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Using social norms to activate pension plan members: insights from practice

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Abstract

Activating pension plan members to think about their retirement, and to take action when needed, is a challenge that many pension funds and financial services providers from around the world are familiar with. Behavioral finance and marketing research have been recognized as valuable sources for ensuring more effective communication in activating and engaging people. One of the most famous behavioral marketing principles is the use of 'social proof', also referred to as 'social norms'. Social norms have been shown in many instances and across various industries to direct a person's behavior in the desired direction. However, contrary effects are also not rare. Therefore, before assuming that social norms can easily be applied in pension communication, it is important to first establish whether social norms are effective in the pension sector. Additionally, although social norms can be an efficient tool, with a small investment (change of a few words or pictures) leading to big increases in conversion, the application is subtle and should be done correctly. This paper first provides an overview of why social norms influence behavior in general, then discusses four studies in the pension sector in which social norms are applied, and finally develops a list of dos and don'ts when applying social norms.

Samenvatting

Voor veel pensioenfondsen en andere financiële instellingen vormt het een grote uitdaging: deelnemers of klanten zo ver te krijgen dat ze over hun pensioen nadenken en tot actie overgaan wanneer dat nodig of voordelig is.

De *behavioral finance*– en *behavioral marketing*-theorieën staan erom bekend dat ze waardevolle inzichten bieden om de effectiviteit van communicatie te vergroten. Een van de meest bekende principes uit de *behavioral marketing*-theorie is het gebruik van *social proof*, ook wel bekend als *social norms*.

Social norms, dus sociale normen, houden in dat men informatie biedt aan consumenten over wat anderen (gelijken oftewel *peers*) doen of goed vinden om te doen (normen), om zo een verandering teweeg te brengen in het gedrag van de consument.

Het inzetten van sociale normen om het gedrag van consumenten in een positieve richting te sturen is in verschillende situaties en sectoren effectief gebleken. Maar ook tegenovergestelde effecten waarbij consumenten gewenst gedrag juist minder laten zien komen voor. Dit betekent dat we in de pensioensector er niet vanuit mogen gaan dat het inzetten van sociale normen deelnemers altijd effectief activeert. Alhoewel sociale normen een efficiënte manier kunnen zijn (slechts het aanpassen van enkele woorden of afbeeldingen) om conversie op een campagne te verhogen, is de toepassing van sociale normen vaak subtiel.

In dit paper lichten we eerst toe waarom sociale normen gedrag beïnvloeden en waarom soms ook niet. Dan bespreken we vier studies in de pensioensector waarin sociale normen werden toegepast. We sluiten af met een lijst van do's en don'ts met betrekking tot het toepassen van sociale normen.

1. Introduction

"social norms" or "peer influences", "neighborhood effects", "conformity", "imitation", "contagion", "epidemics", "bandwagons", "herd behavior", "social interactions", or "interdependent preferences". (Manski, 1993).

Applying 'social norms', that is, providing information on what other people, such as peers, do or approve of doing, to evoke changes in the assessments and subsequent behavior of individuals across a range of contexts, can take many different forms. There are several mechanisms underlying the effect of social norms on behavior.

Applying social norms means, for example, stating how many, or what percentage of, other similar people have shown a certain behavior, have bought something, or have made a specific choice. A company can also show what other people think of a certain product, service or choice by presenting 'testimonials', short statements in which a typical consumer expresses his or her opinion about the product, service or choice. Many companies use reviews (star ratings, grades, emoticons, or personal opinions) of other consumers to show the value of their product or service.

We distinguish between two kinds of social norms, namely descriptive and injunctive norms. *Descriptive norms* are typical patterns of behavior, generally accompanied by the expectation that people will behave according to the pattern. *Injunctive norms*, on the other hand, are prescriptive rules specifying behavior that persons ought (or ought not) to engage in. Such norms are usually informal, emerging from and operating through everyday social interaction, rather than enforced by a criminal justice system or other formal authority.

Research in many domains, including the financial decision-making domain, has shown that providing individuals with information about what other people do or approve of influences their decision-making to become aligned with what these other people do. However, there is also research that shows contrary effects, where people do not align their behavior with that of others but instead choose differently. In this paper, we review previous research and provide an overview of how and when social norms work and when they fail to work or even backfire. We complement this review with results from several social norm studies that we have conducted in the pension industry. Interestingly, the limited set of studies on social norms in the pensions context shows mixed results: while some confirm that social norms can increase an individual's propensity to contribute (e.g. Duflo and Saez, 2002), others find no effect (e.g. Bauer, Eberhardt & Smeets, 2017), or even an adverse effect (e.g. Beshaers,

Laibson, Madrian & Milkman, 2015). This suggests that results from other domains do not necessarily apply to the pension sector, thus calling for additional research. It is important to remember that retirement planning differs from other financial decisions in terms of complexity, the long-term horizon (and hence a lack of assurance of the adequacy of certain choices), and the degree of uncertainty. After reviewing the literature, we present the results of four studies that we have conducted at APG, PFZW, and Maastricht University. We conclude by presenting a list of five dos and don'ts when it comes to applying social norms.

2. Why do people do what others do?

Providing information about others (i.e. peers) influences behavior positively (towards the promoted goal) for several reasons: conformity, social learning, and social utility.

2.1 Conformity

First of all, people want to conform with others and, thus, to fit in. In social psychology, this concept is called normative conformity, or the normative pathway to changed behavior: conforming to the positive expectations of others in order to be liked and accepted by others (Stallen & Sanfey, 2015). Individuals strive for the *goal of affiliation* (Cialdini & Goldstein, 2004). By converging to a social norm, subjects not only feel affiliated with a particular group, but they can also use their behavior to signal affiliation with this group. The extent to which one identifies with a group is a measure of social identification (Abrams & Hogg, 1990).

Conformity can be achieved because people want to be the same as others, or because they experience anxiety or conflict when they are not the same as, or act differently from, others. The underlying value awarded to the product or service that one is evaluating is not necessarily affected. This means that individuals choose, decide, or behave the same as others, not because they believe that the choice, decision, or behavior is the better or best one, but because others do it as well, and this gives them a feeling of affiliation, belonging, and identification with the others.

2.2 Social learning

Studies show that people often perceive a product or service that has been selected by their peers as good; they learn from the choice of their peers (social learning) (Bursztyn et al., 2014). Knowing that their peers have chosen to invest in a particular asset made subjects update their beliefs about the asset in a positive sense, and they were therefore more likely to buy the asset (Bursztyn et al., 2014). The *perceived* value of the choice, decision, or behavior is in this case increased because others choose, act, or decide the same. This relates to the *goal of accuracy*: *a person wants to make an accurate decision*. The goal of accuracy is driving to change behavior towards the norm (Cialdini & Goldstein, 2004). When it is not clear what the optimal decision is, subjects may look to the behavior of others. If many, or particularly knowledgeable, others are doing it, it must be better and worth attempting. Moreover, source credibility, consisting primarily of expertise and trust scores of a source (Tormala, Briñol, & Petty, 2006), in this case a reference group, has consistently been shown to have a positive effect on persuasion (e.g. Petty, Briñol, & Tormala, 2002; Pornpitakpan,

2004). This is achieved by increasing the perceived validity of information (e.g. Fragale & Heath, 2004; Kaufman, Stasson, & Hart, 1999), which in turn affects the confidence in thoughts derived from this information (Tormala et al., 2006), ultimately affecting the level of persuasion.

2.3 Social utility

People may also derive utility from owning or using the same good or service as their peers, thereby keeping up with their peers or having the possibility of joint consumption (*social utility*) (Bursztyn et al. 2014). Cooper and Rege (2011) call this the 'social interaction effect': a person's utility from an action is enhanced by others taking the same action. Lahno and Serra-Garcia (2015) also show in an experimental study that individuals derive social utility from getting the same outcome as their peers (even when these peers are unknown to them). This social utility makes them imitate their peers. Social utility can derive from not envying that their peer has more, but also from not feeling guilty because the peer has less. The value one receives from choosing, deciding, or acting the same as others is actually increased because others choose, decide, or act the same.

3. When do social norms work?

Empirical evidence confirms that social norms are effective in a variety of settings. More specifically, social norms have been shown to:

- reduce littering (e.g. Robert B. Cialdini, Reno, & Kallgren, 1990; Schultz, 1999)
- reduce energy consumption (e.g. Allcott, 2011)
- reduce binge drinking (e.g. Campo & Cameron, 2006; Perkins, 2002; Ridout & Campbell, 2014)
- increase recycling (e.g. Thomas & Sharp, 2013)
- increase voting (e.g. Gerber & Rogers, 2009)

In the financial context, which is what we are interested in, there have been several studies that successfully found positive effects of social norms or peer information. Bougheas, Nieboer & Sefton (2013) found that giving consumers the possibility to consult each other on a risk-taking choice task does not influence risk-taking compared to consumers who make the decision on their own. However, they did find that consultation among each other decreases the variation within groups; peer information does have an effect on choice. Lahno and Serra-Garcia (2012) showed that in binary lottery choices, subjects imitate their predecessors who were given the exact same choices. This effect holds even if the predecessors did not actively choose themselves but received a randomly assigned lottery. Peers were anonymous in this case. Bursztyn et al. (2014) also showed that knowing that peers invest in an asset increases the willingness of subjects to invest as well from 42% to 71% in the situation where subjects knew that the peer wanted the asset but did not get it (the social learning effect), and to 93% in the situation where subjects knew that the peer wanted and also received the asset (the social utility effect). In this case, peers were known by the subjects. Individuals are found to learn about their economic decisions through interactions with each other (Duflo & Saez, 2002; Sorensen, 2006; Beshears, Laibson, Madrian & Milkman, 2015). Duflo and Saez (2002) used real-life data from a university to analyze the participation rate in retirement savings per department and in subgroups of the department, and found that the departmental participation rate was positively correlated with an individual's propensity to contribute.

4. When do social norms not work?

While there are many studies that document positive effects of social norms, there are also studies that find no effects or even negative effects, also known as *oppositional* or *boomerang* effects.

One study that did not find an effect for social norms in the context of retirement saving is that by Bauer, Eberhardt and Smeets (2017). They found that social norms are not effective in motivating pension plan participants to react to a mailing. One possible explanation is that their norm intervention was rather weak in terms of reducing uncertainty. Their manipulation stated that "people in the Netherlands *think* that they will save enough/too little to retain their current level of consumption in retirement". Not only did they refer to a general group ("people in the Netherlands"), but the statement was not very specific or behavioral and may therefore not have been perceived as a desirable social norm.

ING reported results from a social norm intervention with people with an ING savings account. The bank found that the social norm led to an increase of 26% in clicking behavior but did not result in additional saving (Fleming & van Garderen, 2018). More specifically, it sent an email to ING customers living in neighborhoods that are very homogeneous in terms of age and income. These customers, who save significantly less than their peer group, received either the social norm message or the control message, along with a short mail about automatic saving. The social norm message stated: "You have a significantly smaller financial buffer than most other ING customers in your area". The landing page was visited 26% more often (from 2.7% in the control group to 3.4% in the social norm intervention). However, the social norm intervention did not affect saving. Unfortunately, the information provided by ING does not enable drawing conclusions about the underlying reasons for the ineffectiveness of the social norm intervention. The studies that we will present next attributed the ineffectiveness of social norms to unattainable goals and social disutility.

4.1 Unattainable goals

Beshears et al. (2015) found that fewer respondents enroll in a retirement savings plan when confronted with peer information that shows the percentage of peers who are enrolled. Enrollments in a 401k plan to contribute 6% of their wage decreased from 9% (no peer information) to 6.3% (peer information based on age). They found that this effect only applies for low-income workers (with less than median salary of the local workforce) as it is possibly more difficult for those individuals to save

money. They might become discouraged by peer information which shows that their colleagues can and do save more. The sample that Beshears et al. (2015) used included an overrepresentation of low-wage workers. Furthermore, in a second sample, where individuals already contributing to their retirement savings plan were stimulated by peer information to increase their contribution to 6%, Beshears et al. (2015) found a difference between workers with a lower contribution rate (<= 2%) and those with a higher contribution rate. The ones with the higher baseline of contribution were influenced more by the peer information. The authors posit that this effect might occur because the goal that needs to be achieved is smaller when the contribution baseline is already higher. The information that peers did achieve this goal of 6% might make individuals with low contribution rates perform poorly. Goals that are difficult to achieve, but that are achieved by many peers, might demotivate.

4.2 Social disutility

Frydman (2015) found that peer information can also affect utility in a negative way. She found that, when peer information is present, subjects focus less on the absolute returns in their investment gains and more on their relative returns compared to peers. Peers were anonymous in her research. Subjects experienced utility decreases when they saw that a peer's net assets increased more (or decreased less) compared to their own net assets. The change in utility from changes in absolute net assets was bigger than the change in utility from relative net assets, but the comparison could provide a sense of disutility. Individuals experience disutility when they have more or less than others, even if the absolute result is more valuable than the result they would have without peer information.

4.3 Boomerang effects

When an individual already performs better than his or her peers, social norms can lead such an individual to behave in the opposite direction of the desired behavior. For instance, in energy conservation, an intervention where information was shared about neighbors' energy consumption levels led those residents with lower-than-average energy consumption to start consuming *more* energy after the intervention (Schultz, Nolan, Cialdini, Goldstein, & Griskevicius, 2007). This oppositional effect has been termed the boomerang effect. When such effects are anticipated, often as a result of showing descriptive norms, they can be mitigated by supplementing a descriptive norm comparison (a specific person's performance relative to average peer behavior) with an injunctive norm. This injunctive norm could, for instance, be in the form of a positive emoticon for those persons who already perform above the norm

and a negative emoticon for those who perform below the norm. This demonstrates that determining which peer information to use for social comparison is vital to any intervention.

4.4 Need for uniqueness

Besides subtleties in the application of social norms, personality traits also influence the extent to which social norms are effective. In some cases, individuals may not want to fit in with others, as they value being unique and exhibiting something special, such as a limited edition product. This is often the case in the luxury goods sector. Some people experience a stronger need for uniqueness than others, and the need for uniqueness can also be situational. The *need for uniqueness* is defined as the need for people to feel different and to distinguish themselves from others.

Simonson and Nowlis (2000) found that individuals with a 'stronger need for uniqueness are less prone to normative influence when they must justify their choices' (Simonson & Nowlis, 2000). For such individuals, mentioning that others behave in a certain way might thus induce the opposite effect.

4.5 Susceptibility to interpersonal influence

McGuire (1968) provides an excellent overview of early theoretical and practical work demonstrating that the level of sensitivity to social norm influence can be different from one person to the next. As a matter of fact, individuals can differ in their susceptibility to *informational* influence, as well as their susceptibility to *normative* influence (Deutsch & Gerard, 1955). Bearden, Netemeyer and Teel (1989, 1990) constructed survey items to measure these sensitivities of individuals, terming the combination of both sensitivities as *consumer susceptibility to interpersonal influence*. *Informational* influence is measured by identifying agreement with statements on acquiring information from friends before making a decision. *Informational* influence is therefore linked to an individual's goal of accuracy, as the ambition for accurate decisions. *Normative* influence is measured by identifying agreement with statements on the need for social approval and affiliation. *Normative* influence therefore links to an individual's goal of affiliation, meaning the ambition for affiliation with a group. As social norm interventions can target either a goal of accuracy (e.g. using descriptive norms) or a goal of affiliation (e.g. using injunctive norms), it is important to understand the range of sensitivities to *informational* and *normative* influence of individuals when targeting them with specific social norm interventions. Moreover, individuals who are low on one or both sensitivities are less prone to be affected by a social norm intervention.

5. Research in the pension industry

In addition to reviewing existing literature on the topic, we have also conducted our own research on social norms, to generate more evidence on when social norms work and when they do not. In the following chapter, we present the results of four studies.

5.1 Study 1

APG conducted a study using social norms, along with a sympathy/reciprocity appeal and example behavior. The desired response, people visiting their personal pension environment, increased by 30% compared to the control group receiving no appeal and example behavior.

Research Question: Can we increase the log-in rates to the personal pension environment *(mijn-omgeving)* by adding a social norm, a compliment, and example behavior?

Hypothesis: The percentage of people visiting their personal pension environment can be increased by adding a social norm, a compliment, and example behavior.

Research design:

The social norm that was used in this experiment was the number of people who have shown the desired behavior before. We told plan members that in *that year* the personal pension environment had already been visited *825,000 times*. Thus, we focused on the absolute number of visits. In addition, we added to the introduction sentence the question whether people **also** want to know how much retirement income they have accrued.

Next to the social norm, we also made use of the principle of **sympathy/reciprocity**. We gave plan members who read the information a compliment for their effort of actively engaging with their pension (open the information and engage in their pension). Giving people a compliment subconsciously actives the norm of reciprocity and should increase likeability (Cialdini, 2007). When we receive something from someone, such as a compliment, we are automatically more likely to do something in return (Gouldner, 1960). Furthermore, this sentence aligns with the behavioral principle of commitment and consistency, meaning that people want to behave in a consistent manner. When we compliment them on 'engaging' with their pension, they may feel

Figure 1: Control group card A. No specific behavioral principles in the content to stimulate activation or conversion to the personal online page. This card was sent to 11,999 randomly selected ABP plan members.

Figure 2: Test group card B. Three behavioral principles (social norms, sympathy, and priming (example behavior)) were applied in the text to stimulate activation or conversion to the personal online page.

Table 1: Results of study 1

Variant Name	# Received	# Responded	Response %
Card A	11,999	206	1.71
Card B	11,999	268	2.23

committed towards their pension. The behavior of looking into one's personal pension environment matches with this commitment towards one's pension. The desired behavior is therefore in line with the complimented behavior (Cialdini, 2007).

As a third principle, we added example behavior. We placed a photo on the card that showed someone practicing the desired behavior.

Card B was sent to 11,999 randomly selected ABP plan members (Test Group). We monitored how many plan members visited their personal pension environment, which we refer to in the card, within 30 days after receiving this card.

The result is significantly different at a 5% level. Changing the content based on social norms, sympathy, and example behavior led to a relative increase of 30%. With a very small investment (changing wordings and pictures) we stimulated more people to visit their personal online page and to engage with their pension.

Implications

The above study shows that changing a few words or pictures, that take into account the way a person subconsciously processes information, can lead to a significant increase in the number of plan members who look into their personal page.

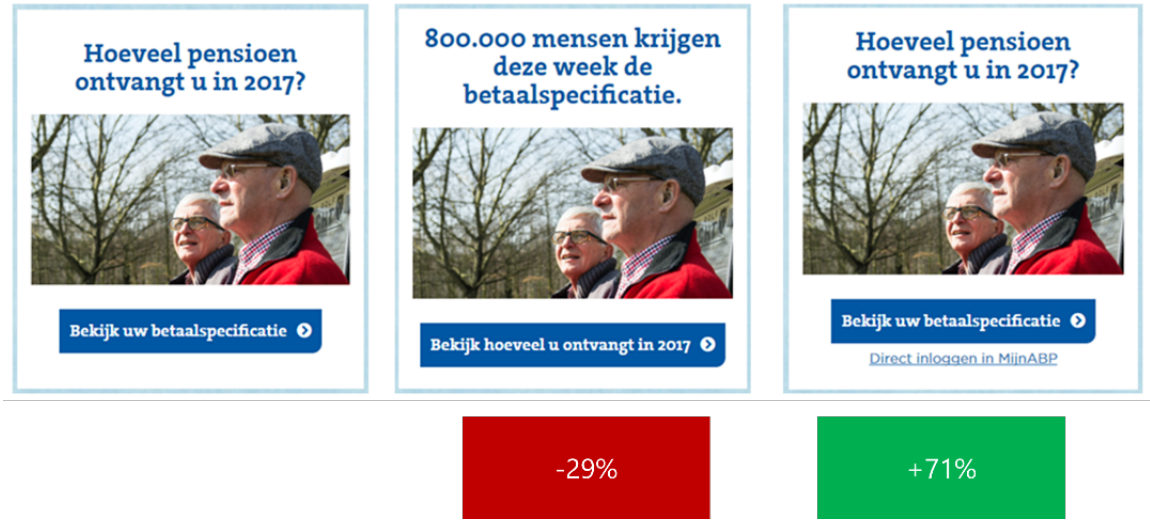
Limitations

Due to the set-up of the study it was not possible to determine the effect of a single behavioral principle. Thus we do not know whether the 30% increase was mainly due to one of the behavioral principles (for example, the social norms) or due to the combination. It could also be that excluding one of the principles would lead to even higher conversion. With this A/B test it is therefore not possible to disentangle the effect of the social norm, but in combination with the application of other principles it leads to a higher conversion.

5.2 Study 2

APG conducted an experiment with three different messages. In one message, a social norm was applied.

Figure 3: Overview of study 2 interventions (control, social norm, additional choice)



Research Question: Can we increase the number of people who look into their payment specification by making use of a social norm and offering an 'additional choice'?

Hypothesis: Adding a social norm or adding an additional choice leads to increased conversion; more people will look at their payment specification.

Research design:
From January 26 to February 2, 2017, the banner on the homepage of abp.nl featured one of three messages with respect to the payment specification that retired plan members of ABP receive. The payment specification indicates the retirement income amount that retirees will receive each month in the coming year. The presentation of one of the three messages was randomly assigned to visitors of the webpage.

The messages stated the following:

1. How much pension will you receive in 2017? Take a look at your payment specification. (control group)
2. 800,000 people receive their payment specification this week. Take a look at how much pension you will receive in 2017. (social norm)
3. How much pension will you receive in 2017? Take a look at your payment specification. Log in directly to MijnABP. (additional choice)

For the second message, it was hypothesized that telling people that they are one of many people receiving this specification leads them to believe that it is important, and that they should read the information just like others will do.

Table 2: Results of study 2

Variant Name	# Received	# Responded	Response %
Message A (control group)	9,974	703	7.0%
Message B (social norm)	9,873	497	5.0%
Message C (Hobson's +1)	10,145	1,228	12.1%

The additional choice option is based on *Hobson's choice* (e.g. Bujisic, Bogicevic, Yang, Cobanoglu, & Bilgihan, 2017), which is a take-it-or-leave-it choice: you either take the option that is offered, or you do not not take it; you cannot choose more than one option. When people are confronted with a Hobson's choice, they are more likely to not take the option (to *leave it*). However, when a second option is added, people are more likely to make a choice and thereby opt for one of the choices offered, leaving the *leave it* option unattended. The difficulty of having to choose between two options distracts attention (mental energy) from the possibility to *leave it*, i.e. to not to make a choice for either of the options. The mental energy in the decision process is consumed by having to choose between the two options and not by deciding whether to take it or leave it (Schutz, 2015).

Message 2 led to a decrease of response by 29% (significant at the 5% level), whereas message 3 increased the response by 72%. Based on this result, one would conclude that a social norm actually decreases the number of people who are activated. However, the social norm does not mention the behavior that should be stimulated. The social norm mentions that many people have *received* the payment specification. It does not mention whether these people have read the statement or have looked at their personal page to read it.

The question is whether the results for social proof would differ if we had mentioned how many people read the payment specification instead of how many people received it.

Implications

When applying social proof or social norms in communication, one should be aware of the subtlety of applying it well. It could be that social proof did not work because the social proof message did not refer to the stimulated behavior. Another possible reason is that the behavior that is stimulated (looking at the payment specification) is not important or enticing enough in general. However, this explanation does not relate to the finding that in the other message variants the conversion is higher. Yet another potential explanation is that the term "betaalspecificatie" (payment

specification) is more abstract and complex than the terms used in the other versions, which could have influenced the results.

In this test the social norm actually distracts people from performing the behavior. Therefore designing social proof carefully is important, because it can even have the opposite effect of what one wants to achieve.

Limitations

The study done is a regular A/B/C test, and we did not look into underlying reasons why the results are the way they are. We must leave that to interpretation and future research.

5.3 Study 3a and 3b:

At Maastricht University, we conducted experiments in which we found that social norms have the power to increase contribution rates (study 3a), even for more extreme values, such as 16% (study 3b). Our results reveal that females tend to contribute above the norm, while males do not.

Research questions:

1: Can the percentage of participants' income that they wish to contribute to a retirement account be positively (and negatively) influenced by providing information about how much their peers contribute to such retirement accounts?

2: Do females and males react differently to information about peer behavior?

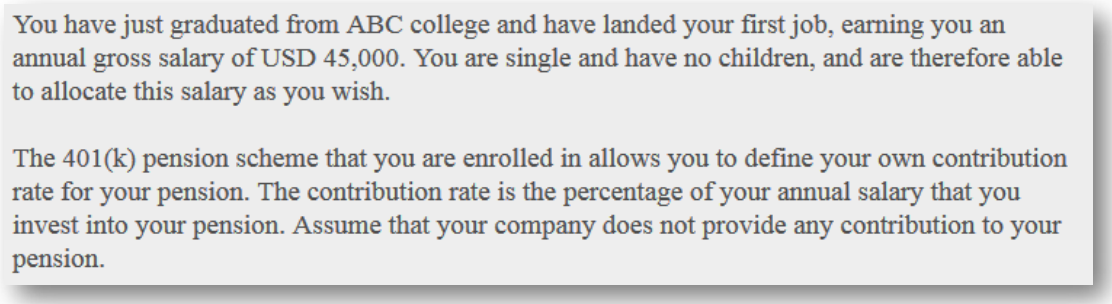
Research design:

For both study 3a and 3b, we surveyed American citizens, given their experience with defined-contribution pension accounts, using an online recruitment platform. In both studies, surveyed participants were assigned to a retirement savings scenario (see *Figure 4*) and asked how much of their income they would contribute to their pension.

The surveyed participants were randomly allocated to either a control group or a peer effect group[1]. Control group participants received merely the retirement savings scenario as presented in *Figure 4*. The peer effect group received the following information at the end of the paragraph:

1 The original experiment included an additional manipulation, the anchoring effect, as we also tested whether the results were driven by a numerical anchor as opposed to the social norm. Since the anchors were not effective, we do not discuss them in more detail in this paper.

Figure 4: Retirement savings scenario


You have just graduated from ABC college and have landed your first job, earning you an annual gross salary of USD 45,000. You are single and have no children, and are therefore able to allocate this salary as you wish.

The 401(k) pension scheme that you are enrolled in allows you to define your own contribution rate for your pension. The contribution rate is the percentage of your annual salary that you invest into your pension. Assume that your company does not provide any contribution to your pension.

Peer effect groups: "Other recent ABC college graduates contribute X% of their salary to their pension fund."

For the peer effect group, we used percentages rather than cash amounts, for two reasons. Percentages are common in defined-contribution retirement accounts in a real-world setting, and they were used both in prior work on increasing retirement savings (Thaler & Benartzi, 2004), as well as in work on applying anchors (Grinstein-Weiss et al., 2015), where irrelevant numbers in the environment have an effect on an individual's decision.

In study 3a, the peer effect group was presented with a value of 11%, which was chosen based on a pre-test of the control group version. In study 3b, the peer effect groups were randomly allocated to even lower and higher values of 8% and 16%, respectively. These percentages were decided on as more distal values, with a distance of approximately 4 percentage points below and above the mean contribution rate of 11% of the pre-test.

Table 3 shows the results from study 3a, and Tables 4 and 5 show the results from study 3b.

For the peer effect group, we found significant reductions in the mean absolute distance from the presented peer information value, for both the 11% value from study 3a and the 8% and 16% values from study 3b.

Looking at the average contribution rate of participants, we see that the peer treatment moves the average behavior towards the 11% value in study 3a. For the more extreme values used in study 3b, only the 16% peer effect treatment has a statistically significant effect on moving the average behavior.

Segmenting the data by demographics, we found that females contribute above the presented norms, even for the extreme 16% value, whereas males do not.

Table 3: Average contribution rates from study 3a

Treatment group	Numerical value provided	N	Mean contribution rate (S.D.)	Mean absolute distance from the 11% norm/anchor (S.D.)
Control	N/A	102	12.41 (8.93)	6.14 (6.62)
Peer	11%	100	12.05 (5.22)	4.55 (3.78)

Table 4: Average contribution rates from study 3b

Treatment group	Numerical value provided	N	Mean contribution rate (S.D.)	Mean absolute distance from the 8% norm/ anchor (S.D.)	Mean absolute distance from the 16% norm/ anchor (S.D.)
Control	N/A	97	11.67 (8.33)	5.90 (6.92)	7.90 (5.03)
Peer low	8%	93	8.83 (4.15)	2.91 (3.06)	N/A
Peer high	16%	92	15.51 (6.12)	N/A	4.58 (4.06)

Table 5: Average male & female contribution rates from study 3b

Treatment group	Numerical value provided	N (N male, N female)	Mean contribution rate for males (S.D.)	Mean contribution rate for females (S.D.)
Control	N/A	97 (50, 47)	11.02 (7.91)	12.36 (8.79)
Peer low	8%	93 (52, 41)	8.10 (3.72)	9.76 (4.52)
Peer high	16%	92 (46, 46)	13.26 (5.50)	17.76 (5.92)

Implications

Our results show that even for more extreme values, the peer effect worked. Organizations may therefore opt to use peer information as a vehicle to direct behavior through social norm conformity. Additionally, as we found a strong gender effect, institutions should be aware that females not simply converge towards the norm but actually exceed it.

Limitations

The studies were run through an online recruitment platform, and participants received a hypothetical scenario. Results could therefore differ when implementing such a social norm treatment in the field with real participants. However, we would expect the results to remain strong in such a setting, too. Note that the scenario that was used is currently not relevant for most employees in the Netherlands, where contribution rates are fixed, but it does bear implications for those who are self-employed (ZZPers).

5.4 Study 4:

When providing a social norm to nudge behavior, it not only matters who is sharing the norm, but also which reference group is used when describing the behavior of others.

Research questions:

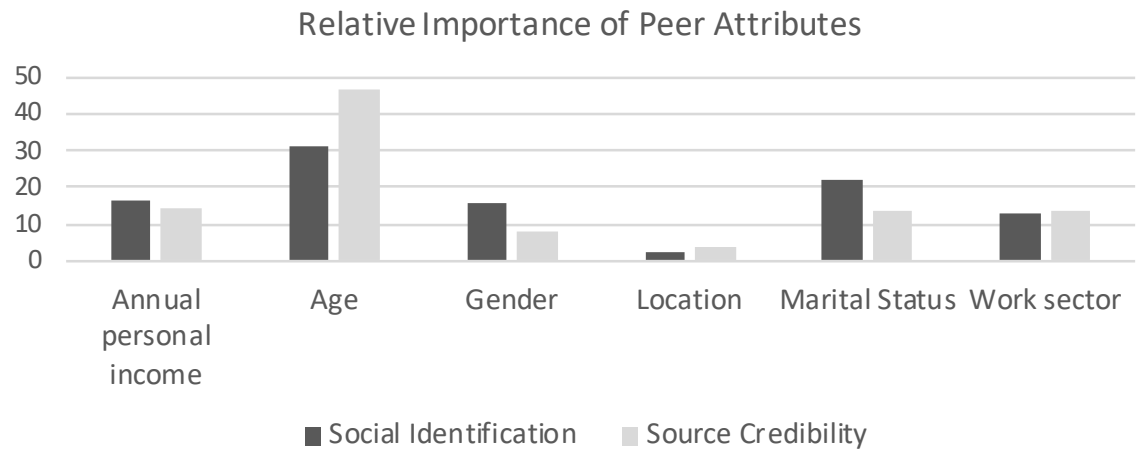
1: Which individual traits and which reference group characteristics drive the peer effect?

2: Can we amplify the peer effect by aligning specific reference group characteristics with specific traits of individuals?

Research design:

Based on a review of prior literature, we found that the extent to which an individual identifies with a reference group, also known as *social identification*, can strengthen a peer effect (Leach et al., 2008). Additionally, we found that the extent to which a reference group is perceived as being credible, also called *source credibility*, can strengthen a peer effect (Pornpitakpan, 2004). As both measures are in the eye of the beholder (subjective perception), we first set out to ascertain exactly which reference group attributes have the strongest effect on social identification and source credibility. We teamed up with Pensioenfonds Zorg en Welzijn (PFZW) and measured social identification and source credibility in a novel conjoint survey design. Participants were repeatedly asked to select the profile with the highest perceived source credibility or social identification from a set of profiles that varied in age, gender, education, and income. This design allowed us to isolate the different strengths of specific

Figure 5: Relative importance of peer attributes



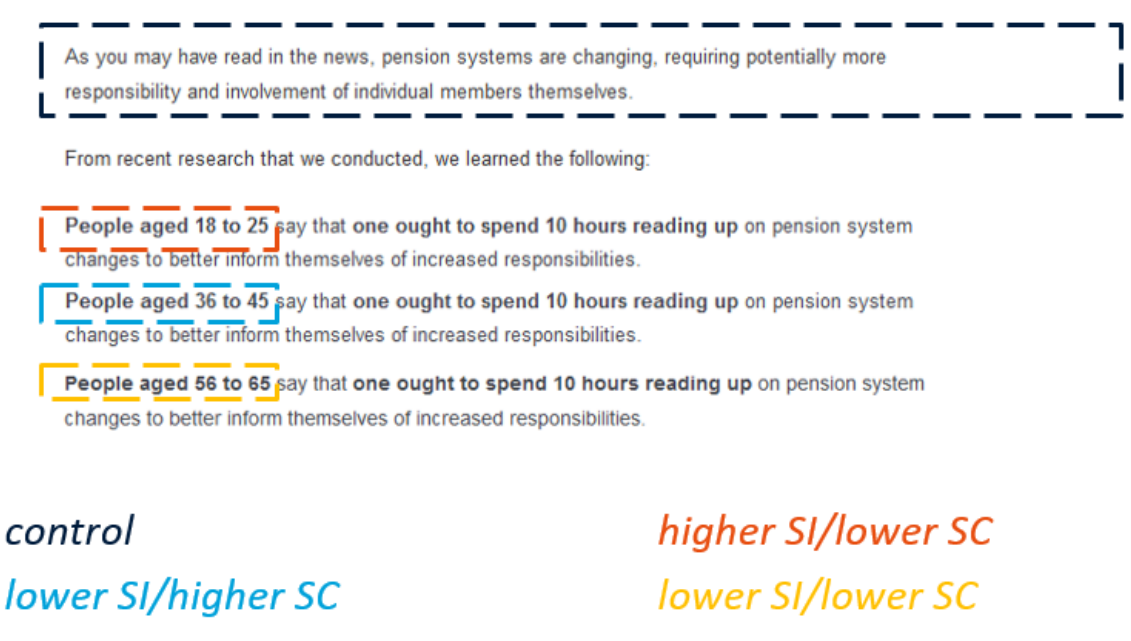
attributes (e.g., age, gender, education, income) and specific levels of attributes (e.g., specific age or gender groups, attribute levels matching versus not matching personal levels) on social identification and source credibility.

In total, 1,467 PFZW pension fund participants completed the conjoint survey. The results indicate that, for both social identification and source credibility, age is the most important attribute of a reference group (see *Figure 5*).

Examining the data in more detail, we found that, while age is the most important attribute for social identification as well as source credibility, the optimal age level differs between the two. Across all age categories, social identification is highest for reference groups of the same age. For example, a person aged 30 will identify more with another person aged 30 rather than someone aged 40 or 50. This means that by matching age to a person's age, social identification with the reference group will be highest. For source credibility, on the other hand, higher age is more optimal for reference groups. Across most age categories, source credibility is highest for reference groups that are ten to twenty years older. For example, a person aged 30 will attribute higher source credibility to someone aged 40 or 50 than someone aged 30. The only exception occurs for those aged 55 and older; for these a similarly aged reference group scores highest on source credibility as well.

Following the conjoint survey, we translated the results into a lab experiment with 293 students (mean age 20), which included four conditions: a control group, a peer

Figure 6: Treatments in lab experiment
(SI = social identification, SC = source credibility)



group with high social identification and low source credibility, a peer group with low social identification and high source credibility, and a peer group with low social identification and low source credibility (see *Figure 6*).

After being confronted with the above information, students were asked how many hours they planned to spend on reading up on the pension changes, followed by a measurement of their sensitivities to *informational* and *normative* influence, using the Consumer Susceptibility to Interpersonal Influence scale (Bearden et al., 1989; 1990). These were measured to identify whether a higher sensitivity to *informational (normative)* influence would positively interact with a higher source credibility (social identification) to strengthen the peer effect.

We indeed found that for individuals who are highly sensitive to *informational* influence, the reference group high on source credibility led to the strongest peer effect. Similarly, we found indicatively for individuals who are highly sensitive to normative influence, that the reference group high on social identification led to the strongest peer effect. In other words, providing social norms from reference groups of a similar age (e.g., 25-year-old reference group for a 25-year-old individual) works best for individuals who are highly sensitive to normative influence. Similarly, providing social norms from reference groups of an older age (e.g., 40-year-old reference group for a 25-year-old individual) works best for individuals who are highly sensitive to informational influence.

Following the lab experiment, we partnered again with PFZW to run a large-scale field experiment. Whereas the lab experiment measured intentions, the field experiment measured actual behavior. We conducted the field experiment within the pension fund's regular communication to pension fund participants, tailoring the communication to activate different levels of social identification and source credibility among a heterogeneous population. Each pension fund participant in the peer effect treatments was provided with information on which pension-related magazine section is read most by a specific reference group. As part of the communication, a link was included to this same section's latest article. The section in question was read most across all pension fund participants and was therefore constant across all treatments.

A total of 222,596 pension fund participants were randomly allocated to receive one of six email conditions: no peer information, generic peer information, higher social identification (SI)/lower source credibility (SC) age, lower SI/higher SC age, higher SI/higher SC age, and higher SI/higher SC work sector. Age referred to adjustment of the reference group age as per our conjoint results. Work sector referred to providing information about behavior and preferences of individuals from the same work sector as the recipient. According to the conjoint results, age should be most important for

driving social identification and source credibility, but as importance is measured in relative terms, the absolute difference in effectiveness was not known. Therefore, we included matching work sector as the last condition, to compare the strength of different attributes on driving the peer effect. A generic peer condition, where the reference group consisted of PFZW participants as a whole, was included to test the peer effect from a design commonly used in practice.

The results are threefold. First, click rates in the generic peer effect condition did not differ from the control group, meaning that the generic peer condition had no effect. Second, when tailoring reference groups to specific individuals to drive both social identification and source credibility, the peer effects led to a strong 40.2% average increase in click rates. As actual click rate increases with age, this 40.2% increase translates to an absolute click-rate increase between 1.0 and 6.5 percent (for 26 to 35-year-olds and 56 to 65-year-olds, respectively) of participants. Third, it is essential to tailor reference groups to drive social identification as well as source credibility. When using age as an attribute to segment reference groups, either social identification or source credibility is commonly strengthened, but not both. On the other hand, when matching the reference group work sector to the individual, both social identification and source credibility are strengthened.

Implications

Our sample shows that reference to groups in terms of age is most impactful for social identification and source credibility separately, but work sector is most impactful for increasing the two cumulatively. In addition, we found that social identification drives a normative channel. Thus, reference groups scoring high on social identification should be used to target individuals who are particularly sensitive to normative influence. Moreover, we show that source credibility drives an informational channel. Thus, reference groups scoring high on source credibility should be used to target individuals who are particularly sensitive to informational influence. Ideally, reference groups scoring high on both social identification and source credibility should be used when possible.

In other words, we recommend first identifying the sensitivities to normative and informational influence of the individuals being targeted. Once these are identified, a social norm from a reference group from the same work sector as the individual should be presented. For age, use a reference group that is either of the same age (for individuals most sensitive to normative influence) or of older age (for individuals most sensitive to informational influence). For individuals aged 55 or higher, it is recommended to always use a reference group of the same age to stimulate both normative and informational influence.

6. Conclusion

The above studies show that social norms can activate plan members with respect to their pension. However, the studies also show that applying social norms requires careful design in practical situations.

The limited number of studies on social norms in pensions show varying results. While some confirm that social norms can increase a person's propensity to contribute (e.g. Duflo and Saez, 2002), others show no effect (e.g. Bauer, Eberhardt & Smeets, 2017), or even an adverse effect (e.g. Beshaers, Laibson, Madrian & Milkman, 2015). This suggests that results from other domains cannot easily be transferred to the pension sector, thus calling for additional research.

Retirement planning differs from other financial decisions in terms of complexity, distant horizon (and hence lack of confirmation on the adequacy of certain choices), and degree of uncertainty. Many individuals have limited detail knowledge of pension systems and experience difficulty understanding the trade-offs between now and the distant future. Consequently, there is higher uncertainty as to which choices are optimal. Information about social norms can act as a compass when uncertainty is high (Cialdini & Goldstein, 2004). The pension context is, therefore, a prime setting for strong social norm effects.

However, our paper shows that the crafting of social norms requires great care. To summarize the most important points that need to be considered when crafting social norms to influence a plan member's behavior, we have created a list of five dos and don'ts.

Applying social norms – dos and don'ts

1) **The social norm should directly relate to the desired behavior. It should not merely mention a somewhat-related behavior.**
   From study 2, we learned that, if the purpose of a social norm is to increase reading behavior, the social norm should state that many people have read the payment specification, rather than state that many people have received the payment specification.

2) **The goal or behavior that is presented in the social norm should be attainable and realistic.**
   Beshears et al. (2015) find adverse effects of social norms for low-wage workers, supposedly because the social norm is unattainable. Goals that are difficult to achieve for some, but are achieved by many peers, can be demotivating.

3) **Which peers are selected to be represented in the social norm must be carefully considered.**
For a social norm to be effective (see study 4), the reference group used in the stimuli must be credible (especially for people who are susceptible to informational influence), and people must be able to identify with them (especially for people who are susceptible to normative peer influence).

4) **One has to also think carefully about whether the social norm may induce oppositional effects for people who already act in the desired way.**
For instance, an intervention where information was shared about the energy consumption levels of neighbors led residents with lower-than-average energy consumption to start consuming more energy after the intervention (Schultz et al., 2007).

5) **Social norm interventions should be carefully pretested to avoid zero or boomerang effects.**
The effect of social norms is likely to increase if all learnings from this paper are applied. But we also show that subtle differences can have very negative effects. It is always advisable to first pretest social norms on a small sample before rolling them out on a large scale.

When Richard Thaler is asked to sign one of his books, he always adds "nudge for the good."

We would like to end this paper with a short reflection on the ethical considerations of social norms. Norms can be powerful if designed well, and they can help people make better financial retirement decisions. But they can also stimulate behavior that is not necessarily in the interest of the pension plan participant. In our view, the party that applies social norms has the responsibility to carefully consider the ethical implications of using a social norm and whether the behavior that is stimulated is desirable for pension plan participants. Furthermore, the social norm must be real. It would be unethical to communicate a non-existent social norm to people. Even when current behavior is undesirable, and thus inappropriate to use as a descriptive norm (for example, 70% of women are *not* engaged in retirement planning), we suggest focusing on the desirable behavior and phrasing quantity as a more general absolute term, such as *many*, as opposed to a relative term, such as *most*. For instance, one can communicate that *many* people invested XYZ into their savings account in

January, when *most* have not done so, but *many* have. We suggest only using terms such as *many* when the opposite behavior is to *not act*. We suggest not using terms such as *many* when consumers or plan participants must choose between two or more alternatives.

We hope that the insights presented in this paper stimulate pension professionals to effective use of social norms to improve member engagement.

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