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### The future of pensions

*Content and consequences of pension reforms in the media*

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# 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.

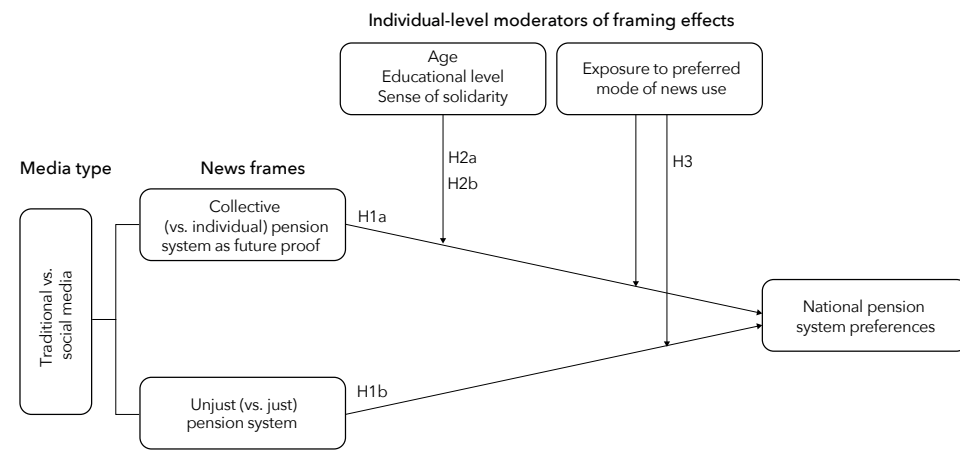
#### PREFERRED MODE OF NEWS USE

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).<sup>1</sup>

<sup>1</sup> Our preregistration can be found following this link: [https://osf.io/r4ead/?view\\_only=fb55654be2f64284a56505fd44ba1777](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.<sup>2</sup> 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

<sup>2</sup> 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.<sup>3</sup> 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.*<sup>3</sup> 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

<sup>3</sup> 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 H1a<sup>4</sup>: 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.<sup>4</sup>

<sup>4</sup> 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<sub>i</sub>). 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<sub>i</sub> and H2b<sub>i</sub>.

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> <sup>2</sup> = .114			<i>R</i> <sup>2</sup> = .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<sub>ii</sub>), 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<sub>ii</sub>). 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<sub>ii</sub>: 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.

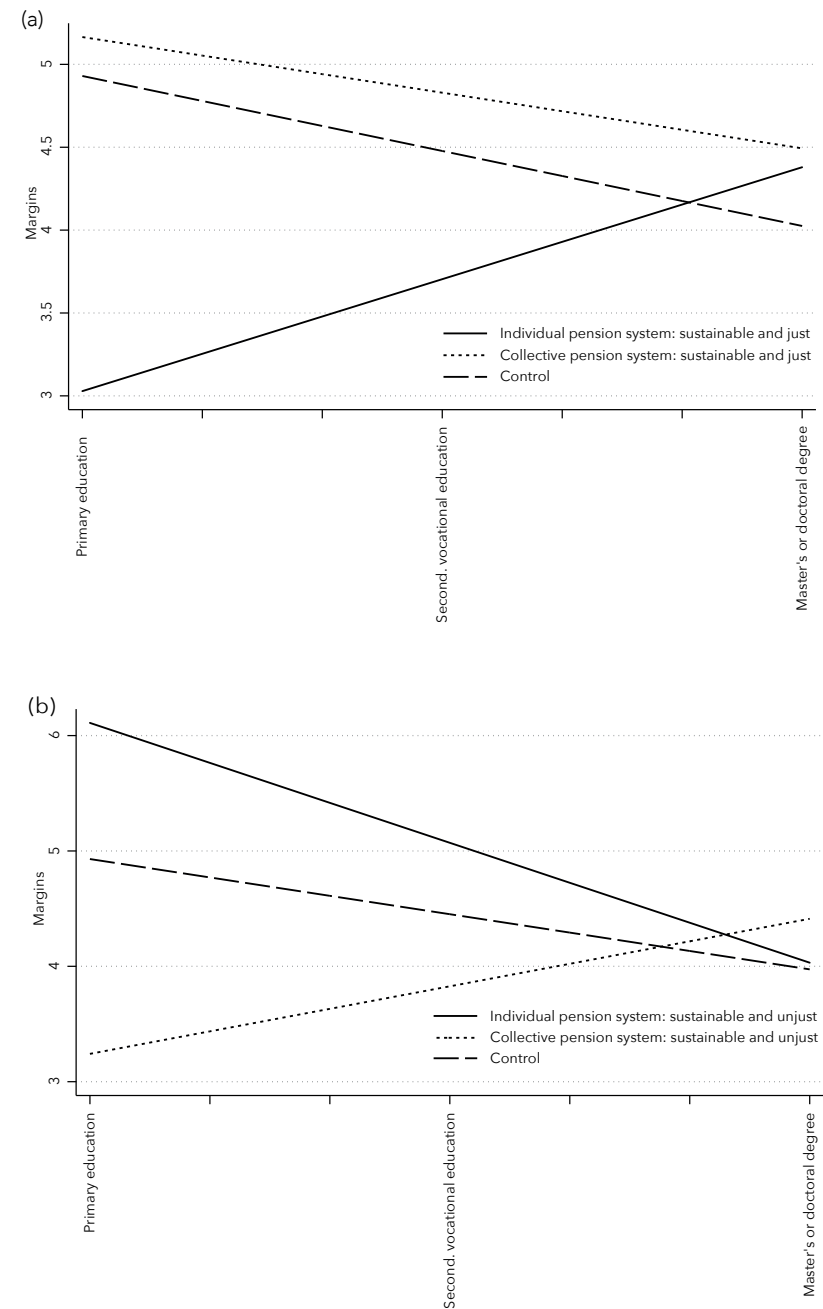
Given that we already compared framing a collective pension system as future proof to framing an individual pension system as future proof, and the dependent variable *preference for an individual national pension system* essentially the same is as the dependent variable *preference for a collective national pension system*, but then with reversed answers, we do not need separate analyses to test H2b<sub>ii</sub>. Based on the results presented above, we have to reject H2b<sub>ii</sub> 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
	<i>R</i> <sup>2</sup> = .130			<i>R</i> <sup>2</sup> = .164		
	<i>F</i> (9,351) = 5.84			<i>F</i> (9,364) = 7.93		
	<i>p</i> < .001			<i>p</i> < .001		
	<i>n</i> = 361			<i>n</i> = 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<sub>III</sub>). 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<sub>III</sub>). 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<sub>III</sub> and H2b<sub>III</sub>.

**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> <sup>2</sup> = .306			<i>R</i> <sup>2</sup> = .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> <sup>2</sup> = .155			<i>R</i> <sup>2</sup> = .191			<i>R</i> <sup>2</sup> = .214			<i>R</i> <sup>2</sup> = .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.