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Symposium Article

# Inclusivity in Online Platforms: Recruitment Strategies for Improving Participation of Diverse Sociodemographic Groups

**Abstract:** Governments are increasingly implementing smart and digital approaches to promoting citizen participation. However, whether online participation platforms are tools that improve inclusivity in citizen participation remains underexplored. To address this gap, this article focuses on the role of recruitment messages and their effect on participation in an online participation platform by gender and age. A field experiment with a neighborhood census sample ( $N = 6,066$ ) shows that online participation dips for younger and older citizens and is equal among women and men. For the age groups between 60 and 75, differences in the control and intervention recruitment messages significantly impacted participation. These findings can help public managers tailor recruitment strategies to facilitate inclusive participation and represent a first step toward learning what types of messages are effective for whom.

## Evidence for Practice

- We find no difference in participation between women and men in an online participation platform, indicating that these platforms can be inclusive with regard to gender.
- Age is a predictor of online participation: initially people are more likely to participate as they grow older, but around age 65, this effect levels out.
- Carefully crafted communication messages can influence the inclusivity of participants.
- Behavioral experiments can be used to find out which messages are effective for particular subgroups of the population.

When we consider the transformative potential of smart technology in government, one of the areas in which technologies can have a strong impact is citizen participation (Boudjelida, Mellouli, and Lee 2016). Through the use of new technologies, citizen participation can become adaptable, mobile, and broadcastable at an unprecedented capacity (Ansell and Miura 2020). These features of online participation platforms give citizens the opportunity to participate at their own convenience and from their own homes, thereby lowering barriers to participation and possibly improving the inclusivity of citizen participation (Robbins, Simonsen, and Feldman 2008). Online participation platforms that embody these features may be able to overcome acknowledged challenges for citizen participation, such as low turnout rates and the lack of representativeness of participants (Ebdon and Franklin 2006).

While there is no denying that technology is and has been at the center of many changes in government (Dunleavy et al. 2015), it is important to take into account that technological advancements are

influenced by the sociotechnical context in which they are implemented (Meijer and Bolívar 2015). Meijer, Bolívar, and Gil-Garcia (2018, 5) warn those public managers who believe that “each citizen wants to participate when the costs are low enough” that the logic that online participation lowers transaction costs and thus will enhance inclusivity in participation is too simplistic and deterministic. In this article, we unpack parts of the sociotechnical context to scrutinize whether technologies indeed facilitate a culture of inclusive policy decision-making in online citizen participation. We do so by considering which citizens participate in online participation platforms and how governments can adjust their recruitment strategies for reaching an inclusive group of participating citizens.

In citizen participation, it is recognized that participatory processes are often dominated by the “usual suspects,” people who are easily recruited, vocal, and reasonably comfortable in public arenas” (Bryson et al. 2012, 29). To some extent, online participation may open up the playing field to less vocal members of society, since the setting

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is less immediate and confrontational compared with offline participation. At the same time, research points out that “internet use increasingly reflects known social, economic and cultural relationships present in the offline world, including inequalities” (van Deursen and van Dijk 2014, 521). It is thus possible that online platforms will only strengthen the participation of people who are readily motivated to participate through other channels, without being truly more inclusive (Clark, Brudney, and Jang 2013). Moreover, how can public managers know who participates, when, too often, online participants are nothing but an “anonymous mass of strangers”? (Kornberger et al. 2017). In this article, we present a strategy for how government can evaluate the extent to which online platforms attract an inclusive group of participants.

Learning about the inclusivity of online participants is one part of the equation; it is also important to consider how government may actively promote or steer toward more inclusivity in online participation. Particularly relevant in this context are the recruitment strategies of public managers for raising awareness among citizens about a participation opportunity (Bryson et al. 2012). Creating widespread awareness of online participation solely by advertising online is challenging, because internet use varies strongly from person to person and intransparent algorithms influence who sees which messages (van Deursen and van Dijk 2014). Therefore, even within the context of online platforms, recruiting citizens by their home addresses remains most reliable for reaching all intended participants. This means that even when profiting from the transformative potential of innovative technologies, the most successful strategies will combine both online and offline practices. In our study, we thus consider the synergy of conventional communication in the form of letters and transformative participation in online platforms.

In sum, as a step toward monitoring inclusivity in online participation and experimenting with how public managers may promote inclusivity, this study asks *to what extent and how recruitment messages affect the inclusivity of citizen participation in an online participation platform*. By conducting a field experiment, we address a methodological gap in research about government-citizen interactions, since studies on this topic have so far primarily relied on observational surveys or survey experiments (Battaglio et al. 2019). We propose that public managers may nudge citizens toward online participation by incorporating descriptive social norms in recruitment messages (Cialdini 2009). We examine this effect at the individual level and infer how the behavioral intervention influences the overall inclusivity of participating citizens.

In this study, inclusivity is considered an attribute of participation that can actively be monitored, namely, the inclusion of relevant groups or interests within participation, covering differences such as gender, age, race, and sexuality (Barnes et al. 2003; Michels and De Graaf 2010). These categorizations are correlated with power differences in society and generally influence the extent to which citizens are able to contribute to participatory processes (Barnes et al. 2003). We conceptualize that participation is more inclusive when participating citizens are representative of the population in terms of their sociodemographic characteristics.

We conduct our study in The Hague in the Netherlands, focusing on an online participation platform through which the city makes a €30,000 budget available to fund citizen-sourced projects. In the first participation round, citizens can submit projects and give feedback on submitted projects through comments and “likes.” When a project exceeds the minimum threshold of 25 likes, public managers evaluate the feasibility of the project before projects are selected for the second participation round. In this round, citizens can virtually spend the €30,000 and thereby vote for the projects they want to see implemented. Even though citizens vote on budget spending, we do not view this participatory process as an exemplary case for participatory budgeting, which is often specifically deliberative in nature (Shah 2007). The findings of this case study, however, are relevant for various types of online participation platforms.

This participatory process combines forms of more active and passive citizen participation. Active participation, which we consider long-term relationships between government and citizens in which both make substantial resource contributions (Bovaird 2007), is central when looking at the participation process as a whole. The project ideas are sourced from citizens, and the citizens who initiated the selected projects also get involved in their execution. The largest-scale participation takes place in the second round, when all citizens of the neighborhood are invited to cast their final votes on the selected projects. For most citizens, this is a one-time interaction with the participatory process; this can be considered an example of more passive participation that is mostly focused on gathering public input in decision-making (Boudjelida, Mellouli, and Lee 2016). This study focuses on the second participation round.

This article starts by examining government motivations for facilitating inclusive online participation and discusses how participation varies among citizens in different sociodemographic groups. Next, we reason why descriptive social norms messages may be effective in nudging citizens toward an online participation platform and how we expect this effect varies along sociodemographic dimensions. We then explain our methodology and discuss the results of our experiment. Finally, we discuss the implications of our findings and present avenues for future research.

## Theory

### *Participation and Inclusivity*

Citizen participation can be defined as any voluntary action by citizens through which they might influence government decision-making (Kim and Lee 2012). Participation has instrumental appeal for public managers since it can enhance government responsiveness and citizen support for decisions, which, in turn, can increase government legitimacy and improve citizen satisfaction and trust (Franklin and Ebdon 2005; Fung 2006). Additionally, citizens hold valuable resources that public managers can utilize, such as personal experiences, ideas, and creative solutions (Clark 2018; Dean 2017). Public managers therefore may wish to actively promote citizen participation, for instance, by facilitating designated platforms for citizens to exert influence.

One of the priorities for public managers designing public participation is bringing about inclusivity (Feldman and Khademian 2007). Inclusivity is sometimes directly linked to

better participation outcomes, because it may avoid biases in policy formulation and responsiveness (Thijssen and van Dooren 2016). For example, participation processes can only be truly legitimate when all relevant stakeholders are included and public managers take the time to consider who is participating or not (Few, Brown, and Tompkins 2007). Also, the extent to which participation can alleviate democratic deficits in society relies on the inclusion of citizens with various backgrounds and values so that interests and preferences are adequately articulated in the policy process (Barnes et al. 2003; Gustafson and Hertting 2017).

Facilitating inclusive citizen participation is a challenge for public managers because programs that are open to all citizens on a self-selection basis often draw unrepresentative participants (Fung 2006). This is especially true for meetings that happen in person, such as public hearings, where attendance is often low (Ebdon and Franklin 2006). In comparison, the potential reach of online participation platforms might be far greater because citizens can take part at their convenience and mobile technologies allow for great flexibility (Nabatchi and Mergel 2010; Robbins, Simonsen, and Feldman 2008). Moreover, citizens may be less intimidated by interactive platforms where they can search, select, and process information at their own pace (Ahn and Bretschneider 2011; Zhang and Feeney 2017). Online participation platforms thus have the potential to allow for more inclusive participation.

Concretely, it is argued that the internet and online innovations may mobilize inactive citizens and thereby improve inclusivity (Boulianne 2009). Reflecting on these “inactive citizens,” important dimensions for inclusivity, both in the literature and in practice, are gender and age, next to ethnicity and race, sexual orientation, and (dis)ability (Pitts and Wise 2010). In the Dutch context, gender and age are the types of sociodemographic variables that are available to public managers at a local level. Therefore, in this study, we focus on how participation varies among citizens of different age and gender.

Gender and inclusivity have not often been a focal point of studies concerning citizen participation. If gender is taken into account, it is usually included as a control variable (e.g., Kim and Lee 2012). In this study, set in Seoul, Korea, roughly 75 percent of the respondents reporting about their participation in an online platform were male (Kim and Lee 2012). Also in the Netherlands, when considering the “usual suspects” in citizen participation, these are often described as male (van Stokkom 2006). One area of the participation literature in which gender has been researched more elaborately is in coproduction and volunteering, where it is generally reported that women participate more than men (Löffler et al. 2008). A possible explanation is that care responsibilities that previously were done by women have partly taken over by government, so that women and government now coproduce (Bovaird et al. 2015). These findings are not necessarily generalizable to participation that centers on influencing decision-making. In formulating our hypothesis, we draw on findings from Michels and De Graaf (2010), who conducted two case studies in the Netherlands and found that both in participatory policy making and participatory budgeting, men were overrepresented.

If we consider participation in online settings more generally, it is important to note that although men and women are found

to have equal access to technology, a gendered use gap still exists whereby women use technology less often and for different purposes than men (van Dijk 2013). For example, women are less likely to report that they possess strong internet skills, and women carry out a smaller range of different online activities compared with men (Robinson et al. 2015). Ma and Zheng (2018) find some support for this last statement, as they conclude that in Europe for all e-government functionalities, including e-participation, women are less likely to make use of these functionalities than men. Considering online political participation, Schmidhuber, Hilgers, and Rapp (2019) find that most of the participants in an online political participation platform in Austria were male. Taking these various findings into account, we hypothesize the following:

**Hypothesis 1:** Women participate less in the online participation platform than men.

Age also plays a role in participatory behavior. Older citizens are often overrepresented in participation compared with younger citizens (Fung 2006). This is attributed to a life-cycle effect, which recognizes that people have different interests and priorities at different stages of their life (van Ingen 2008). Generally speaking, people gain a greater stake in society as they age, such as a family, property, and mortgage (Panagopoulos and Abraja 2014; Pickard 2019). In contrast, participation may be less instrumental for younger citizens who do not yet have many vested interests to protect (Thijssen and van Dooren 2016). Recent research finds that the relationship between age and participation is curvilinear (Panagopoulos and Abraja 2014; Thijssen and van Dooren 2016). The positive effect of age on participation levels out because the oldest citizens may experience several forms of access problems to participation.

Zooming in on the online sphere, younger people generally have more access and skills to use digital resources effectively (van Dijk 2013). Since youth are highly skilled and frequent users of the internet, these technologies are often celebrated as tools that may significantly increase younger people’s public engagement (Boulianne 2009). So far, however, the findings are modest. Thijssen and van Dooren 2016, for example, find that online methods are not catalyst in increasing participation from youth. Moreover, older citizens are also becoming more digitally skilled, as evidenced by an increase in the use of platforms such as social networking sites by the older population (Yu et al. 2015). At the same time, for the oldest citizens, it is still common that they lack skills to use certain digital resources (van Dijk 2013). Considering participation from seniors, Ma and Zheng (2018) find that although seniors make more visits to government websites, they are less likely to be active in e-participation. In conclusion, we hypothesize the following:

**Hypothesis 2:** The relationship between age and participation is curvilinear: younger and elderly people participate less in the online participation platform than middle-aged citizens.

### **Social Norms to Participate**

The prior discussion asserts that online participation platforms are unlikely to be a panacea for inclusivity in participation, since there are individual-level characteristics that may influence participation. Public administration scholars are increasingly interested in these micro-level

perspectives on individual behavior, as demonstrated by the rising popularity of behavioral public administration (Grimmelikhuijsen et al. 2017). In this growing research field, insights from psychology are used to explain and possibly steer individual behaviors (James, Jilke, and Van Ryzin 2017). The experimental method is often favored in this context as it allows for causal inferences about the effectiveness of behavioral interventions (Grimmelikhuijsen et al. 2017). Margetts (2011) suggests that such experiments can be especially fruitful for evaluating how certain design choices affect the way in which citizens interact with government.

Following this research practice, we draw from social psychology to examine how priming certain mental heuristics affects the participation of the population in general and of specific sociodemographic groups. For this study, we focus on a field of social psychology that is concerned with compliance with requests (Cialdini 2009). When people are faced with a request that is not salient, they are known to rely on mental shortcuts to decide whether to comply (Groves, Cialdini, and Couper 1992). One of these decision heuristics is social validation, where people decide how to act based on how other people are behaving (Cialdini 2009). Importantly, it is not necessary that this behavior is actively observed, it can also be effective to describe the behavior of others by communicating about descriptive social norms (Nolan et al. 2008).

Prior research has found evidence for the effectiveness of descriptive social norms for stimulating desired behaviors, such as energy conservation, hotel towel reuse, and curbside recycling (e.g., Goldstein, Cialdini, and Griskevicius 2008; Nolan et al. 2008; Schultz 1999). In these experiments, participants receive written communications in which they are primed with information that other people are already complying with the request. Since humans generally do not wish to deviate from what is perceived as the normal behavior, providing information that many people are already doing something can stimulate such behaviors in others (Leggett 2014). We propose that this logic can also be applied to citizen participation and that introducing participation as a social norm will entice others to participate as well. We therefore hypothesize the following:

**Hypothesis 3:** Communicating descriptive social norms in recruitment messages increases participation.

Descriptive social norms may affect individuals differently depending on sociodemographic characteristics. For instance, it is traditionally proclaimed that women yield more to social influence than men (Eagly 1978). This behavioral difference is grounded in cultural stereotypes about gender roles, which prescribe that men are more autonomous and therefore ought to be more resistant to social influence, whereas women are prescribed to be more communal and conforming (Weinschenk et al. 2018). In a meta-analysis, Eagly (1978) found that out of 61 studies, 21 (34 percent) showed that women are indeed significantly more conforming. In the majority of the studies ( $N = 38$ , 62 percent), however, no significant difference was found between women and men, and the other two studies (3 percent) found men to be more conforming. Interestingly, Carli (2017) noted that studies with later publication dates are less likely to show significant gender differences. Even though this notion may

be outdated, we expect that if we find a moderating effect of gender, it will be in the following direction:

**Hypothesis 4:** The effect of descriptive social norms in recruitment messages on participation is stronger for women compared with men.

Besides gender, scholars also suggest that age might serve as a moderator of the relationship between descriptive social norms and behavior (Rivis and Sheeran 2003). It is argued that older people have more established dispositions compared with younger people and therefore are less conformant to descriptive social norms (Campbell 1961). Older adults may already be more certain about their habits and beliefs and are therefore more comfortable to stick to what they know, showing less conformity (Pasupathi 1999). In a meta-analysis, Rivis and Sheeran (2003) found that samples of younger people indeed showed stronger correlation between descriptive social norms and behavior compared with older samples. This motivates the following hypothesis:

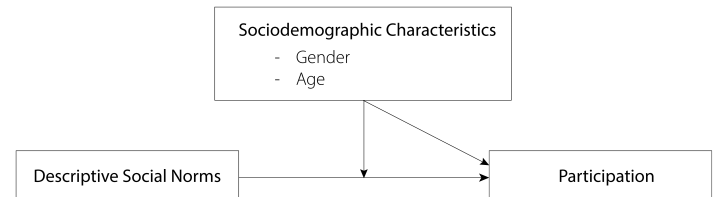
**Hypothesis 5:** The effect of descriptive social norms in recruitment messages on participation is stronger for younger people compared with older people.

Figure 1 shows the conceptual model that visually represents the variables in our study.

## Method

### Research Design and Sample

To test these hypotheses, a field experiment was conducted in May and June 2019 using a between-subjects design. The target population of this field experiment consisted of all citizens from a neighborhood within the city of The Hague in the Netherlands who are 18 years and older (see table 1). This experiment made use



**Figure 1** Conceptual Model

**Table 1** Descriptive Statistics

Variables	Total	Participation	Nonparticipation
Research population	6,066	1,453	4,613
Participation	1,453 (23.95%)		
Nonparticipation	4,613 (76.05%)		
Participation by Gender			
Female	3,118 (51.40%)	726 (49.97%)	2,392 (51.85%)
Male	2,948 (48.60%)	727 (50.03%)	2,221 (48.15%)
Participation by Age			
18–29	1,270 (20.94%)	216 (14.87%)	1,054 (20.85%)
30–49	2,381 (39.25%)	592 (40.74%)	1,789 (38.78%)
50–64	1,394 (22.98%)	389 (26.77%)	1,005 (21.79%)
65+	1,021 (16.83%)	256 (17.62%)	765 (16.58%)

Note: Column percentages in parentheses.

of a census sample, meaning that every subject within the target population was part of our sample ( $N = 6,066$ ). We obtained information about the demographic variables of every subject in the census by making use of the municipality's administrative data (see Data Collection and Analysis for more details). The city sent each subject a letter which invited them to visit the online participation platform and to cast their vote. Table 1 shows that about a quarter of the target population ( $N = 1,453$ ) participated in the platform.

### Manipulation

The stimulus material consisted of recruitment letters inviting citizens to participate in the online participation platform. These letters were sent by the city via postal mail, personally addressed to each citizen, and printed on the city's official stationery. See figure 2 for an overview of the letters, which indicates where the manipulation was present. The second paragraph of the letter differed between the experimental and control condition; all other paragraphs were kept constant between the two conditions (see

Page 1	
Experimental condition	Control condition
<p>Onderwerp [Wijk] Begroot: <b>Beslis samen met uw buren over de plannen voor uw wijk</b></p> <p>Beste [EERSTE Voornaam],</p> <p>Met veel plezier biedt stadsdeel [Stadsdeel] u een persoonlijke stemcode aan voor [Wijk] Begroot. Hiermee kunt u meebeslissen over de besteding van €30.000,- aan plannen voor uw wijk. Als bewoner weet u tenslotte het beste wat goed is voor [Wijk]. U kunt <u>tot en met 10 juni 2019</u> stemmen via [website]</p> <p><b>Beslis samen met uw buren over de plannen voor uw wijk</b> In maart zijn door u en uw buren plannen ingediend om [Wijk] mooier, socialer en groener te maken. Via [website] hebben bewoners van [Wijk] in totaal 2.300 'likes' (=stemmen) uitgedeeld aan deze plannen. Na een haalbaarheidscheck door de gemeente zijn er 20 plannen geselecteerd waarvan u nu samen met uw buren kunt beslissen welke er worden uitgevoerd. Bekijk de plannen online en breng uw stem uit!</p> <p><b>Breng uw stem uit</b></p> <ul style="list-style-type: none"> <li>● Ga op internet naar de pagina [website]</li> <li>● Bekijk de plannen en kies welke plannen u het beste vindt.</li> <li>● Verdeel €30.000,- over uw favoriete plannen. Dit kan t/m 10 juni 2019</li> <li>● Stem met uw persoonlijke stemcode. Let op: deze kunt u slechts één keer gebruiken.</li> <li>● De plannen met de meeste stemmen worden uitgevoerd.</li> </ul> <p style="text-align: center;"><b>Uw persoonlijke stemcode:</b> [Code1234Code]</p> <p>Te gebruiken door: [Voornamen][Voorvoegsel][Geslachtsnaam]</p>	<p>Onderwerp [Wijk] Begroot: <b>Beslis mee over de besteding van €30.000,-</b></p> <p>Beste [EERSTE Voornaam],</p> <p>Met veel plezier biedt stadsdeel [Stadsdeel] u een persoonlijke stemcode aan voor [Wijk] Begroot. Hiermee kunt u meebeslissen over de besteding van €30.000,- aan plannen voor uw wijk. Als bewoner weet u tenslotte het beste wat goed is voor [Wijk]. U kunt <u>tot en met 10 juni 2019</u> stemmen via [website]</p> <p><b>Beslis mee over de besteding van €30.000,-</b> Stadsdeel [Stadsdeel] stelt €30.000,- beschikbaar voor de uitvoering van plannen om [Wijk] mooier, socialer en groener te maken. Na een eerdere stemronde en haalbaarheidscheck door de gemeente zijn er 20 plannen geselecteerd. Nu bent u aan zet om dit budget te verdelen over de plannen en zo te bepalen welke er worden uitgevoerd.</p> <p><b>Breng uw stem uit</b></p> <ul style="list-style-type: none"> <li>● Ga op internet naar de pagina [website]</li> <li>● Bekijk de plannen en kies welke plannen u het beste vindt.</li> <li>● Verdeel €30.000,- over uw favoriete plannen. Dit kan t/m 10 juni 2019</li> <li>● Stem met uw persoonlijke stemcode. Let op: deze kunt u slechts één keer gebruiken.</li> <li>● De plannen met de meeste stemmen worden uitgevoerd.</li> </ul> <p style="text-align: center;"><b>Uw persoonlijke stemcode:</b> [Code1234Code]</p> <p>Te gebruiken door: [Voornamen][Voorvoegsel][Geslachtsnaam]</p>
Page 2	
<p><b>Hulp nodig bij het stemmen?</b> Als u moeite heeft met online stemmen, vraag dan hulp aan familie, vrienden of buren. U kunt ook langskomen bij [Locatie]. Daar zijn op <u>maandag 3 juni van 17.00 tot 20.00 uur</u> en <u>woensdag 5 juni van 9.00 tot 12.00 uur</u> medewerkers van het stadsdeel aanwezig die u kunnen helpen. Neem deze brief met uw persoonlijke stemcode en legitimatiebewijs mee. U kunt ook stemmen voor anderen. Neem dan zijn of haar persoonlijke stemcode, kopie van het legitimatiebewijs en een schriftelijk akkoord mee.</p> <p><b>Feestelijke bekendmaking [Wijk] Begroot</b> De plannen die het meest zijn gekozen en samen binnen het budget van €30.000,- passen, worden uitgevoerd. Op <u>zaterdag 15 juni om 10.00 uur op [Locatie]</u> wordt, tijdens de opening van Open Ateliers [Wijk] e.o., bekend gemaakt welke plannen dit zijn. We vieren de bekendmaking van de winnaars graag samen met de buurt onder het genot van de nostalgische chansons van [Naam] en koffie met een croissantje. Komt u ook gezellig langs?</p> <p><b>Meer informatie</b> Meer informatie over [Wijk] Begroot vindt u op [Website]. Kijk vooral ook op de pagina met veelgestelde vragen.</p> <p>Kunt u het antwoord op uw vraag niet vinden op de website? Neem dan contact op met [Naam], projectleider [Wijk] Begroot. Zij is te bereiken via [E-mail] en via telefoonnummer [Telnr].</p> <p>Laat uw stem horen via [Website] en graag tot ziens op zaterdag 15 juni!</p>	<p><b>Hulp nodig bij het stemmen?</b> Als u moeite heeft met online stemmen, vraag dan hulp aan familie, vrienden of buren. U kunt ook langskomen bij [Locatie]. Daar zijn op <u>maandag 3 juni van 17.00 tot 20.00 uur</u> en <u>woensdag 5 juni van 9.00 tot 12.00 uur</u> medewerkers van het stadsdeel aanwezig die u kunnen helpen. Neem deze brief met uw persoonlijke stemcode en legitimatiebewijs mee. U kunt ook stemmen voor anderen. Neem dan zijn of haar persoonlijke stemcode, kopie van het legitimatiebewijs en een schriftelijk akkoord mee.</p> <p><b>Feestelijke bekendmaking [Wijk] Begroot</b> De plannen die het meest zijn gekozen en samen binnen het budget van €30.000,- passen, worden uitgevoerd. Op <u>zaterdag 15 juni om 10.00 uur op [Locatie]</u> wordt, tijdens de opening van Open Ateliers [Wijk] e.o., bekend gemaakt welke plannen dit zijn. We vieren de bekendmaking van de winnaars graag samen met de buurt onder het genot van de nostalgische chansons van [Naam] en koffie met een croissantje. Komt u ook gezellig langs?</p> <p><b>Meer informatie</b> Meer informatie over [Wijk] Begroot vindt u op [Website]. Kijk vooral ook op de pagina met veelgestelde vragen.</p> <p>Kunt u het antwoord op uw vraag niet vinden op de website? Neem dan contact op met [Naam], projectleider [Wijk] Begroot. Zij is te bereiken via [E-mail] en via telefoonnummer [Telnr].</p> <p>Laat uw stem horen via [Website] en graag tot ziens op zaterdag 15 juni!</p>

Note: The highlighted text differs per condition.

Figure 2 Experimental Materials (See Appendix for Translation)

the appendix for the manipulation). The experimental and control conditions also differed in the sentence that was printed as the topic, which was repeated three times: (1) on the envelope, (2) as the header of the letter, and (3) as the subhead of the second paragraph of the letter.

The topic of the experimental condition was formulated as “decide together with your neighbors about plans for your neighborhood.” This message was inspired by the descriptive social norms manipulation in Nolan et al. (2008) and stressed social norms by emphasizing that other neighbors were also participating, and by underlining the similarity between the recipient and neighbors by mentioning the neighborhood as locale for participation. Additionally, in the paragraph text, we followed Groves, Cialdini, and Couper (1992), who suggest that social norms can be signalled by communicating about previous participation. In the text we stress that many neighbors already participated, by stating how many likes (votes) had been given by participants in the previous round. In the control condition, we used the topic and paragraph text that the public managers originally drafted. All information from the control letter was also covered in the experimental letter, meaning that the overall message of both letters was the same, with the exception of the social norms in the experimental condition. We note, however, that since the topic sentence differed for the two conditions and was also printed on the envelope, for citizens who did not open the envelope, the two conditions were different rather than that the experimental manipulation was added onto the control. This means that our conclusions should be interpreted as the effect of the social norm message relative to this specific control condition, which partly contained another statement.

Members of one household received the same recruitment message to avoid subjects comparing the different messages and uncovering the manipulation. To ensure that people living on the same address were in the same experimental condition, we systematically assigned subjects into experimental groups based on even ( $N = 2,998$ ; 49.42 percent; control condition) and odd ( $N = 3,068$ ; 50.58 percent; social norms condition) house numbers. This allocation method was chosen since the systematic assignment could be carried out by the public managers in charge of preparing the letters. While we recognize that this is not a randomized allocation method in the narrow sense, it does ensure that the letters were evenly distributed throughout the neighborhood. Also, other researchers have utilized this method for impactful behavioral experiments (e.g., Allcott and Rogers 2014) and as-if random allocation is commonly used in natural field experiments (Dunning 2012). We confirmed that this split in the sample yielded balanced experimental groups that showed no difference with respect to gender ( $X^2 = 0.01$ ;  $p = .919$ ,  $V = 0.00$ ) and a small group difference with respect to age ( $t = 2.006$ ;  $p = .045$ , Cohen's  $d = 0.08$ ), for which we control in our multivariate analyses.

Debriefing about the experiment took place after the online participation platform was closed and the winning projects had been announced. An article about the platform and the experiment was printed in a neighborhood magazine that was distributed door to door. This article explained our experimental procedures and included contact information of the scholars in case citizens had any additional questions about the experiment.

## Data Collection and Analysis

Within our experiment, we made use of administrative data to learn about the demographic characteristics of (non)participants. From the administrative registrar of the city, personal data were obtained for the whole target population, including names, home addresses, and sociodemographic characteristics (age and gender). As a privacy measure, personal data were pseudonymized. The data were split into two data sets, and an identification code was attached to each individual entry to link the name and home address in the first data set to sociodemographic characteristics in the second data set. The personal identification code was printed in the letters, and citizens had to enter this code on the online participation platform to submit their vote. After the experiment, the scholars received the list of personal identification codes that were used and, using a Python script, identified (non)participants in the data set with sociodemographic characteristics. Participation in the online participation platform was operationalized as submitting a vote by using the personal voting code. In this way, a data set was constructed with data on age, gender, and participation for each person in the target population. We also computed and added a quadratic term for age to this data set to be able to examine curvilinear effects in our analyses.

We test our hypotheses by computing logistic regression models and stepwise adding our explanatory variables (see table 2). In models 1a and 1b, we test for a direct effect of age and gender on participation; model 1b also includes the quadratic term for age. In model 2, we test whether the experimental condition has a direct effect on participation. In models 3a and 3b, we again test for the direct effect of the experimental condition on participation, now controlling for gender, age, and age squared. Lastly, we compute two models with interaction effects: model 4a, which includes interaction terms for the experimental condition by gender and age, and model 4b, which also includes an interaction term for the experimental condition by age squared.

## Results

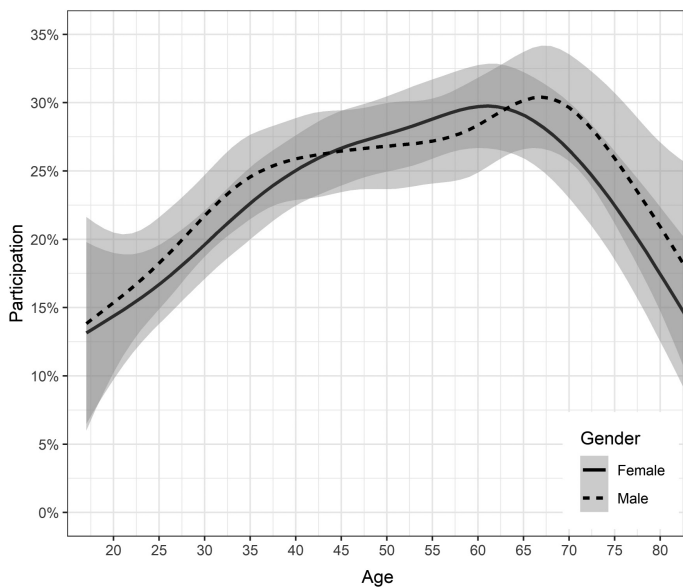
As shown in model 1a, we find no direct effect of gender on participation. The difference in participation between women (23.28 percent) and men (24.66 percent) is not statistically significant, rejecting hypothesis 1. The results indicate that women participate equally as much in the online participation platform as men. For age, we find that citizens are more likely to participate when they are older, and this effect is statistically significant. More specifically, the odds of participation increase by 1 percent for each year that a person is older. Moreover, model 1b shows a significant direct effect of age squared on participation, meaning that the odds of participation initially increase with age, but at a certain age start to level out. This confirms hypothesis 2. We find that younger people and elderly people participate less in the online participation platform. To understand these findings more intuitively, figure 3 shows the smoothed conditional means for participation at each age as a function of gender. This figure confirms the curvilinear relationship between age and participation, showing that participation initially grows with age but begins to diminish at age 65–70. Also, it is visible that for each age, women and men participate equally in the online participation platform.

Considering the effect of descriptive social norms on participation, model 2 shows that the odds of participation decrease by 18

**Table 2** Logistic Regression Results Predicting Participation (Participation = 1)

	Dependent Variable: Participation (Odds Ratios)						
	(1a)	(1b)	(2)	(3a)	(3b)	(4a)	(4b)
Social norms recruitment message			.82*** (.73–.92)	.82*** (.73–.92)	.83** (.74–.94)	1.04 (.80–1.34)	1.03 (.75–1.42)
Female	.93 (0.83–1.01)	.95 (0.84–1.07)		.93 (.83–1.04)	.95 (.84–1.07)	.92 (.78–1.09)	.94 (.80–1.11)
Age	1.01*** (1.00–1.01)	1.06*** (1.04–1.07)		1.01*** (1.00–1.01)	1.06*** (1.04–1.07)	1.01*** (1.01–1.02)	1.09*** (1.06–1.12)
Age <sup>2</sup>		1.00*** (1.00–1.00)			1.00*** (1.00–1.00)		1.00*** (1.00–1.00)
Social norms recruitment message * Female						1.01 (.80–1.29)	1.02 (.81–1.30)
Social norms recruitment message * Age						.99* (.98–1.00)	1.00 (.96–1.05)
Social norms recruitment message * Age <sup>2</sup>							1.00 (1.00–1.00)
Intercept	.26*** (.23–.30)	.15*** (.12–.18)	.35*** (.32–.38)	.29*** (.25–.34)	.16*** (.13–.20)	.26*** (.21–.31)	.19*** (.15–.24)
Observations	6,066	6,066	6,066	6,066	6,066	6,066	6,066
AIC	6,664.5	6,608.1	6,671.8	6,655.8	6,600.8	6,654.2	6,599.9
Log-likelihood	–3,329.2	–3,300.0	–3,333.9	–3,323.9	–3,295.4	–3,321.1	–3,291.9

Notes: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ . 95% confidence interval in parentheses. Age is coded such that age 18 = 0.



**Figure 3** Smoothed Conditional Means for Participation by Gender

percent when people are in the experimental condition compared with the control condition, and this effect is statistically significant. Contrary to our expectation, this indicates that the letters containing descriptive social norms did not elicit more but less participation in the online participation platform (22.13 percent) compared with the control letters (25.82 percent, figure 4). Models 3a and 3b confirm that this direct negative effect remains present when controlling for gender, age, and age squared. These findings lead us to reject hypothesis 3. We find that communicating descriptive social norms in recruitment messages decreases participation compared with our control condition that did not mention social norms.

Lastly, we consider in model 4a and 4b whether the effect of descriptive social norms on participation varies for citizens with different sociodemographic characteristics. First, we consider whether there are gender differences in response to descriptive social norms. We find no difference in how women and men respond to the two recruitment messages, as evidenced by the nonsignificant interaction term of the experimental condition by gender in both models. Therefore, we reject hypothesis 4 that the effect of descriptive social norms in recruitment messages on participation is stronger for women compared with men.

Next, we direct our focus to differences in age. In both model 4a and 4b, we note that there is no longer a significant direct effect of the experimental condition on participation. For model 4a, this effect is instead captured in a significant interaction effect of the experimental condition and age. To interpret this effect, we plot the predicted probabilities of participation for age by experimental condition in figure 5a. In this figure, we see that there is no clear relationship between age and participation for the social norms condition, whereas in the control condition, we can clearly observe that the predicted probabilities of participation increase with age. In comparison, in model 4b, we find no significant interaction effects of the experimental condition with age. In this model, only the direct effects of age and age squared on participation are statistically significant. If we plot the predicted probabilities of participation for age squared by experimental condition, though, we still observe that the curve of the relationship between age and participation varies slightly between the two conditions, see figure 5b. We note that the confidence intervals for the predicted probabilities of participation overlap for most of the figure, except between the ages of 55 and 80, where there is a significant difference in the predicted probabilities of participation dependent on the type of message citizens received.

For hypothesis 5, based on the results of model 4a, we draw the conclusion that the effect of the descriptive social norms

recruitment message is actually stronger for older people compared with younger people, and the effect is negative. However, if we base our conclusion on the results of model 4b, we assert that the type of message makes no significant difference for younger or older people. Based on both models, we reject hypothesis 5, albeit with different reasoning.

As a final step, we also descriptively examine the interaction effect of age by experimental condition and plot figure 6, showing the smoothed conditional means for participation. In this figure, we observe a pronounced effect of the experimental condition on participation between the ages of 60 and 75. For the descriptive social norm condition, we find that participation starts to decline again at an earlier age, around 55. In contrast, for the control

condition there is a large peak in participation around age 65, showing a 10 percent difference in participation compared with the descriptive social norm condition.

## Discussion

This research fills a gap in the literature on the transformative potential of online participation platforms as a channel for government-citizen interactions (Ahn and Bretschneider 2011). Particularly, we focused on the question whether online participation platforms are tools that improve inclusivity in citizen participation. Studying a state-of-the-art online participation platform in a Dutch city, we find that almost 24 percent of all citizens in the neighborhood participated (1,453 people). In our view, this is a substantial share of participants. In an offline setting, it would be difficult for public managers to accommodate meaningful interactions with citizens at such a scale. The participation in this platform can thus be seen as one example of how online platforms and other innovative technologies may facilitate more widespread government-citizen interactions (Nabatchi and Mergel 2010).

We focused our experiment on the concern that self-selected participants may not be representative of the wider population and that participation is therefore not inclusive (Fung 2006). Our results indicate that women and men participated equally in the online platform, showing that online participation platforms can be inclusive with regard to gender. For age, we observe a dip in participation by the oldest citizens, which may be explained by a difference in access, skills and motivation as put forward by the digital divide literature (van Dijk 2013). Also, we find that younger people are participating less, which may be attributable to their lower degree of vested interests in society (Panagopoulos and Abreja 2014). This concurs with the findings of Thijssen and van Dooren (2016) that offering online participation channels is not enough to attract younger participants, but that government-citizen interactions should resonate with different incentives to participate.

As a first step toward learning how communication can be tailored to facilitate inclusive participation, we tested for the effectiveness of descriptive social norms in recruitment messages. Speaking toward

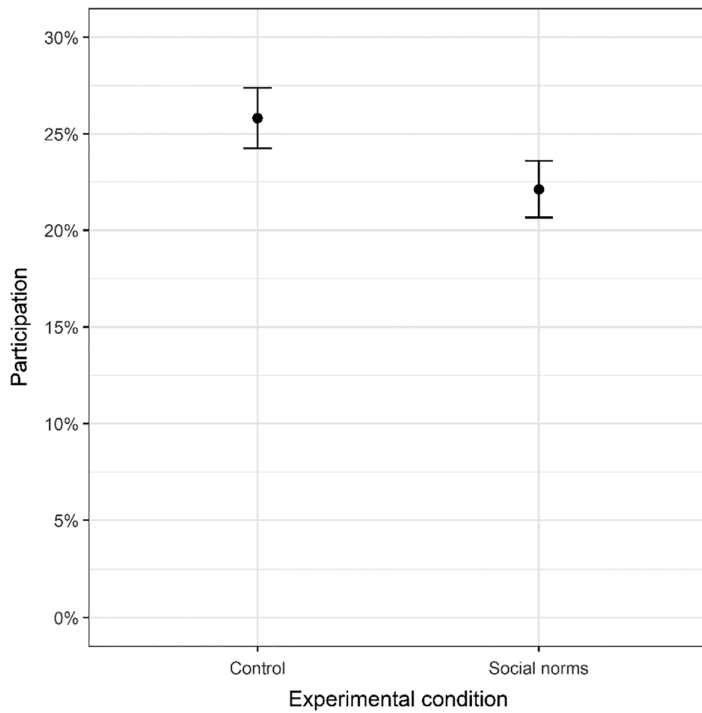
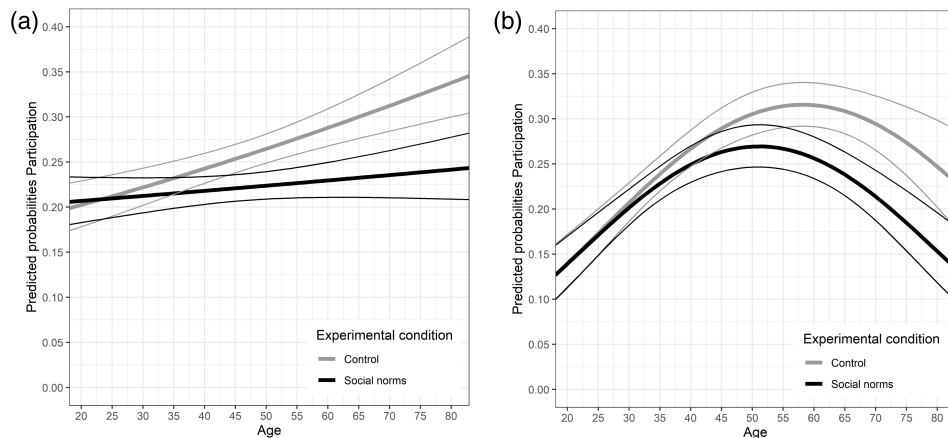
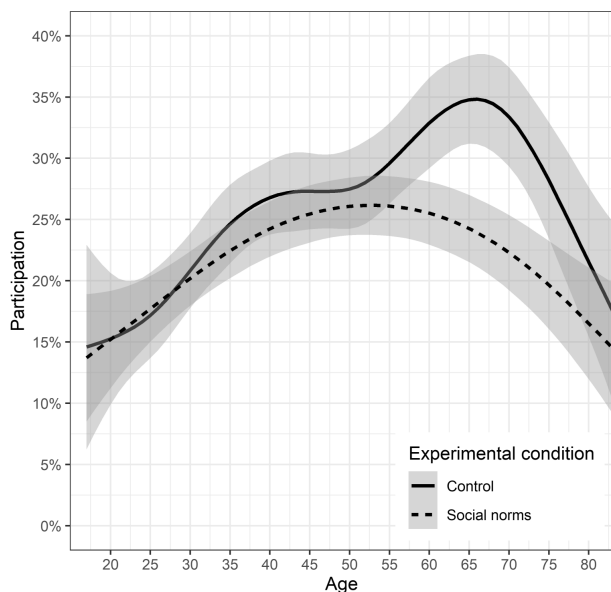


Figure 4 Participation and Experimental Condition



Note: The narrow lines present the 95% confidence interval.

Figure 5 Interaction Effects of Age (5a) and Age Squared (5b) by Experimental Condition on Participation.



**Figure 6 Smoothed Conditional Means for Participation by Experimental Condition**

the growing research field of behavioral public administration, we conducted a field experiment to examine whether descriptive social norms can nudge citizens toward an online participation platform and whether this stands in relation to citizens' sociodemographic characteristics (see Grimmelikhuijsen et al. 2017). Our experiment shows that the recruitment message that citizens receive influences both the level of participation overall and the demographic makeup of the participating group. Contrary to our expectation, the descriptive social norm intervention did not increase overall participation compared with the control message but rather reduced it. This contrasts with prior evidence of the successful use of descriptive social norms to stimulate desired behaviors (e.g., Nolan et al. 2008).

Evaluating the effect of recruitment messages in relation to sociodemographic characteristics, we see no difference in how women and men responded to the two messages. For age, we do observe a difference, which on closer examination is mainly present for citizens between the ages of 60 and 75. For this group, participation peaks for citizens who received the control message, but steadily declines for citizens who received the descriptive social norms message. A possible explanation for this finding is presented by Gustafson and Hertting (2017), who report that older citizens are mostly driven by self-interest motives to participate, rather than common good or professional competence motives. Because the descriptive social norms message stresses communal aspects of participation, this does not particularly speak to self-interest motives. The peak in participation from age 60 to 75 under a specific condition shows that government recruitment strategies can influence participation for specific subgroups. This implies that, when used successfully for underrepresented groups, communication may ultimately make participation more inclusive. The wording of recruitment messages is thus an additional design choice wherein public managers need to be aware of its effect on inclusivity (Clark 2018).

The design of our experiment has some implications that need to be noted. First, the way in which we measure participation may

be considered conservative in that it only captures participation for citizens who voted on the online platform and disregards participation of citizens who did visit the platform but did not cast a vote. At the same time, our measurement of participation has the benefit of being highly realistic (Meier and Funk 2017). We captured whether citizens participated in an online participation platform that was genuinely used by government to facilitate government-citizen interactions. This is a highly reliable measure of participation, compared with, for instance, measuring citizens' intentions to participate, rather than their actual behavior, and can serve as an example for future research in this field.

Second, the opportunity of conducting a field experiment in collaboration with a municipality comes with practical limitations of the real-life setting, most notably, the limited space for printing on the envelope. On the envelope, the descriptive social norms message partly replaced the control message rather than that it was added onto it. Given the peak in participation in the 60-to-75 age group in the control condition, there is the possibility that the descriptive social norms in the experimental condition may have masked an element in the control condition which would otherwise have been more salient, such as the €30,000 budget message.

Our decision to utilize existing administrative data for capturing data about our sample also has a specific implication, namely that we have no information about underlying attributes that may explain (non) participation such as personality, values, or technical skills (Ianniello et al. 2018). We purposefully decided against assessing these latent variables on the platform, since this could only be done by including additional survey questions as a requirement for participation. This means we would only capture these underlying attributes for participants and not for nonparticipants. Moreover, such a requirement could cause higher attrition when citizens are discouraged by the accompanying scientific study even though they are interested in participating in government decision-making. The risk of confounding government participation with scientific participation is now kept to a minimum, resulting in a more reliable measure for participation. Also, our research strategy is a useful compromise for public managers who simultaneously want to assess who participates on the platform while keeping barriers to participation at a minimum (Robbins, Simonsen, and Feldman 2008).

We propose that our research can be expanded in two directions. First, we encourage future research to further identify who takes part in online participation by testing for other sociodemographic variables. Particularly, differences across socioeconomic status, education level, and ethnic background are worthwhile to address further (Clark, Brudney, and Jang 2013; Fung 2006). This future research could adopt our strategy of using administrative data to capture sociodemographic variables. Scholars need to be aware, however, of some challenges that may be encountered. Broadening the scope of administrative data may be difficult when this requires combining different data sets to capture all variables of interest (Giest 2017). This is only possible when both data sets include the same unique identifiers so that the data sets can be linked for entries at the individual level. Moreover, scholars need to consider which variables can ethically be used for these research purposes without giving citizens prior notice. This implies that for more sensitive data it may not be possible to experiment at the individual level.

Second, we propose that additional research is necessary to test an array of interventions to learn more precisely how participation can be stimulated for a variety of categories of participants. Our study shows that public managers can influence participation of specific subgroups with targeted communication; however, we do not yet know what messages are effective for various sociodemographic groups. Behavioral experiments could further test for different communication strategies. Research could, for instance, evaluate the effectiveness of communicating other decision heuristics, such as reciprocity, scarcity, or liking, for stimulating participation (Groves, Cialdini, and Couper 1992). Alternatively, research could test for priming different motivations for participation that are likely to vary between different sociodemographic groups (Gustafson and Hertting 2017).

## Conclusion

This study shows that participation in online platforms varies for citizens with different sociodemographic characteristics. We find that women and men participate equally on the platform, suggesting that online platforms can be inclusive with regard to gender. For age, we find that the relationship with participation is curvilinear and participation is lower for younger and older citizens. We also find that recruitment messages can affect whether citizens participate in online platforms and that this effect differs between sociodemographic groups. Particularly, we observe a peak in online participation among 60- to 75-year-olds who received the control recruitment message, contrasting with a steady decline in participation from citizens in these age groups who received the descriptive social norms message.

This study aims to be the starting point for a promising line of research on how to promote inclusive citizen participation of different sociodemographic groups in online participation platforms. Especially in contexts in which online platforms are released in separate iterations, scholars and public managers can collaborate in series of experiments to test how to successfully combine the technological innovations of online platforms with strategically designed government-citizen interactions for facilitating inclusivity. Such collaborations may answer calls for large scale and longitudinal research on citizen participation in decision-making processes (e.g., Ebdon and Franklin 2006). This research simultaneously addresses a gap in public administration literature and helps public managers with the practical question of how to maximize the transformative potential of innovative online platforms for enhancing inclusive citizen participation.

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## Appendix—Experimental Manipulation (English Translation)

### Topic

[Wijk] Begroot: Decide together with your neighbors about plans for your neighborhood (experimental condition) (or) [Wijk] Begroot: Decide about the expenditure of €30,000 (control condition)

Dear [First name],

It is with pleasure that district [District] presents you with a personal voting code for [Neighborhood] Begroot. With this code you can decide about the expenditure of €30.000,- on plans for your neighborhood. As a citizen, you ultimately know best what is good for [Neighborhood]. You can vote until 10 June 2019 via [website].

### **Decide together with your neighbors about plans for your neighborhood** (experimental condition)

In March you and your neighbors submitted plans to make [Neighborhood] more beautiful, social and green. Via [Website] citizens of [Neighborhood] have given 2,300 “likes” (= votes) to these plans. After a feasibility check by the municipality, 20 plans were selected whereof you can now decide together with your neighbors which will be executed. View the plans online and cast your vote!

(or) **Decide about the expenditure of €30,000** (control condition)

District [Name] has made €30,000 available for the executions of plans to make [Neighborhood] more beautiful, social and green. After a previous voting round and a feasibility check by the municipality, 20 plans were selected. Now it is your turn to divide this budget over the plans and thereby decide which will be executed.

### **Cast your vote**

- Go online and visit the page [Website];
- Look at the plans and decide which plans you think are the best;

- Divide €30,000 between your favorite plans. This is possible until 10 June 2019;
- Vote using your personal voting code. Note: you can only use this code once;
- The plans with the most votes are carried out.

### **Your personal voting code:**

[Code1234Code]

To be used by: [First names][Prefix][Last name]

### **Do you need help voting?**

If you find it difficult to vote online, ask for help from your family, friends or neighbors. You can also visit [Location]. On Monday 3 June from 17.00 until 20.00 hours and Wednesday 5 June from 9.00 until 12.00 hours employees of the district will be present there to help you. Please bring this letter with your personal voting code and your ID. You can also vote for others. Bring his or her personal voting code, a copy of their ID and a written agreement.

### **Celebratory announcement [Neighborhood] Begroot**

The plans that were voted for most frequently and that together fit the €30.000,- budget will be executed. On Saturday 15 June at 10.00 hours at [Location], the winning plans will be announced, during the opening of “Open Ateliers [Neighborhood].” We will celebrate the announcement of the winners together with the neighborhood whilst enjoying the nostalgic chansons of [Name] and coffee with a croissant. Will you join us?

### **More information**

More information about [Neighborhood] Begroot can be read on [Website]. Especially look at the page with frequently asked questions.

Are you not able to find the answer to your question on the website? Please contact [Name], project manager of [Neighborhood] Begroot. You can reach her via [Email] and via the phone number [Phone number].

Let your vote be heard via [Website] and we look forward to seeing you on Saturday 15 June!