idea that in consuming news via social media in everyday life, citizens seem to be driven to engage in interpersonal discussion and information seeking, which could help them process news content more carefully and eventually foster learning in the context of complex issues. This learning process is crucial to the functioning of a democratic society. From a methodological perspective, the findings are interesting, too, as they teach us the importance of media exposure in everyday life for cognitive and behavioral responses to news. The lack of finding significant differences in the manipulated context may perhaps be explained by the characteristics of the issue at hand. Given the far-off and uncertain nature of the pension issue (Debets et al., 2020; Krijnen et al., 2018), one-time exposure perhaps does not impact citizens' responses to the issue. Future experimental research should take into account the media type to which people are exposed to (the most) in everyday life, to increase the external validity.

This study is not without limitations. Most importantly, for the self-reported measures of media exposure, we cannot prove causality between media exposure and the cognitive and behavioral responses, nor can we rule out all alternative explanations. Although we provided a conservative test by including relevant control variables in the analyses, future research may address other relevant factors that could play a role in citizens' responses to traditional and social media, such as personality traits (e.g., extraversion, introversion). Future

research should also further explore *why* cognitive and behavioral responses differ across traditional and social media. Does the interactive nature of social media indeed play a role in explaining differences?

CONCLUSION AND DISCUSSION



Pension reform is a contentious issue that has been heatedly debated in politics and society for years. Pension reforms are politically difficult: On the one hand, they require public support, while on the other, they can have adverse effects on (parts of) society. A well-informed electorate that understands the necessity and underlying considerations of reforms is therefore essential (Van Dalen & Henkens, 2005). The media take on the role of informing citizens and can, therefore, by extension, shape citizens' opinions and debates about sociopolitical issues such as pension reforms. Following the theory of media dependency (Ball-Rokeach & DeFleur, 1976), media are arguably particularly important when it comes to pension reform, due to the fact that pension reform is not only a complex and uncertain issue but is also largely beyond many people's direct experience. This dissertation, therefore, aims to provide insights into how news media shape the debate on pension reform and how this subsequently affects citizens' thinking of this issue. In this concluding chapter, I will answer the two central research questions by reflecting on the key findings and conclusions of the research presented in this dissertation. Based on these general conclusions, I will then discuss theoretical and practical implications, as well as the areas and limitations that may be addressed by future research.

HOW DOES MEDIA CONTENT ABOUT THE ISSUE OF PENSION REFORM EVOLVE (DIFFERENTLY) IN TRADITIONAL AND SOCIAL MEDIA OVER TIME?

The first two chapters of this dissertation focus on examining media content about the pension reform issue in traditional and social media. Chapter 1 contributes three valuable insights relating to the first central research question. First, the chapter demonstrates that within the single issue of raising the retirement age, the traditional and social media agenda is divided across an elaborate set of subissues. Differences exist in the level of (relative) attention for each subissue across the two media types. The subissue most prominently discussed by journalists in traditional news media deals with the negotiations and agreements between labor unions and the government. This finding seems to reflect journalists' professional norms and routines. According to Bennett's (1990) notion of indexing, journalists report issues predominantly from the perspective of political elites or so-called official sources (Livingston & Bennett, 2003; Neuman et al., 2014). The dominance of this subissue in traditional news media also echoes findings of earlier studies, which show the importance of conflict in traditional news stories as

a common feature that adds value to news (Galtung & Ruge, 1965; Harcup & O'Neill, 2017; Muddiman & Stroud, 2017) and a common way to frame news stories (Bartholomé et al., 2015; Valkenburg & Semetko, 2000). By contrast, when it comes to social media, the subissue of the debate that appeared most often is that of practical and technical arrangements of the pension system. There are also similarities: Both traditional and social media have in common that (older) workers' employability and capability of lifelong working is the second most prominent subissue in the media content about raising the retirement age.

Second, and most importantly, Chapter 1 expands on the intermedia agenda-setting framework in the social media age by tracing which media type sets the agenda for the other at the detailed level of subissues. *Chapter 1 shows that in the debate on raising the retirement age, social media have some power to set the agenda; however, traditional news media are (still) more powerful in steering the agenda at the level of subissues.* These findings on the intermedia agenda-setting dynamics between traditional and social media are especially important because the existing (limited) empirical evidence is mixed. The results of Chapter 1 partly align with those of studies that found a reciprocal influence between traditional and social media (e.g., Conway et al., 2015; Kruikemeier, Gattermann, et al., 2018) but are particularly consistent with studies in which the findings support the idea that traditional news media take the lead in setting the agenda for social media (e.g., Rogstad, 2016; Sweetser et al., 2008).

Finally, Chapter 1 provides insights into the dynamics of the subissues over time. The attention for subissues evolved in a similar pattern over time across traditional and social media. All subissues first leaped into prominence, only to gradually decrease in attention over the years. The peaks can largely be explained by political decision-making, which means that the political salience of the pension reform is mirrored in the media content. The over-time pattern is in line with the issue-attention cycle (Downs, 1972), which describes the process in which issues are taken up by the media, gain attention, and then fade from public attention. The issue-attention cycle was originally developed at the issue level, particularly focusing on major social problems. Hence, Chapter 1 adds to this notion by confirming this process on the level of subissues within pension reform debates.

Chapter 2 contributes insights into the use of issue-specific frames in media content about the pension reform issue, as well as similarities and differences in the presence of these issue-specific frames across traditional and social media. These insights aid in answering the first central research question. Based on Snow and Benford's (1988) conceptual distinction, Chapter 2 identifies the diagnostic (problem definition) and prognostic (solution definition) frames present in traditional and social media. As its main finding, *Chapter 2 demonstrates that both traditional and social media draw more attention to problems than (potential) solutions.* This similarity between traditional and social media is coherent with the key finding of Chapter 1, as it suggested that social media follow the agenda set by traditional news media. The emphasis on problems may arise from the imbalance in the debate. The debate involves a conflict between the present and future: The measures taken today involve short-term setbacks, and the eventual benefits will only be reflected in the future. These (negative) effects in the short term are probably more tangible in the present than the ultimate benefits, which may partly explain why the problems encountered with the pension reform issue are prevalent in the media.

Chapter 2 also shows differences between the two media types. It is important to note that these differences are smaller than anticipated based on the distinction that traditional news media content is professionally produced, while a typical news feed on social media consists of a blend of professionally produced content and non-professionally produced content by anyone who wants to share it. The first difference relates to the frame feature of conflict, which turned out to be a prominent feature in the diagnostic frames. *Chapter 2 shows that, compared to social media content, traditional news media content about the complex and contested issue of pension reform contains more conflict-related frames.* This finding of the importance of conflict in (traditional) news stories is in line with Chapter 1 and resonates with other studies showing the predominance of conflict frames in traditional news media (e.g., Bartholomé et al., 2015; De Vreese et al., 2001; Valkenburg & Semetko, 2000). Another difference between traditional and social media relates to frame diversity. *Compared to traditional news media content, social media content about the retirement age issue contains more frame diversity; at the least, this is the case for solution perspectives.* This openness to solution perspectives on social media can perhaps be best explained by the absence of gatekeepers (Baden & Springer, 2014). This implies that information is not

filtered on social media. Users can share all kinds of (alternative) solutions on social media, irrespective of their feasibility. In contrast, the narrower frame diversity in traditional news media may be a result of journalistic indexing of elite sources and their views on solutions, implying that their coverage is largely restricted to the solution perspectives from political actors (Bennett, 1990). Thirdly, over time, the emphasis on the problem definition diminished on social media, perhaps indicative of a certain amount of resignation among the public with the maturing of the reform measure. This decreasing emphasis on diagnostic frames over time did not hold true for traditional news media, indicating a strong tendency to highlight problems for this complex and controversial issue. This tendency of news media to problematize issues is consistent with earlier studies (e.g., the issue of older workers' employability, see Kroon et al., 2017) and corresponds to the news value theory that states that negative aspects are particularly newsworthy (Galtung & Ruge, 1965; Harcup & O'Neill, 2001). Finally, when examining the language and style of the news frames in more detail, the chapter reveals that frames on social media exhibit a more subjective, emotional, and personalized style compared to the frames applied in traditional news media. This is in line with other comparative studies of these media types (e.g., Klinger & Svensson, 2015; Welbers & Opgenhaffen, 2019).

In sum, the empirical section on the media content shows that the pension reform of raising the retirement age is evolving in traditional and social media content through several subissues and issue-specific frames, showing that it is a diverse and multi-faceted debate. For a considerable part, the issue is discussed in a similar fashion across the two media types, which probably follows from the demonstrated power of traditional news media to set the agenda for social media. Nonetheless, there are also differences, which in most cases can be ascribed to the journalistic norms and routines in traditional news media that are absent on social media.

WHAT ARE THE CONSEQUENCES OF THE CONTENT AND FORM OF MEDIA ON CITIZENS' ATTITUDES AND BEHAVIORAL INTENTIONS TOWARD THE PENSION REFORM ISSUE?

Investigating media content about pension reforms not only yields important insights into the public debate and dynamics of traditional and social media but also functions as the starting point for understanding what kind of

effects traditional and social media have on individual recipients' attitudes and responses. This leads us to the second central research question, which inquires about the consequences of the content and form of media on people's responses to pension reforms.

Chapter 3 ties in with the move toward scientific transparency by the preregistration of the survey-embedded experiment conducted in this chapter. Chapter 3 focuses on (the conditionality of) framing effects in traditional and social media. The concept of framing implies that by selecting and emphasizing certain aspects or features of an issue, media suggest a particular interpretation or judgment of the issue to citizens. The aspects of justice and to whom responsibility should be attributed in the future are relevant ones within the societal debate on the pension reform issue. *The key finding of Chapter 3 is that (news) frames about the justice and responsibility of pension reforms presented in traditional and on social media affect citizens' pension system preferences.* Exposure to a news frame stressing either a pension system based on collective responsibility or individual responsibility as future proof leads to a higher preference for the respective type of pension system. However, this effect is only positive if the particular pension system is also framed as just, while the effect is negative if the respective pension system is framed as unjust. This means that people show a lower preference for a collective or individual pension system if the respective system is framed as unjust. These results imply that (subtle) differences in how media present the issue lead to differences in citizens' pension system preferences. In line with studies suggesting the impact of valenced news frames on citizens' attitudes (e.g., De Vreese et al., 2011), the valenced frame of justice (unjust versus just) played a more crucial role than the responsibility frame (collective versus individual responsibility is future proof). In particular, characterized by its inherently negative connotation, the unjust frame most strongly impacts people. This finding that negative information more strongly impacts people than positive information provides evidence for the negativity effect (e.g., Soroka, 2006).

In terms of the conditionality of framing effects, citizens' level of education acted as a moderator for the impact of the responsibility frame, with lower-educated people being more strongly affected by the frame. The strength of framing effects did not differ among citizens of different ages or levels of solidarity. Rather than influencing how people process information from news media, age and level of solidarity directly influence citizens' pension system preferences.

Distinguishing between traditional and social media as people's preferred media type for news, the results of this chapter surprisingly demonstrate that people with different news media preferences are not affected differently by their preferred mode of news use compared to their less preferred mode of news consumption.

Beyond the influence of media content, Chapter 4 involves exploratory research into the influence of a particular medium, once again relying on the differences between traditional and social media. Based on the notion that news media contribute to political learning, which is essential in a democratic society, Chapter 4 focuses on whether traditional and social media differ in the responses they elicit from citizens to the news. Central in this chapter are cognitive and behavioral responses relevant to the process of (political) learning, that is to say, issue awareness and issue concern, and the behavioral intention of interpersonal discussion and information seeking. *Chapter 4 concludes that people exposed to news presented on social media are more concerned about the pension reform issue and more likely to engage in interpersonal discussion and information seeking about the issue than those exposed to traditional news media.* This empirical evidence shows the potential of social media in the process of (political) learning, which is in line with other studies demonstrating the potential of social media in the democratic process (e.g., Gil de Zúñiga et al., 2012; Park & Gil de Zúñiga, 2020). However, this effect of media type only holds for exposure to traditional and social media in everyday life (i.e., the self-report measure in the survey part), and not for exposure to traditional and social media in a forced context (i.e., stimulus in the experimental part).

To summarize, the empirical section on the consequences of media demonstrates that news frames affect citizens' attitudes and behavioral intentions toward the pension reform issue. Framing effects are strongest for the (negatively) valenced frame of (in)justice; exposure to such a frame leads to a more negative attitude toward a (reform of the) pension system. Lower educated people are more strongly impacted by the substantive news frame of responsibility for pensions than the higher educated. When it comes to media type, exposure to traditional versus social media appeared to trigger cognitive and behavioral responses toward the issue to a different extent. Compared to traditional news media, social media create more issue concern and trigger more interpersonal discussion and information seeking.

BEYOND THE CASE OF PENSION REFORM

The conclusions of this dissertation may be generalizable to other countries and issues that share similar characteristics. First, the findings and implications of this dissertation go beyond the Dutch case and may be generalized to other (European) countries that have similar debates about pension reforms. While recognizing differences in pension systems across the world, most European pension systems share the important fundamental of a three-pillar foundation (Hershey et al., 2010). As these countries are facing similar challenges in their pension landscape in light of prospective (demographic) developments, the Netherlands is not alone in its challenge to improve the financial sustainability of the pension system while keeping the level of contributions and benefits fair across and within generations (OECD, 2019). Pension reforms have, therefore, dominated policy agendas in many countries for years, so it follows that the topic has received prominent media attention, too.

Second, the implications of this dissertation go beyond the issue of pension reform to policy issues that share similar characteristics. The pension debate revolves around what can be anticipated in the future. What is commonly referred to as the ticking of a “demographic time bomb” raises concerns about what the future will bring for pensions. In this light, the pension debate has parallels with environmental issues such as climate change and the exhaustion of nonrenewable natural resources (Caney, 2018). Measures taken today to counter these environmental issues may only lead to results only in the (far) future. This parallel is also reflected in the environment-related concept of ‘sustainability’ that is widely used in the pension debate (Ervik, 2005).

THEORETICAL IMPLICATIONS AND FUTURE RESEARCH

The pension reform issue is a social issue that generated a great deal of media attention for a longer period of time (e.g., Van Dalen & Henkens, 2005). Therefore, it lends itself as an ideal case for testing and extending communication science theories. The empirical evidence presented in this dissertation partially confirms existing theories and, at the same time, also adds to the literature. In the next section, I will explain these theoretical implications.

THEORETICAL IMPLICATION 1: THE POWER OF TRADITIONAL NEWS MEDIA TO SET THE AGENDA LARGELY HOLDS IN THE SOCIAL MEDIA AGE AND ON THE SUBISSUE LEVEL.

When it comes to intermedia agenda-setting theory, this dissertation contributes to the theory by expanding on it in the social media age. Doing so, the dissertation confirms that the impact of traditional news media in setting the agenda is still standing in the social media age. The predominance of traditional news media in steering the agenda can perhaps be attributed to the idea that traditional media are the higher-regarded source of information for complex and uncertain issues, while social media may, in turn, provide a space for emotional support on the topics set by traditional news media. Moving beyond media attention across issues, I further contribute by measuring media agendas on the subissue level rather than on the issue level. The dissertation zooms in on one issue (pension reform) and describes the intermedia agenda-setting dynamics at the level of subissues (e.g., sustainable employability, pension arrangement, labor relations, politics), allowing to assess how the content of a specific issue develops over time (see e.g., Harder et al., 2017). Remarkably, by singling out the effects for each subissue separately, only three subissues triggered effects. It seems, then, that intermedia agenda-setting effects are dependent on attributes of subissues. This may be explained by the obtrusiveness hypothesis, which states that the impact of media is stronger for unobtrusive issues that are more abstract and less directly experienced by individuals compared to obtrusive issues that individuals can personally experience (Soroka, 2002; Zucker, 1978). The distinction between unobtrusive and obtrusive subissues may be a valid explanation for the likelihood and strength of intermedia agenda-setting effects. However, future research is needed to examine this reasoning for the conditionality of intermedia agenda-setting effects.

THEORETICAL IMPLICATION 2: DIFFERENT BIASES IN TRADITIONAL AND SOCIAL MEDIA.

Secondly, this dissertation contributes to the comparison of information streams across traditional and social media. By revealing similarities and differences in framing, I expand on recent studies that have compared traditional and social media in terms of tone (Soroka et al., 2018) and style (Welbers & Opgenhaffen, 2019).

When studying the media content about the pension reform issue, it becomes evident that, in principle, citizens are offered a diverse and multi-faceted debate on pension reforms in the media, with striking similarities between traditional and social media in how they depict the pressing social issue; most importantly, with regard to the emphasis on problems. While this paints the picture of balanced information in the news media landscape, the bias is found in the differences between traditional and social media in presenting the issue. For instance, journalists in traditional news media suggest the attribute or judgment of conflict to citizens when they interpret the issue, while conflict-related frames are less dominant on social media. This implies that citizens who follow the issue primarily via traditional news media perceive pension reform as a more conflicting issue than people who prefer to read about the issue on social media. Such differences in daily information streams in these media types have important implications as differences in content, even subtle, can shift how citizens view and respond to a given issue.

THEORETICAL IMPLICATION 3: THE (NEGATIVELY) VALENCED NEWS FRAME OF (IN) JUSTICE MATTERS.

Thirdly, the empirical evidence presented in this dissertation supports the theoretical notion of framing. More concretely, I demonstrate that by framing the debate on the social issue, traditional and social media play an active role in filtering and shaping the debate, which, in turn, provides citizens a framework for how to make sense of an issue. This dissertation adds to research on valenced news frames by demonstrating that the valenced news frame of justice has a stronger impact on citizens' attitudes than the substantive frame of responsibility for pensions. This implies that more emotional or judgmental content has a stronger effect on people's perceptions than more substantive content. This conclusion poses a potential cause for concern, as a well-informed public that understands the necessity and underlying considerations of reforms is essential for successfully pursuing reforms. Substantive content is therefore important, which explains why its limited impact on citizens' attitudes may be problematic. Future research should further unravel this line of reasoning regarding the impact of frames with a substantive versus emotional character.

Moreover, in this dissertation, I conclude that responses to the unjust frame and just frame are asymmetric, in the sense that framing a pension system as unjust has a stronger impact on citizens' attitudes than framing it as just. This conclusion builds on and contributes to negativity bias research by demonstrating the nega-

tivity effect for a concept that is not only inherently negative or positive but also conveys a clear judgment. Future research should further examine the negativity bias in terms of judgmental concepts and examine the prevalence of these kinds of judgments across media.

THEORETICAL IMPLICATION 4: FORM OF MEDIA MATTERS FOR MEDIA CONSUMPTION IN EVERYDAY LIFE.

Another implication of this dissertation relates to media effects caused by the form (or type) of a particular medium. Distinguishing between traditional and social media, Chapter 3 assesses the moderating function of exposure to citizens' preferred mode of news use in framing effects. The results of Chapter 3 surprisingly demonstrate that people are not affected differently by their preferred mode of news use compared to their less preferred mode of news consumption. The lack of evidence in an experimental context for effects caused by the media type is also reflected in Chapter 4. However, Chapter 4 relies on both experimental *and* survey data and shows that the exposure to traditional and social media in everyday life (i.e., self-report measure in the survey) does show effects of media type on citizens' responses to news. Future experimental research should take into account the media exposure in everyday life in examining the effects of media form on citizens' responses, herewith increasing the external validity.

THEORETICAL IMPLICATION 5: MEDIA DO NOT SEEM TO AMPLIFY THE INTERGENERATIONAL CONFLICT.

Existing evidence on the presence of an intergenerational conflict in attitudes toward the welfare state is mixed, with some studies confirming the existence of an intergenerational conflict while other studies find no evidence for such a conflict (see Busemeyer & Lober, 2019). Chapter 1 and Chapter 2 show that conflict is a prominent aspect of the media content about pension reforms; however, intergenerational conflict is only a part of this. The issue is also described in terms of conflict between political parties and labor unions or conflict arising from ignoring differences between groups within the same generation. In this sense, I argue that intergenerational conflict is a visible aspect of the debate but does not dominate the debate as reflected in the media.

Furthermore, with regard to the idea of an intergenerational conflict, relying on the concept of age-related self-interest, this dissertation assesses how people of different ages process media content about the pension reform issue, or to put differently, whether age moderates framing effects. While age directly influences pension system preferences, age does not affect how people process media content. In this sense, this dissertation supports the idea that media do not appear to amplify the intergenerational conflict with regard to the pension reform issue.

PRACTICAL IMPLICATIONS

PRACTICAL IMPLICATION 1: CITIZENS HAVE SOMETHING TO GAIN AND LOSE FROM THE MEDIA REGARDING COMPLEX ISSUES.

This dissertation offers evidence for the important role that media take in informing citizens about social issues. When it comes to an issue that is characterized by low levels of knowledge among the public, this may be a particularly hopeful message. Media can increase knowledge levels and make citizens more aware of (their own) pension plans. However, while citizens have something to gain from the media, there is, at the same time, also something to lose. The lack of knowledge may lead to a situation in which people do not critically reflect on the issue presented in the media but rather take over the dominant view as it is presented to them. This is reflected in the framing effects demonstrated in this dissertation and may, in particular, be the case for lower educated individuals, as the findings demonstrate that lower educated individuals are more strongly influenced by some news frames than higher educated individuals. This may imply that lower educated individuals have more to gain from the media, but at the same time, also more to lose. Moreover, based on the findings presented in this dissertation, I suggest that negative and judgmental content may be particularly effective in influencing citizens' attitudes, compared to more substantive content. Asymmetric influence of the media can lead to overly pessimistic perceptions of social issues or potentially exacerbate polarization in debates on social issues. This implication may also go beyond media communication to political communication. As a social issue that touches upon the interests of many people, the pension (reform) issue is mobilized on by political parties. In the Netherlands, *50PLUS* is an example of a political party that presents positions on this issue in their election manifesto and does indeed do so in an overly negative way.

PRACTICAL IMPLICATION 2: IMPROVING COMMUNICATION ABOUT PENSION REFORM

This dissertation provides valuable knowledge with regard to communication about the pension (reform) issue, which can be relevant for all kinds of parties and actors that communicate about pension reforms, such as the government, political parties, and labor unions. For example, Chapter 4 hints at the potential of social media in the process of (political) learning. A recommendation for government bodies or other pension-related institutions may, therefore, be to proactively use social media to get citizens engaged with the pension issue. Another recommendation follows from the demonstrated power of the (in)justice frame in this dissertation. To successfully pursue a pension reform, governments and political parties need to inform the public to gain their support. Emotional or judgmental frames seem to have more effect than a more substantive frame. Therefore, the (in)justice frame could be an example of a powerful frame to convey the need and reasons for pension reforms or other reforms related to (the distribution of) welfare state resources.

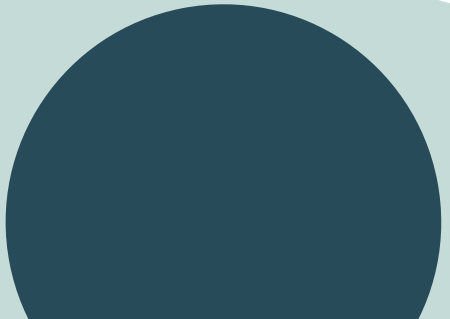
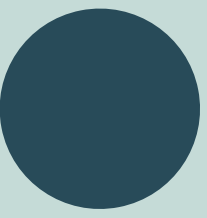
LIMITATIONS AND FUTURE RESEARCH

Interesting directions for future research can also be found in the limitations of the dissertation. In this dissertation, social media were treated as an aggregate concept and empirically addressed by examining content from Twitter, Facebook, blogs, and forums. However, different types of social media differ in their underlying structures and affordances, which can have consequences for the type of users and activities that a certain platform elicits (Skoric & Zhu, 2016). For instance, Twitter is labeled as a microblogging site typically used to share news, opinions, or what is currently happening, while Facebook is a social networking site, mostly used to build or maintain social relationships and stay up to date about peoples' lives and activities (Smith et al., 2012). Some of the social media may be more similar to traditional news media when it comes to news production and consumption, while others may differ more from traditional news media. Therefore, it would be crucial for future research to consider these social media types separately to be better able to draw conclusions about how each type contributes to the media debate.

Media consumption is addressed as a static preference, while real-life media consumption is more dynamic. Media users often integrate multiple media sources in their news routine and do not rely on only one news media type but



rather mix and combine various media types into personal news repertoire (Strömbäck et al., 2018). Future research should take these personal news repertoires into account. This is particularly interesting as the dissertation teaches us the methodological lesson about the importance of taking media exposure in everyday life into account when studying media effects.



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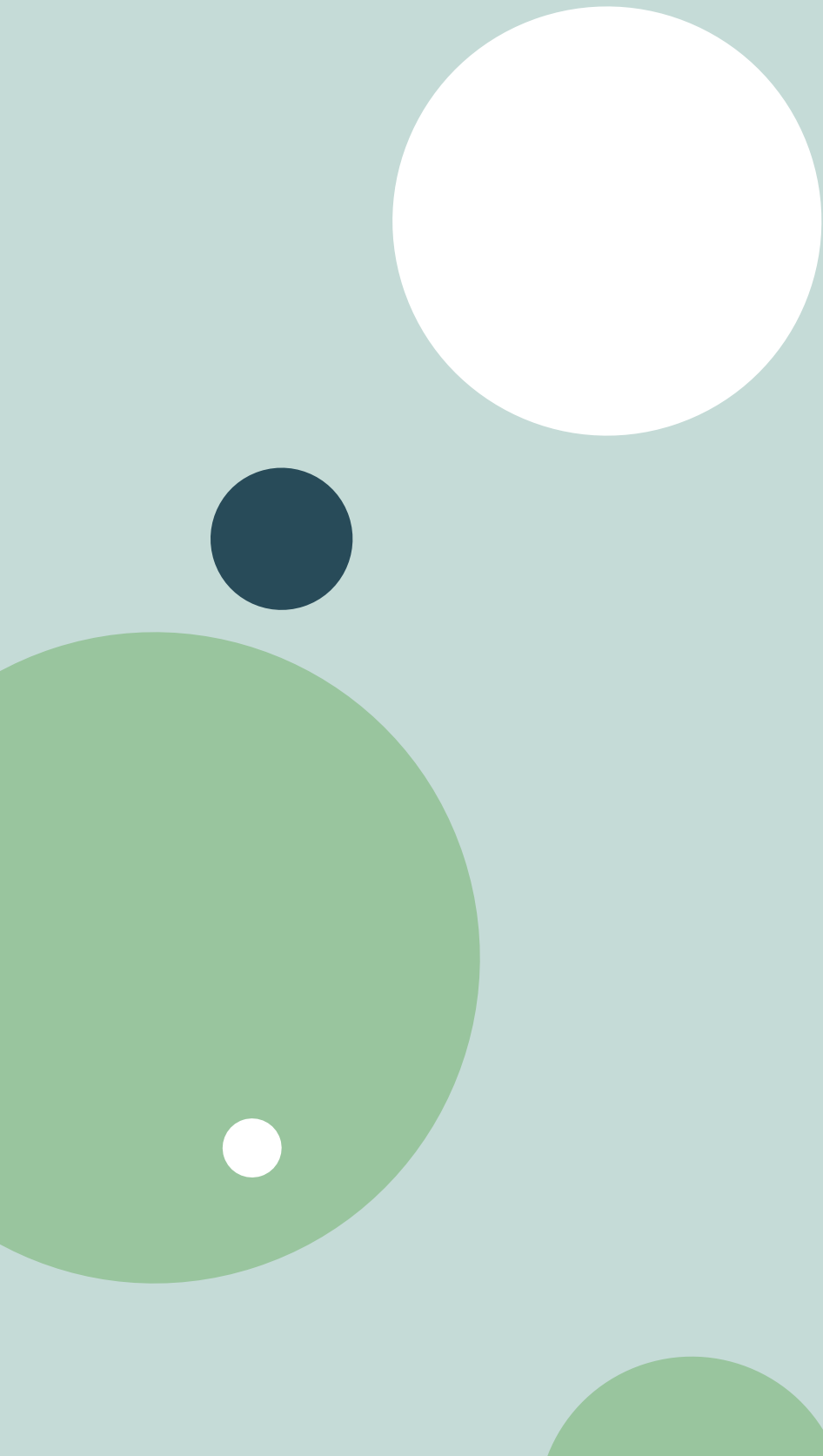
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APPENDICES



APPENDIX A. ORIGINAL STIMULUS MATERIAL IN DUTCH

NEWSPAPER ARTICLES

*CONDITION: INDIVIDUAL AND JUST
(GROUP 1)*

PENSIOENEN

Een individueel pensioenstelsel: rechtvaardig en eerlijk

Een door het ministerie ingestelde commissie stelt dat alleen een individueel pensioenstelsel toekomstbestendig kan zijn. Werkgevers en vakbonden beschouwen een individueel pensioen als rechtvaardig en eerlijk.

Door onze redacteuren

AMSTERDAM. Ons pensioenstelsel gaat op de schop. Ogenscheinlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Een individueel pensioenstelsel, dat is waar een door het ministerie ingestelde commissie voor pleit. Deze commissie buigt zich over de toekomst van het pensioenstelsel en gelooft in een individueel pensioenstelsel. De

gedachte achter een individueel pensioenstelsel: meer keuzevrijheid, flexibiliteit en een persoonlijker pensioen. Daarom is een individueel pensioenstelsel volgens de commissie 'de enige manier om het pensioenstelsel toekomstbestendig te houden'.

Werkgevers en vakbonden vinden een individueel pensioenstelsel rechtvaardig en eerlijk want in een dergelijk stelsel vult ieder een eigen pensioenpotje. Op deze manier bouwt elke individu het pensioen op dat past bij zijn carrière en wensen waarbij iedereen profiteert van zijn eigen inleg.

*CONDITION: COLLECTIVE AND JUST
(GROUP 3)*

PENSIOENEN

Een collectief pensioenstelsel: rechtvaardig en eerlijk

Een door het ministerie ingestelde commissie stelt dat alleen een collectief pensioenstelsel toekomstbestendig kan zijn. Werkgevers en vakbonden beschouwen een collectief pensioen als rechtvaardig en eerlijk.

Door onze redacteuren

AMSTERDAM. Ons pensioenstelsel gaat op de schop. Ogenscheinlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Een collectief pensioenstelsel, dat is waar een door het ministerie ingestelde commissie voor pleit. Deze commissie buigt zich over de toekomst van het pensioenstelsel en gelooft in een collectief pensioenstelsel. De gedachte achter een collectief pensioenstelsel:

solidariteit en het delen van risico's met elkaar. Daarom is een collectief pensioenstelsel volgens de commissie 'de enige manier om het pensioenstelsel toekomstbestendig te houden'.

Werkgevers en vakbonden vinden een collectief pensioenstelsel rechtvaardig en eerlijk want in een dergelijk stelsel draagt iedereen bij aan de collectieve pensioenpot. Op deze manier nemen we gezamenlijk de verantwoordelijkheid voor een fatsoenlijke oude dag waarbij iedereen profiteert van het pensioen dat we samen opbouwen.

*CONDITION: INDIVIDUAL AND UNJUST
(GROUP 2)*

PENSIOENEN

Een individueel pensioenstelsel: onrechtvaardig en oneerlijk

Een door het ministerie ingestelde commissie stelt dat alleen een individueel pensioenstelsel toekomstbestendig kan zijn. Daarentegen beschouwen werkgevers en vakbonden een individueel pensioen als onrechtvaardig en oneerlijk.

Door onze redacteuren

AMSTERDAM. Ons pensioenstelsel gaat op de schop. Ogenscheinlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Een individueel pensioenstelsel, dat is waar een door het ministerie ingestelde commissie voor pleit. Deze commissie buigt zich over de toekomst van het pensioenstelsel en gelooft in een individueel pensioenstelsel. De gedachte achter een individueel

pensioenstelsel: meer keuzevrijheid, flexibiliteit en een persoonlijker pensioen. Daarom is een individueel pensioenstelsel volgens de commissie 'de enige manier om het pensioenstelsel toekomstbestendig te houden'.

Daarentegen vinden werkgevers en vakbonden een individueel pensioenstelsel onrechtvaardig en oneerlijk want in een dergelijk stelsel vult ieder een eigen pensioenpotje. Op deze manier wordt een goed pensioen steeds meer een luxe goed waarbij sommige groepen in de samenleving de dupe zullen zijn.

*CONDITION: COLLECTIVE AND UNJUST
(GROUP 4)*

PENSIOENEN

Een collectief pensioenstelsel: onrechtvaardig en oneerlijk

Een door het ministerie ingestelde commissie stelt dat alleen een collectief pensioenstelsel toekomstbestendig kan zijn. Daarentegen beschouwen werkgevers en vakbonden een collectief pensioen als onrechtvaardig en oneerlijk.

Door onze redacteuren

AMSTERDAM. Ons pensioenstelsel gaat op de schop. Ogenscheinlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Een collectief pensioenstelsel, dat is waar een door het ministerie ingestelde commissie voor pleit. Deze commissie buigt zich over de toekomst van het pensioenstelsel en gelooft in een collectief pensioenstelsel. De gedachte achter een collectief pensioenstelsel:

solidariteit en het delen van risico's met elkaar. Daarom is een collectief pensioenstelsel volgens de commissie 'de enige manier om het pensioenstelsel toekomstbestendig te houden'.

Daarentegen vinden werkgevers en vakbonden een collectief pensioenstelsel onrechtvaardig en oneerlijk want in een dergelijk stelsel moet iedereen verplicht bijdragen aan de collectieve pensioenpot. Op deze manier verdwijnt alles in één pot waarbij sommige groepen in de samenleving onevenredig zullen profiteren.

FACEBOOK POSTS

*CONDITION: INDIVIDUAL AND JUST
(GROUP 5)*

Begrijp Je Pensioen
4 november om 10:05 · G

Ons #pensioenstelsel gaat op de schop. Ogenscheinlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Een individueel pensioenstelsel, dat is waar een door het ministerie ingestelde commissie voor pleit. Deze commissie buigt zich over de toekomst van het pensioenstelsel en gelooft in een individueel pensioenstelsel. De gedachte achter een individueel pensioenstelsel: meer keuzevrijheid, flexibiliteit en een persoonlijker pensioen. Daarom is een individueel pensioenstelsel volgens de commissie 'de enige manier om het pensioenstelsel toekomstbestendig te houden'.

Werkgevers en vakbonden vinden een individueel pensioenstelsel rechtvaardig en eerlijk want in een dergelijk stelsel vult ieder een eigen pensioenpotje. Op deze manier bouwt elke individu het pensioen op dat past bij zijn carrière en wensen waarbij iedereen profiteert van zijn eigen inleg.

BEGRIJPEPENSIOEN.NL
Een individueel pensioenstelsel: rechtvaardig en eerlijk
Werkgevers en vakbonden vinden een individueel pensioen rechtvaardig...

153 37 opmerkingen 30 keer gedeeld

Leuk Opmerking Delen

*CONDITION: INDIVIDUAL AND UNJUST
(GROUP 6)*

Begrijp Je Pensioen
4 november om 10:05 · G

Ons #pensioenstelsel gaat op de schop. Ogenscheinlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Een individueel pensioenstelsel, dat is waar een door het ministerie ingestelde commissie voor pleit. Deze commissie buigt zich over de toekomst van het pensioenstelsel en gelooft in een individueel pensioenstelsel. De gedachte achter een individueel pensioenstelsel: meer keuzevrijheid, flexibiliteit en een persoonlijker pensioen. Daarom is een individueel pensioenstelsel volgens de commissie 'de enige manier om het pensioenstelsel toekomstbestendig te houden'.

Daarentegen vinden werkgevers en vakbonden een individueel pensioenstelsel onrechtvaardig en oneerlijk want in een dergelijk stelsel vult ieder een eigen pensioenpotje. Op deze manier wordt een goed pensioen steeds meer een luxe goed waarbij sommige groepen in de samenleving de dupe zullen zijn.

BEGRIJPEPENSIOEN.NL
Een individueel pensioenstelsel: onrechtvaardig en oneerlijk
Werkgevers en vakbonden vinden een individueel pensioen onrechtvaardig...

153 37 opmerkingen 30 keer gedeeld

Leuk Opmerking Delen

*CONDITION: COLLECTIVE AND JUST
(GROUP 7)*

Begrijp Je Pensioen
4 november om 10:05 · G

Ons #pensioenstelsel gaat op de schop. Ogenscheinlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Een collectief pensioenstelsel, dat is waar een door het ministerie ingestelde commissie voor pleit. Deze commissie buigt zich over de toekomst van het pensioenstelsel en gelooft in een collectief pensioenstelsel. De gedachte achter een collectief pensioenstelsel: solidariteit en het delen van risico's met elkaar. Daarom is een collectief pensioenstelsel volgens de commissie 'de enige manier om het pensioenstelsel toekomstbestendig te houden'.

Werkgevers en vakbonden vinden een collectief pensioenstelsel rechtvaardig en eerlijk want in een dergelijk stelsel draagt iedereen bij aan de collectieve pensioenpot. Op deze manier nemen we gezamenlijk de verantwoordelijkheid voor een fatsoenlijke oude dag waarbij iedereen profiteert van het pensioen dat we samen opbouwen.

BEGRIJPEPENSIOEN.NL
Een collectief pensioenstelsel: rechtvaardig en eerlijk
Werkgevers en vakbonden vinden een collectief pensioen rechtvaardig...

153 37 opmerkingen 30 keer gedeeld

Leuk Opmerking Delen

*CONDITION: COLLECTIVE AND UNJUST
(GROUP 8)*

Begrijp Je Pensioen
4 november om 10:05 · G

Ons #pensioenstelsel gaat op de schop. Ogenscheinlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Een collectief pensioenstelsel, dat is waar een door het ministerie ingestelde commissie voor pleit. Deze commissie buigt zich over de toekomst van het pensioenstelsel en gelooft in een collectief pensioenstelsel. De gedachte achter een collectief pensioenstelsel: solidariteit en het delen van risico's met elkaar. Daarom is een collectief pensioenstelsel volgens de commissie 'de enige manier om het pensioenstelsel toekomstbestendig te houden'.

Daarentegen vinden werkgevers en vakbonden een collectief pensioenstelsel onrechtvaardig en oneerlijk want in een dergelijk stelsel moet iedereen verplicht bijdragen aan de collectieve pensioenpot. Op deze manier verdwijnt alles in één pot waarbij sommige groepen in de samenleving onevenredig zullen profiteren.

BEGRIJPEPENSIOEN.NL
Een collectief pensioenstelsel: onrechtvaardig en oneerlijk
Werkgevers en vakbonden vinden een collectief pensioen onrechtvaardig...

153 37 opmerkingen 30 keer gedeeld

Leuk Opmerking Delen

ONLINE NEWS ARTICLE
CONTROL CONDITION
(GROUP 9)



De toekomst van het pensioenstelsel

03 november 2019 09:20



Een door het ministerie ingestelde commissie buigt zich over de toekomst van ons pensioenstelsel. Recentelijk heeft de voorzitter van de commissie het ministerie verzocht om uitstel van de opleverdatum van dit advies.

Ons pensioenstelsel gaat op de schop. Ogenschijnlijk onverwoestbare pilaren hebben ruim een halve eeuw het stelsel gestut, maar de stijgende levensverwachting en de veranderende arbeidsmarkt zetten druk op ons pensioenstelsel.

Eind vorig jaar heeft het ministerie de commissie Toekomst pensioenstelsel ingesteld. De commissie kreeg de opdracht advies uit te brengen over de hervorming van het pensioenstelsel. De belangrijkste vraag aan de commissie is hoe de financiering van de pensioenen in de toekomst houdbaar kan blijven, rekening houdend met demografische ontwikkelingen en de veranderingen op de arbeidsmarkt.

Het ministerie heeft gevraagd het advies op 1 december 2019 op te leveren. Recentelijk heeft de voorzitter van de commissie het ministerie verzocht om uitstel van de opleverdatum van het advies. De minister heeft besloten de opleverdatum te verschuiven naar 1 maart 2020.

APPENDIX B. STIMULUS MATERIAL TRANSLATED TO ENGLISH

The newspaper articles and Facebook posts were similar in terms of content. The only difference is that the newspaper articles started with a summary lead, while the Facebook posts immediately started with the body of text. We present the translations in the format of the newspaper articles, but the italicized part corresponds directly to the Facebook posts (i.e., the title and body of text).

CONDITION: INDIVIDUAL AND JUST (GROUP 1 AND GROUP 5)

AN INDIVIDUAL PENSION SYSTEM: JUST AND FAIR

A committee established by the Ministry states that only an individual pension system can be future-proof. Employers and trade unions consider an individual pension to be just and fair.

By our editors

AMSTERDAM. *Our pension system is being reformed. Seemingly indestructible pillars have supported the system for more than half a century, but rising life expectancy and the changing labor market are putting pressure on our pension system.*

An individual pension system is what a committee established by the Ministry advocates. This committee looks at the future of the pension system and believes in an individual pension system. The idea behind an individual pension system: more freedom of choice, flexibility, and a more personal pension. Therefore, according to the committee, an individual pension system is "the only way to keep the pension system future-proof".

Employers and trade unions consider an individual pension system to be just and fair because, in such a system, everyone puts money into their own pension pot. In this way, each individual builds a pension that suits his or her career and wishes, in which everyone benefits from their own investment.

CONDITION: INDIVIDUAL AND UNJUST (GROUP 2 AND GROUP 6)***AN INDIVIDUAL PENSION SYSTEM: UNJUST AND UNFAIR***

A committee established by the Ministry states that only an individual pension system can be future-proof. On the other hand, employers and trade unions consider an individual pension to be unjust and unfair.

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On the other hand, employers and trade unions consider an individual pension system to be unjust and unfair because, in such a system, everyone puts money into their own pension pot. In this way, a good pension is increasingly becoming a luxury commodity that will make victims of some groups in society.

CONDITION: COLLECTIVE AND JUST (GROUP 3 AND GROUP 7)***A COLLECTIVE PENSION SYSTEM: JUST AND FAIR***

A committee established by the Ministry states that only a collective pension system can be future-proof. Employers and trade unions consider a collective pension to be just and fair.

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Employers and trade unions consider a collective pension system to be just and fair because, in such a system, everyone contributes to the collective pension scheme. In this way, we jointly take responsibility for a decent old age in which everyone benefits from the pension we build together.

CONDITION: COLLECTIVE AND UNJUST (GROUP 4 AND GROUP 8)***A COLLECTIVE PENSION SYSTEM: UNJUST AND UNFAIR***

A committee established by the Ministry states that only a collective pension system can be future-proof. On the other hand, employers and trade unions consider a collective pension to be unjust and unfair.

By our editors

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On the other hand, employers and trade unions consider a collective pension system to be unjust and unfair because, in such a system, everyone is obliged to contribute to the collective pension scheme. In this way, everything disappears in one pension pot, with some groups in society benefiting disproportionately.

CONTROL CONDITION (GROUP 9)***THE FUTURE OF THE PENSION SYSTEM***

A committee established by the Ministry is examining the future of our pension system. The chairman of the committee recently requested the Ministry to postpone the delivery date of this advice.

Our pension system is being reformed. Seemingly indestructible pillars have supported the system for more than half a century, but rising life expectancy and the changing labor market are putting pressure on our pension system.

At the end of last year, the Ministry established the Future pension system committee. The committee was instructed to advise on reforming the pension system. The main question to the committee is how the financing of pensions can remain sustainable in the future, taking into account demographic developments and changes in the labor market.

The Ministry asked to deliver the advice on December 1, 2019. Recently, the chairman of the committee has requested the Ministry to postpone the delivery date of the advice. The minister has decided to postpone the delivery date to March 1, 2020.

APPENDIX C. ITEMS FOR THE DEPENDENT AND MODERATING VARIABLES

All items described in this appendix are measured on a 7-point scale from strongly disagree to strongly agree.

DEPENDENT VARIABLES

SUPPORT FOR AN INDIVIDUAL PENSION SYSTEM

1. Individual pension saving is a good thing because I want to determine if and how much I save
2. Individual pension saving is a good thing because I do not have to contribute to the pensions of others
3. Individual pension saving is a good thing because I can achieve a better return if I save for my pension myself

SUPPORT FOR A COLLECTIVE PENSION SYSTEM

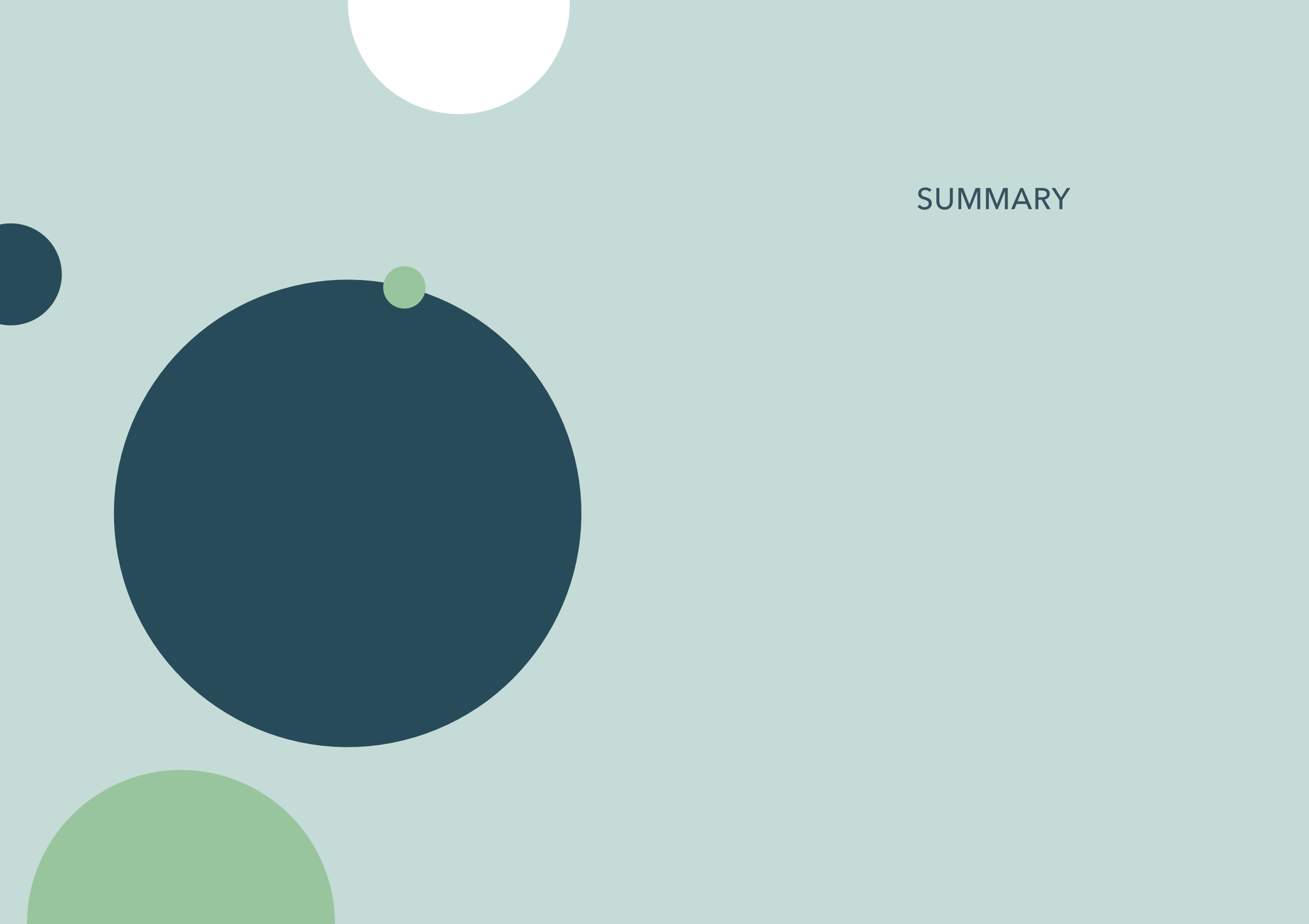
1. Collective pension saving is a good thing because the costs of collective pension saving are lower than that of individual pension saving
2. Collective pension saving is a good thing because I do not know where my life takes me, and then I am protected against financial risks
3. Collective pension saving is a good thing because otherwise, I will be tempted to set aside too little for my old age

MODERATOR

SENSE OF SOLIDARITY

1. I am prepared to contribute to a solidarity-based pension system in which we share the benefits and burdens of the system
2. I am willing to contribute to the pension of people with a lower pension accrual
3. I think it is good that certain groups pay relatively more pension premiums than other groups in society
4. I think it is good that young people contribute to the pension of the elderly
5. I think it is good that healthy workers contribute to the pensions of disabled people
6. I believe that higher-educated people should pay more pension premiums than lower-educated people

SUMMARY



THE FUTURE OF PENSIONS: CONTENT AND CONSEQUENCES OF PENSION REFORMS IN THE MEDIA

Pension reforms have been the subject of discussion in politics and society for years. Politically, pension reforms can be a difficult issue. On the one hand, such reforms require public support, while on the other, they can have adverse effects on (parts of) society, such as for (older) workers who have to work longer when the retirement age is raised. For this reason, it is essential that citizens are well-informed about the need for reforms. In democratic societies, the media take on the role of informing citizens about sociopolitical issues. Following the theory of media dependency, media are particularly important for topics such as pension reforms, as such topics are complex, uncertain, and largely beyond many people's direct experience due to their future orientation. However, the content and consequences of pension reforms in the media have received little scholarly attention so far. In this dissertation, I study the pension reform issue from a communication science perspective, providing an in-depth understanding of the role of traditional and social media in shaping debates and citizens' opinions about sociopolitical issues such as pension reforms.

In the first empirical section of the dissertation, I examine the *content* of traditional and social media messages about pension reforms. Chapter 1 focuses on newspaper articles and social media messages published between 2009 and 2016 about the retirement age increase. By employing an automated content analysis of these media messages, I investigate the most prominent subissues in the Dutch news about this pension reform. The chapter shows similarities and differences in the visibility of subissues across the two media types. While a prominent subissue in traditional news media deals with political negotiations about the issue, reflecting journalistic norms and routines (i.e., the reliance on official sources, the dominance of conflict), the subissue of practical and technical arrangements of the pension system appears most often on social media. Both traditional and social media have in common that (older) workers' employability and capability of lifelong working is the second most prominent subissue in the media content about raising the retirement age. Using time series analysis, I expand in Chapter 1 on the intermedia agenda-setting theory in the social media age. The original agenda-setting theory states that news media can determine the public agenda by making some issues more salient than others. Intermedia agenda setting deals, then, with the transfer of the issue agenda from one

medium to another. I show that while social media have some power to set the traditional news media agenda on the socially contested issue of pension reform, traditional news media are (still) more powerful in steering the agenda.

In the second chapter, I examine in more detail how traditional and social media present the pension reform issue by studying issue-specific frames. More specifically, in Chapter 2, I assess whether there are systematic differences between how journalists frame the pension reform issue in traditional news media and how the issue is framed on social media. The chapter identifies seven diagnostic (or problem) frames and five prognostic (or solution) frames. A manual content analysis demonstrates that both traditional and social media draw more attention to problems than (potential) solutions when covering the complex and contentious issue of pension reform. The results of this chapter also illustrate differences in the presence of the frames across the two media types. Most importantly, I show that compared to social media content, traditional news media content contains more conflict-related frames (e.g., political disagreement, generational conflict, inequality between groups), while social media content contains more frame diversity in solution perspectives (e.g., innovating the labor market, fostering individual responsibility) compared to traditional news media content.

The next empirical section focuses on the *consequences* that media messages about pension reforms have on citizens' attitudes and behavioral intentions. Chapter 3 addresses the effects of media content, or more precisely, the effects of (news) frames on citizens' attitudes toward (reforming) the pension system. The relevant reform question under study is whether a sustainable pension system should be based on collective or individual responsibility. In a preregistered survey-embedded experiment, I find that (news) frames about pension reforms presented via traditional and social media affect citizens' pension system preferences. More specifically, exposure to a news frame stressing either a pension system based on collective responsibility or individual responsibility as future proof leads to a higher preference for the respective type of pension system. However, this effect is only positive if the particular pension system is also framed as just, while the effect is negative if the respective pension system is framed as unjust. It seems, then, that the valenced frame of justice plays a more crucial role than the more substantive frame of responsibility. In particular, characterized by its inherently negative

connotation, people are most strongly impacted by the unjust frame, which provides evidence for the negativity effect: People are more strongly impacted by negative information than by positive information. In addition, educational level emerges as a moderating variable of framing effects in the context of the pension issue, with lower-educated people being more strongly affected by the responsibility frame. The strength of framing effects did not differ among citizens of different ages or levels of solidarity, nor between citizens who received the frames presented in their preferred news medium and the ones exposed to a less preferred mode of news use.

Chapter 4 provides insights into the inherent effects of media type on citizens' responses to news, specifically distinguishing between traditional and social media. Relying on a survey-embedded experiment, the exploratory results of Chapter 4 show that people exposed to news presented on social media are more concerned about the issue of pension reform and more likely to engage in interpersonal discussion as well as information seeking about the issue than people exposed to traditional news media. However, this effect of media type only holds for exposure to traditional and social media in everyday life (i.e., the self-report measure in the survey part), and not for exposure to traditional and social media in a forced context (i.e., stimulus in the experimental part).

Taken together, the studies presented in this dissertation confirm and add to classical communication science theories—most importantly, (intermedia) agenda setting and framing—as well as to theories and literature in the fields of journalism, the welfare state, and (social) policy. The empirical evidence presented in this dissertation shows that traditional and social media are important sources of information that filter and shape a relatively diverse reflection of the pension reform issue. Both media types influence each other in the presentation of the issue, with traditional news media taking the lead, and most importantly, traditional and social media affect how citizens think of the issue. Hereby, the dissertation provides crucial evidence of the importance of the role that media take in today's debate on the future of pensions.



SAMENVATTING

DE TOEKOMST VAN PENSIOENEN: INHOUD EN GEVOLGEN VAN PENSIOENHERVORMINGEN IN DE MEDIA

Pensioenhervormingen vormen al jaren onderwerp van discussie in de politiek en de samenleving. Pensioenhervormingen kunnen in politiek opzicht gezien worden als complexe vraagstukken. Dergelijke hervormingen vereisen namelijk maatschappelijk draagvlak terwijl ze tegelijkertijd nadelige effecten hebben voor (delen van) de bevolking, zoals voor (oudere) werknemers die bij een verhoging van de pensioenleeftijd langer moeten doorwerken. Het is daarom van belang dat burgers goed geïnformeerd zijn over de noodzaak van hervormingen. In democratische samenlevingen nemen de media de rol op zich om burgers te informeren over sociaal-politieke kwesties. Volgens de *media dependency theory* zijn media in het bijzonder belangrijk bij thema's zoals pensioenhervormingen, aangezien dergelijke onderwerpen complex zijn en vanwege hun toekomstgerichtheid een grote mate van onzekerheid met zich meebrengen. Er is tot nu toe echter weinig wetenschappelijke aandacht voor de inhoud en gevolgen van mediaberichtgeving over pensioenhervormingen. In dit proefschrift onderzoek ik het sociaal-politieke vraagstuk van pensioenhervormingen vanuit een communicatiewetenschappelijk perspectief. Het doel is om inzicht te geven in de rol die traditionele en sociale media spelen in het vormgeven van het debat over pensioenhervormingen, en het beïnvloeden van de houding van de burgers ten aanzien van dit onderwerp.

In het eerste empirische deel van het proefschrift onderzoek ik de *inhoud* van berichtgeving over pensioenhervormingen van zowel traditionele nieuwsmedia als sociale media. Hoofdstuk 1 focust zich op krantenartikelen en sociale mediaberichten die tussen 2009 en 2016 zijn verschenen over de verhoging van de pensioenleeftijd. Aan de hand van een automatische inhoudsanalyse van deze mediaberichten, bekijk ik welke onderwerpen het meest prominent zijn binnen het Nederlandse nieuws over deze pensioenhervorming. Hoofdstuk 1 laat zien dat er overeenkomsten en verschillen zijn tussen beide mediatypen in de zichtbaarheid van onderwerpen. De onderhandelingen tussen de overheid en vakbonden over de pensioenhervormingen vormen het meest prominente onderwerp in traditionele nieuwsmedia. De nadruk op dit onderwerp weerspiegelt enkele journalistieke normen en routines zoals de afhankelijkheid van bronnen die nauw verbonden zijn aan de overheid (of andere autoriteiten) en het belang

van conflict als nieuwswaarde. Daarentegen zijn de praktische en technische regelingen van het pensioenstelsel het meest besproken onderwerp op sociale media. Beide mediatypen hebben gemeen dat de inzetbaarheid van (oudere) werknemers en het vermogen om een leven lang te werken het op één na meest prominente onderwerp is in de berichten over de verhoging van de pensioenleeftijd. Naast het verkrijgen van inzicht in de inhoud van mediaberichtgeving over pensioenhervormingen, richt ik mij in Hoofdstuk 1, door middel van een tijdreeksanalyse, op de *intermedia agenda-setting* dynamiek tussen traditionele en sociale media. De originele *agenda-setting theory* stelt dat nieuwsmedia de publieke agenda kunnen bepalen door sommige onderwerpen meer aandacht te geven dan anderen. Hierop voortbordurend zijn media volgens de *intermedia agenda-setting theory* ook in staat om elkaars agenda onderling te beïnvloeden. Het gaat specifiek over de overdracht van de onderwerpen op de agenda van het ene medium naar het andere medium. Hoewel sociale media de traditionele nieuwsmedia agenda van pensioenhervormingen in zekere mate kunnen sturen, toon ik in Hoofdstuk 1 aan dat traditionele nieuwsmedia (nog steeds) bepalender zijn voor de onderwerpen die op sociale media aan bod komen.

In Hoofdstuk 2 bestudeer ik nieuwsframes om nader te onderzoeken op welke manier traditionele en sociale media het onderwerp van pensioenhervorming presenteren. Meer specifiek stel ik in Hoofdstuk 2 de vraag of er systematische verschillen zijn in de manier waarop journalisten de verhoging van de pensioenleeftijd portretteren in traditionele nieuwsmedia en hoe dit onderwerp op sociale media wordt gepresenteerd. Ik identificeer zeven diagnostische frames (probleemdefinities) en vijf prognostische frames (oplossingsdefinities) in de onderzochte mediaberichten. Een handmatige inhoudsanalyse laat zien dat zowel traditionele als sociale media meer nadruk leggen op problemen dan op (mogelijke) oplossingen als het gaat om het complexe en omstreden onderwerp van pensioenhervorming. De resultaten van dit hoofdstuk illustreren ook verschillen in de aanwezigheid van de nieuwsframes tussen de twee mediatypen. Een belangrijk verschil is dat traditionele nieuwsmedia-inhoud meer conflictgerelateerde frames bevat dan sociale media-inhoud. Voorbeelden van conflictgerelateerde frames die naar voren kwamen zijn politieke onenigheid, generatieconflict en ongelijkheid tussen groepen. Een ander verschil is dat sociale media-inhoud meer diversiteit biedt in oplossingsperspectieven in vergelijking

met traditionele nieuwsmedia-inhoud. Voorbeelden van dergelijke oplossingsperspectieven (ofwel frames) zijn het innoveren van de arbeidsmarkt en het bevorderen van individuele verantwoordelijkheid.

In het tweede empirische deel staat de vraag centraal welke *gevolgen* mediaberichtgeving over pensioenhervormingen heeft op de houding en gedragsintenties van burgers. In Hoofdstuk 3 toets ik het effect van mediaboodschappen, en nieuwsframes in het bijzonder, op de houding van burgers ten aanzien van (een mogelijke hervorming van) het pensioenstelsel. Dit hoofdstuk richt zich op het vraagstuk of een houdbaar pensioenstelsel gebaseerd moet zijn op collectieve of individuele verantwoordelijkheid. Een gepreregistreerd online survey-experiment laat zien dat nieuwsframes over pensioenhervormingen in traditionele en sociale mediaberichten van invloed zijn op de voorkeur van burgers ten aanzien van het pensioenstelsel. Concreet betekent dit dat blootstelling aan een nieuwsframe waarin de nadruk wordt gelegd op een toekomstbestendig pensioenstelsel op basis van ofwel collectieve verantwoordelijkheid ofwel individuele verantwoordelijkheid, leidt tot een hogere voorkeur voor het betreffende type pensioenstelsel. Echter, dit effect van het nieuwsframe is alleen positief als het betreffende type pensioenstelsel ook als rechtvaardig wordt geframed in het nieuws. Genoemd effect is negatief als het betreffende type pensioenstelsel als onrechtvaardig wordt geframed. Het lijkt er dus op dat het meer emotioneel geladen frame van rechtvaardigheid een belangrijkere rol speelt dan het meer inhoudelijke frame van verantwoordelijkheid. In het bijzonder worden mensen het sterkst beïnvloed door het frame van onrechtvaardigheid, dat gekenmerkt wordt door een inherent negatieve connotatie. Dit resultaat levert bewijs voor het negativiteitseffect: mensen worden sterker beïnvloed door negatieve informatie dan door positieve informatie. Dit hoofdstuk onderzoekt vervolgens ook mogelijke modererende effecten. Opleidingsniveau komt naar voren als een modererende variabele van de effecten van nieuwsframes in de context van pensioenhervorming, waarbij deelnemers met een lager opleidingsniveau sterker worden beïnvloed door het frame van verantwoordelijkheid dan deelnemers met een hoger opleidingsniveau. De resultaten wijzen verder uit dat de sterkte van de effecten van nieuwsframes niet verschilt tussen burgers van verschillende leeftijden of burgers die verschillende niveaus van solidariteit ervaren,

noch tussen burgers die worden blootgesteld aan frames via hun favoriete nieuwsmedium en degenen die dat worden via hun minder favoriete medium.

Hoofdstuk 4 geeft inzicht in de inherente effecten van het mediatype op de reacties van burgers op het nieuws, waarbij specifiek onderscheid wordt gemaakt tussen traditionele en sociale media. Meer specifiek onderzoek ik, aan de hand van een online survey-experiment, of traditionele en sociale media verschillen in de mate waarin ze cognitieve en gedragsreacties uitlokken. De resultaten tonen aan dat mensen die worden blootgesteld aan nieuws op sociale media zich meer zorgen maken over het onderwerp van pensioenhervorming, en eerder met andere mensen willen praten over het onderwerp alsook op zoek willen gaan naar meer informatie hierover dan mensen die worden blootgesteld aan nieuws via traditionele nieuwsmedia. Echter, dit effect van het mediatype is alleen gevonden voor de blootstelling aan traditionele en sociale media in het dagelijkse leven (zelfrapportage in de vragenlijst), en niet voor de gemanipuleerde blootstelling aan traditionele en sociale media in de geforceerde setting (stimulus in het experiment).

Dit proefschrift bevestigt de geldigheid van klassieke communicatiewetenschappelijke theorieën—met name (*intermedia*) *agenda setting* en *framing*—en draagt bij aan theorieën en literatuur op het gebied van journalistiek, de verzorgingsstaat en (sociaal) beleid. De empirische resultaten laten zien dat traditionele en sociale media belangrijke informatiebronnen zijn die een relatief divers beeld schetsen van het onderwerp pensioenhervorming. Beide mediatypen beïnvloeden elkaar in de presentatie van het onderwerp, waarbij traditionele nieuwsmedia het voortouw nemen. De belangrijkste bevinding is dat traditionele en sociale media invloed uitoefenen op hoe burgers over het onderwerp denken. Hiermee levert het proefschrift cruciaal bewijs voor het belang van de rol die de media spelen in het huidige maatschappelijke debat over de toekomst van pensioenen.



AUTHOR CONTRIBUTIONS

AUTHORS' INITIALS

L. van den Heijkant	LH
M. van Selm	MS
I. Hellsten	IH
R. Vliegthart	RV

CHAPTER 1.

Intermedia agenda-setting dynamics between traditional and social media in a pension reform debate

	Substantial contribution	Limited contribution
Conceptualization	LH	MS, RV, IH
Methodology	LH	MS, RV, IH
Data collection	LH	MS, RV, IH
Analysis and interpretation	LH	RV
Writing (draft preparation)	LH	
Writing (review and editing)	LH, MS, RV, IH	
Visualization	LH	

CHAPTER 2.

Framing pension reform in the news: Traditional versus social media

	Substantial contribution	Limited contribution
Conceptualization	LH	MS, RV, IH
Methodology	LH	MS, RV, IH
Data collection	LH	
Analysis and interpretation	LH	RV
Writing (draft preparation)	LH	
Writing (review and editing)	LH, MS, RV, IH	
Visualization	LH	

CHAPTER 3.

Justice matters: News framing effects on opinions about pension reform

	Substantial contribution	Limited contribution
Conceptualization	LH	MS, RV, IH
Methodology	LH	MS, RV, IH
Data collection	LH	
Analysis and interpretation	LH	
Writing (draft preparation)	LH	
Writing (review and editing)	LH, MS, RV, IH	
Visualization	LH	
Funding acquisition*	RV	

CHAPTER 4.

Differential responses to traditional versus social media: Examining self-reported and manipulated media exposure measures

	Substantial contribution	Limited contribution
Conceptualization	LH	MS, RV, IH
Methodology	LH	MS, RV, IH
Data collection	LH	
Analysis and interpretation	LH	
Writing (draft preparation)	LH	
Writing (review and editing)	LH, MS, RV, IH	
Visualization	LH	
Funding acquisition*	RV	

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