The Role of Group Composition in Shaping Perceived Influence in Citizen Assemblies

Pauline Rielmann

S5172888

Department of Psychology, University of Groningen

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Supervisor: Dr. Anne Eichholtzer

Second evaluator: Dr. Maja Graso

In collaboration with: Alessia Ciani, Emma Garnier, Tia Lah, and David Mädler.

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Abstract

Citizen assemblies aim to improve democratic decision-making by involving a diverse sample of lay citizens in public deliberations. However, diversity alone does not guarantee equal participation. Research shows that gender dynamics often shape who speaks, who is heard, and who feels influential, with women frequently reporting lower perceived influence. This highlights the need to better understand how to structure deliberations so that all participants feel influential. The ASPIRe model proposes that starting in identity-affirming subgroups can empower participants and improve participation in subsequent diverse groups. This study tested these assumptions by examining how group composition (same-gender vs. mixed-gender) and sequencing (homogeneous-first vs. heterogeneous-first) affect perceived influence in citizen assemblies. Thirty-six university students took part in two rounds of small-group deliberation about university budget cuts in a mixed-design experiment. No significant effects were found for group composition or sequencing on perceived influence. However, exploratory analyses revealed a significant main effect of gender: women reported higher perceived influence than men. Descriptive trends further showed that women felt most influential in same-gender groups when these followed a mixed-gender discussion. A significant interaction between gender and condition order suggested that sequencing may shape women's experiences differently from men's. These findings challenge the ASPIRe model's assumption that beginning in identity-affirming groups reliably fosters later participation. Future studies should examine how group composition and sequencing interact with gendered dynamics and whether identity-affirming spaces can encourage equal participation in diverse deliberative settings, particularly in real-world citizen assemblies where social imbalances may be more apparent.

Keywords: Citizen Assemblies, Deliberation, Perceived Influence, Group Composition, Enclave Deliberation, Gender Dynamics

The Role of Group Composition in Shaping Perceived Influence in Citizen Assemblies

Citizen assemblies have gained popularity as a democratic innovation that engages lay citizens in deliberation and decision-making on public issues, allowing them to provide recommendations to policymakers (Perlaviciute et al., 2024). Although citizen assemblies aim to enhance democratic legitimacy and fairness, their actual impact on participants, particularly in terms of perceived influence, remains under-explored (Graham & Burkhalter, 2025; Liu et al., 2020). Citizen assemblies can foster trust and legitimacy when participation feels meaningful. Without a genuine sense of influence or inclusion, participants may perceive their involvement as merely symbolic or even disempowering (Firestone et al., 2017; Karjalainen & Rapeli, 2014; Perlaviciute, 2021).

Despite citizen assemblies aiming to include the general public, recruitment often skews toward more privileged individuals with greater time, education, or social capital (Perlaviciute, 2021). As a result, the diversity needed to ensure legitimacy and high-quality decision-making is often lacking, which limits the range of perspectives truly represented in deliberation (Ellemers & Rink, 2016; Perlaviciute, 2021). Nevertheless, even when diverse participants are present, not all voices are heard equally, which can leave some individuals feeling less influential in the discussion (Abdullah et al., 2016; Graham & Burkhalter, 2025).

One area where unequal influence is particularly well-documented is that of gender. Studies have shown that women are often perceived as less competent in group settings, find it harder to be heard, and report lower levels of influence over group decisions (Carli, 2001; Powers & Reiser, 2005). Such gender dynamics can result in unfairness in settings that are intended to provide everyone with an equal voice.

One proposed strategy for giving marginalised voices a stronger presence in deliberative settings is enclave deliberation: a process in which individuals engage in discussions within identity-based groups (e.g., gender or ethnicity) who share similar social

positions. These settings aim to reduce social pressure and empower participants to express themselves more freely (Karpowitz et al., 2009).

Our study builds on this approach by introducing a second phase of discussions involving mixed groups. This sequencing is thought to allow individuals to first affirm their perspectives in an identity-affirming setting, which can then translate into greater perceived influence when engaging with a more diverse group. This structure is based on the ASPIRe model (Haslam et al., 2003). Specifically, we investigate how group composition, sequencing, and gender affect participants' perceived influence. While subgroup discussions are common in organisational contexts (Haslam et al., 2003), little is known about participants' internal psychological experiences in deliberative settings (Abdullah et al., 2016). This lack of research on perceived influence in such contexts motivated the current study.

Literature Review

Perceived Influence in Group Discussions

Perceived influence refers to an individual's belief that their contributions meaningfully shape group decisions or outcomes, which in turn affects how engaged they are, how much they participate, and whether they feel their opinion matters (Karpowitz et al., 2012; Michalski et al., 2023; Morris et al., 2000). In the context of citizen assemblies, this internal sense of influence is central to the democratic value of inclusion. These assemblies are designed to gather diverse opinions and ensure participants feel empowered, heard, and engaged in shaping collective outcomes (Graham & Burkhalter, 2025). When individuals feel that their input is valued, they are more likely to contribute actively and confidently, behaviours that enhance their influence on the discussion (Abdullah et al., 2016). Research suggests that participants are more likely to view the decision-making process as fair, develop trust in it, and remain invested in its outcomes when they believe they have meaningfully influenced it (Abdullah et al., 2016; Firestone et al., 2017; Karjalainen & Rapeli, 2014).

While perceived influence does not always align with actual influence or speaking time, it reflects how participants perceive their role in the discussion. Some individuals may speak frequently yet feel ignored, while others may contribute little yet perceive their input as valuable (Bottger, 1984; Karpowitz et al., 2012). This internal sense of being heard, respected, and having an impact is central to whether participants view the process as inclusive and legitimate (Firestone et al., 2017). Although perceived influence is not a direct measure of actual influence, it serves as a meaningful proxy for engagement and efficacy.

Organisers of citizen assemblies often try to set ground rules that encourage equal speaking time, promote respect regardless of status or identity, and encourage diverse communication styles. However, research shows that more privileged participants often continue to dominate discussions (Abdullah et al., 2016; Karpowitz & Raphael, 2014).

In many group discussions, men tend to exert more influence: they speak more, are interrupted less frequently, and receive more acknowledgement from others (Carli, 1999; Craig & Sherif, 1986). By contrast, women are interrupted more, must contribute more to appear competent, and are taken less seriously (Carli, 2001; Karpowitz et al., 2012; Parthasarathy et al., 2017). The effects of these patterns of unequal treatment are twofold, affecting both who is heard and how people feel. Women are more likely to report lower levels of perceived influence, particularly in mixed-gender settings where dominant social norms can reinforce existing hierarchies (Karpowitz et al., 2012). Conversely, men often feel more influential because they hold higher-status positions within the group (Carli, 2001; Graham & Burkhalter, 2025). This discrepancy between actual contributions and people's perceived influence illustrates how social identities and power dynamics can affect the internal experience of deliberation. Without participants feeling influential, even well-designed participatory formats may fail to empower those they aim to include.

The composition of the groups individuals engage with, therefore, plays a crucial role in shaping how influential people feel. The following section will explore these dynamics in more depth.

Group Composition: Heterogeneous and Homogeneous

A group only exists in a psychological sense when its members feel they have a shared social identity, for example, "us as students", "us as psychologists", or "us as women" (Haslam et al., 2003). Although social groups can be defined in many ways, their identities only become meaningful when they are perceived as relevant in a given context. For instance, gender may be a salient identity in discussions about workplace discrimination, while student identity may be more relevant in debates about university policy. This concept forms the basis of both social identity theory (Tajfel & Turner, 1979) and self-categorisation theory (Turner et al., 1987), which propose that group behaviour is influenced by how individuals perceive themselves in relation to others. Though shared identities may form more easily in homogeneous groups, they can also emerge in heterogeneous groups when participants focus on common goals or shared membership at a higher level (Greenwood et al., 2014; Jans, 2020; Postmes et al., 2005). In this study, homogeneous groups refer to same-gender groups and heterogeneous groups to mixed-gender ones.

Heterogeneous groups bring a broader range of perspectives and experiences to the table, which enriches discussions, fosters creativity, and encourages diverse problem-solving approaches. Such diversity fosters more innovative, representative solutions (Cheng & Selvaretnam, 2022; Karpowitz et al., 2012; Manske et al., 2015). This is why heterogeneous groups are often aimed for in participatory settings: aligning with one of the core aims of citizen assemblies, which is to ensure representativeness and inclusivity in decision-making (Perlaviciute et al., 2021). However, such diversity can also hinder effective collaboration.

Having a diverse group of participants also introduces power dynamics that shape who feels influential and whose contributions are recognised. Individuals from historically marginalised groups, such as women in male-dominated settings, often find it harder to be heard and may contribute less actively due to implicit social norms (Davis, 2012; Graham & Burkhalter, 2025; Morgan, 1998; Smith-Lovin & Brody, 1989). These dynamics are shaped by gendered expectations regarding speaking time, expertise, and interruption. For instance, men often exert greater influence in group settings, not necessarily because of the substance of their contributions, but because they tend to dominate the conversation and interrupt others more frequently (Karpowitz et al., 2012; Smith-Lovin & Brody, 1989; Youngquist, 2009). This can undermine women's perceived and actual influence. Empirical findings reflect this: Clayton et al. (2025) found that a woman's influence is halved when she is the only woman in a group of men, while Karpowitz (2024) shows women often feel and are perceived as less influential in mixed-gender settings. Importantly, diverse groups are not inherently unequal, but without intentional design, underlying hierarchies may be amplified, limiting how influential some participants feel.

Homogeneous groups, or 'enclaves' (Sunstein, 2002), have several advantages that can increase participants' comfort, engagement, and sense of influence. Such settings often promote psychological safety, as shared backgrounds or experiences help to build trust and reduce the fear of being judged (Greenwood et al., 2014; Haslam et al., 2003; Karpowitz et al., 2009; Morgan, 1998). This shared context strengthens interpersonal bonds, encourages collective meaning-making, and enables participants to express themselves more openly (Deffa, 2015; Wilkinson, 1998; Yang, 2019). People often find it easier to reconsider their views among similar others than in diverse groups (Karpowitz et al., 2009). For women in particular, being outnumbered can reduce how seriously their ideas are taken (Craig & Sherif, 1986), whereas the presence of other women can counteract tokenism and boost engagement

(Saenz, 1994). Enclaves can be especially empowering for marginalised individuals, who often feel more confident and willing to participate when surrounded by others who share their identity (Carli, 2001; Abdullah et al., 2016). This increased comfort can translate into more active participation and a stronger sense of influence over group outcomes.

While homogeneous groups offer important benefits, they also have limitations, particularly with regard to intellectual diversity. Shared backgrounds can result in a more limited range of perspectives, potentially hindering creativity and the group's capacity to adapt or generate new ideas (Deffa, 2015; Greenwood et al., 2014; Karpowitz et al., 2009). Such settings also carry the risk of groupthink or polarisation, as enclave deliberations can reinforce existing divisions and intensify disagreement between opposing views (Karpowitz et al., 2009; Sunstein, 2000, 2009).

Therefore, it is important to create social spaces where like-minded people can deliberate while ensuring these groups are not isolated from conversations with people who hold different views. Promoting the interests of those inside and outside these enclaves is crucial, as is encouraging the exchange of ideas across different perspectives (Sunstein, 2000).

The Moderating Role of Order Effect in Group Composition

The order in which individuals engage with different group compositions may shape how much influence they feel they have within a discussion. Specifically, beginning in a homogeneous group can create a stronger foundation for participants to feel heard and validated (Haslam et al., 2003; Karpowitz et al., 2009). These homogeneous settings aim to reduce social pressure, foster psychological safety, and empower participants to express themselves more freely outside the norms often imposed by dominant group members (Karpowitz et al., 2009). The underlying idea is that participants starting in an identity-affirming environment may carry that comfort into subsequent, more diverse

discussions. This may lead to greater perceived influence even in mixed settings (Abdullah et al., 2016; Haslam et al., 2003; Peters et al., 2013).

This sequencing is theoretically supported by the ASPIRe model (Actualising Social and Personal Identity Resources; Haslam et al., 2003). The model suggests that subgroup engagement enhances individuals' preparedness to participate, making them feel more influential in later group discussions. This is particularly true for members of marginalised groups (Abdullah et al., 2016; Haslam et al., 2003). Starting in a homogeneous group enables individuals to strengthen their social identity and develop a sense of influence in a psychologically safe environment. Nierse and Abma (2011) further suggest that enclave deliberation enables participants to transform personal or marginalised experiences into more easily communicable group perspectives. Though not applying all elements of the ASPIRe model, our study draws on its core idea: subgroup cohesion enhances later engagement.

Peters et al. tested the ASPIRe model in 2013. They found that affirming subgroup identities in a safe setting fostered a shared understanding, making participants more open and confident in later interactions with diverse groups. This suggests that prior deliberation within an enclave can enhance inclusion and engagement in heterogeneous environments.

Eggins et al. (2002) found that participants who began in same-gender subgroups felt more connected to their group and were more satisfied with the negotiation process. This suggests that beginning in a supportive, identity-based setting can lay the groundwork for more effective collaboration. This may be particularly advantageous for women, who frequently encounter greater barriers to being heard and influencing group decisions in mixed-gender settings (Clayton et al., 2025; Karpowitz et al., 2012). The presence of other women has been shown to enhance participation and foster a sense of empowerment (Carli, 2001), which could counteract power imbalances. Therefore, starting in a same-gender group may boost women's confidence and perceived influence in subsequent mixed discussions.

Taken together, these findings support the idea that homogeneous groups can increase influence in diverse contexts, particularly for women (Abdullah et al., 2016).

Building on this literature, our study investigates how the order in which group discussions are experienced affects participants' perceived influence in deliberative settings. Participants will take part in one discussion in a same-gender (homogeneous) group and one in a mixed-gender (heterogeneous) group. By randomly assigning the order of these group conditions, we will explore whether starting in a homogeneous group increases participants' perceived influence and whether this effect carries over into the more diverse group setting.

Hypotheses

Hypothesis 1 (Main Effect of Group Composition)

Following this line of thought, participants are likely to feel more influential when engaging with similar others because homogeneous groups may provide a more comfortable space for participation than heterogeneous groups (Karpowitz et al., 2009).

Participants will report different levels of perceived influence on group discussion outcomes, depending on the group composition. More precisely, they will report higher perceived influence in homogeneous groups compared to heterogeneous ones.

Hypothesis 2 (Order as a Moderator)

Building on this, we expect individuals to feel more influential when first engaging with a homogeneous group before transitioning to a heterogeneous one.

We hypothesise that there is an interaction between group composition and condition order on perceived influence. Specifically, we expect that participants who begin in a homogeneous group will report a greater increase in perceived influence between the two group types, compared to those who begin in a heterogeneous group.

Exploratory Hypothesis 3 (Gender as an Additional Moderator)

Furthermore, we expect this effect to be stronger for women because engagement with their subgroup may provide a sense of empowerment that counteracts their marginalised status. In contrast, we do not expect a similar effect for men because enclaves primarily empower those with less social power (Karpowitz & Mendelberg, 2018).

H3a: *Gender will moderate the relationship between group composition and perceived influence. We expect that women will report higher perceived influence in homogeneous groups compared to heterogeneous groups, while no such effect is expected for men.*

H3b: *Extending this, we will explore whether gender further moderates the interaction between group composition and condition order. Specifically, we expect that women who will start in a homogeneous group will report a greater increase in perceived influence across discussions compared to women who started in a heterogeneous group. No such pattern is expected for men.*

Methods

Participants

For our first hypothesis, we conducted an a priori power analysis using G*Power 3.1 (Faul et al., 2007), selecting a paired samples t-test to reflect our within-subjects design, in which each participant took part in both the homogeneous and heterogeneous conditions. The analysis indicated that 52 participants would be needed to detect a small-to-medium effect (Cohen's $d = 0.35$) with power = 0.80 and $\alpha = 0.05$ (one-tailed).

For our second hypothesis, which tested whether the order of group conditions (homogeneous first vs. heterogeneous first) affected outcomes, we ran a power analysis for a 2 (Condition: within-subjects) × 2 (Order: between-subjects) mixed-design Analysis of Variance (ANOVA). With an expected small effect size ($f = 0.20$), $\alpha = 0.05$, and power = 0.80, we again required a sample size of 52. Ultimately, we recruited 36 participants (16

female, 20 male, and 0 identifying as other), 27 of whom were psychology students.

Initially, participants were to be recruited primarily through SONA, where they would receive 1.3 SONA credits for their participation. However, due to difficulties in reaching the desired sample size, additional participants were recruited through the researchers' personal networks and were compensated with the opportunity to enter a raffle for one of four €25 vouchers. Additionally, we created posters to advertise our study, which we shared in group chats and posted on social media. An example of this poster is included in Appendix A1.

Research Design and Procedure

We conducted a 2x2 mixed-design experiment in which each participant took part in two discussion rounds: one in a gender-homogeneous group and one in a gender-heterogeneous group. The within-subjects factor was group composition (homogeneous vs. heterogeneous), and the between-subjects factor was the order in which participants experienced the conditions (homogeneous-first vs. heterogeneous-first). Groups were randomly assigned to one of the two order conditions to ensure counterbalancing.

Upon arrival, participants provided informed consent and received a unique identifier number, which they wore visibly on their shirts for the duration of the session. They then completed a brief 5-minute questionnaire assessing their attitudes towards the university budget cuts, their expectations for the discussions, as well as their confidence levels. The main part of the study involved two 15-minute group deliberations, each with three to five participants. This group size was appropriate because it allowed for a balance of structure and spontaneity. It was large enough to capture diverse perspectives but small enough to enable free-flowing discussion without the need for strict moderation or turn-taking rules. In total, 20 group discussions were conducted.

The composition of the groups changed between rounds: in one round, participants were placed in a homogeneous group, and in the other, in a heterogeneous group. Both

discussions focused on the ongoing budget cuts at the University of Groningen, with

participants being asked to reach a consensus on which social initiatives at the university

should be protected or cut. After each discussion, participants completed a 7-minute

questionnaire measuring their perceived influence during the deliberation process (see

Appendix A2), their attitudes towards the university budget cuts, and other outcome

variables that are not central to the present study. In this study, we use self-reported measures

to assess perceived influence. After the second discussion round, all participants were

debriefed together and informed that the true focus of the study was gender dynamics.

Moreover, we informed them that some of the social initiatives were either made up or not

exactly as described. Sessions lasted approximately one hour and were conducted in English.

Our study received ethical approval from the Ethics Committee of the Faculty of

Behavioural and Social Sciences (research code: PSY-2425-S-0266).

Measures

Perceived Influence Scale

The key outcome variable in this study was perceived influence on the discussion

outcome. To the best of my knowledge, no validated scale currently measures perceived

influence in group deliberation in a way that fits the context of this study. Therefore, I

developed a short three-item scale grounded in key theoretical components of influence:

subjective impact, *contribution to group discussion*, and *social validation* (e.g., Karpowitz et

al., 2012; Michalski et al., 2023; Morris et al., 2000). The items were:

  1. I feel like I had a significant influence on the group's discussion.

  2. I believe my opinions shaped the group's final decision.

  3. I feel like the other group members valued my input.

Participants responded using a 7-point Likert scale ranging from *1 = strongly disagree* to *7*

= strongly agree. The three items were averaged to provide an overall perceived influence

score, with acceptable internal consistency (Cronbach's α = .722).

Statistical Analysis

The statistical software JASP (2024) was used to evaluate how group composition and the order of exposure influenced participants' perceived influence during group discussions. To test Hypothesis 1, which proposed that participants would perceive greater influence in homogeneous groups than in heterogeneous ones, a paired-sample t-test was conducted to compare the perceived influence in the two conditions.

To evaluate Hypothesis 2, which predicted an interaction between group composition and order of exposure, a mixed-design ANOVA was performed, with group composition as the within-subjects factor and order as the between-subjects factor.

Finally, we explored whether gender moderated these effects by including gender as an additional between-subjects factor in the ANOVA model. However, this gender analysis was strictly exploratory. Before conducting the analyses, we examined the assumptions of normality and outliers using the Shapiro-Wilk test and boxplot inspection.

<div align="center">

Results

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Preliminary Analyses

Group composition and the experimentally manipulated order of group exposure served as the independent variables, while perceived influence was the dependent variable. The analyses were performed with JASP (2024).

Assumption Checks

To assess whether the data met the assumptions required for the statistical analyses, several checks were conducted. Normality of the difference scores between the homogeneous and heterogeneous group conditions was assessed using the Shapiro–Wilk test, which indicated no significant deviation from normality, W = 0.97, p = .360 (Table B1). This was further supported by visual inspection of the Q–Q plot (Figure C1). The boxplots for

homogeneous and heterogeneous conditions (Figures C2 and C3) also showed approximately symmetrical distributions and similar spreads.

To assess the homogeneity of variances for the between-subjects factor (condition order), Levene's test was conducted separately for perceived influence in the homogeneous and heterogeneous conditions. The test indicated significant differences in variances for both the homogeneous condition, $F(1, 34) = 6.30, p = .017$, and the heterogeneous condition, $F(1, 35) = 4.44, p = .042$ (Table B2). Although this suggests a violation of the assumption of homogeneity of variances, group sizes were reasonably similar across condition order groups ($n = 21–22$ vs. $n = 15$). Given this, the mixed ANOVA is considered sufficiently robust to proceed, though results should be interpreted with some caution.

Since gender was also included as a between-subjects factor, the same Levene's tests were conducted to assess the homogeneity of variances across gender groups. No violations of the homogeneity assumption were detected: $F(1, 34) = 0.76, p = .389$ for the homogeneous condition and $F(1, 35) = 0.06, p = .813$ for the heterogeneous condition (Table B3).

Descriptives

A total of 20 group discussions were held, with each participant taking part in two rounds: one in a homogeneous group and one in a heterogeneous group. Participants were randomly assigned to either the homogeneous-first or heterogeneous-first condition order, resulting in 21 participants starting in the heterogeneous condition and 15 starting in the homogeneous condition.

Table 1 presents the mean scores, standard deviations, and number of observations for perceived influence by group composition and condition order, while Table 2 displays the same descriptive statistics by gender.

As shown in Tables 1 and 2, average perceived influence scores were consistently above the midpoint of 4, which indicated neutral, showing that participants generally felt they

were able to influence the discussion outcomes. This positive trend was observed across all

group types and participant genders. However, the high average scores also suggest the

possibility of a ceiling effect, which may have limited the ability to detect more nuanced

differences between conditions.

Table 1

Mean, Standard Deviation, and Number of Observations of Perceived Influence by Group

Composition and Order

		M	SD	n
Homogeneous	Overall	5.33	1.01	36
	Homo first	5.22	0.70	15
	Hetero first	5.41	1.20	21
Heterogeneous	Overall	5.16	0.80	37
	Homo first	5.22	1.05	15
	Hetero first	5.12	0.59	21

Table 2

Mean, Standard Deviation, and Number of Observations of Perceived Influence by Gender

|		M	SD	n
Homogeneous	Overall	5.33	1.01	36
	Female	5.75	0.99	16
	Male	5.00	0.93	20
Heterogeneous	Overall	5.16	0.80	37
	Female	5.25	0.90	16
	Male	5.09	0.73	21

Main Analyses: Hypothesis Testing

Hypothesis 1

A one-tailed paired samples t-test was conducted to compare perceived influence in homogeneous and heterogeneous group compositions. Participants reported slightly higher perceived influence in homogeneous groups ($M = 5.33$, $SD = 1.01$) compared to heterogeneous groups ($M = 5.16$, $SD = 0.80$) (see Table 1). However, this difference was not statistically significant, $t(35) = 0.96$, $p = .171$, $d = 0.16$ (Table B4). While the difference was small, this pattern suggests a possible tendency for individuals to feel more influential in settings with similar group members.

Hypothesis 2

To test whether the effect of group composition on perceived influence depended on condition order, a mixed-design ANOVA was conducted with two factors: group composition (homogeneous vs. heterogeneous; within-subjects) and condition order (homogeneous-first vs. heterogeneous-first; between-subjects). The analysis revealed no significant interaction ($F(1, 34) = 0.65$, $p = .425$, $\eta^2\square = .019$). There was also no main effect of group composition ($F(1, 34) = 0.66$, $p = .423$, $\eta^2\square = .019$) or condition order ($F(1, 34) = 0.02$, $p = .897$, $\eta^2\square < .001$; see Table B5). This suggests that the order in which participants experienced the conditions did not significantly affect their perceived influence.

Although not statistically significant, descriptive patterns revealed some trends. Participants in the homogeneous-first condition showed relatively stable influence scores, while those who started in a heterogeneous group reported increased influence in the second homogeneous discussion (see Figure 1).

Figure 1

Estimated Marginal Means of Perceived Influence by Group Composition and Condition

Order
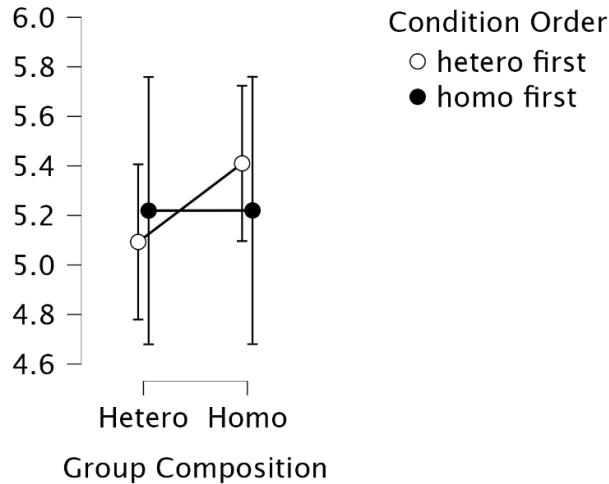
Hypothesis 3: Exploratory

To test H3a, a 2 (group composition: homogeneous vs. heterogeneous; within-subjects) × 2 (gender: male vs. female; between-subjects) repeated measures ANOVA was conducted to examine whether gender moderated the relationship between group composition and perceived influence. The analysis revealed a significant main effect of gender, $F(1, 34) = 4.19$, $p = .048$, $\eta^2 = .110$ (Table B6), indicating that women reported significantly higher perceived influence than men across both group types, as also illustrated in Figure 2. However, there was no main effect of group composition ($F(1, 34) = 1.30$, $p = .262$, $\eta^2 = .037$), nor a significant interaction between group composition and gender ($F(1, 34) = 2.22$, $p = .145$, $\eta^2 = .061$; see Table B6).

Although the interaction was not statistically significant, descriptive trends suggested that women reported slightly higher perceived influence in homogeneous groups compared to heterogeneous ones, while men's ratings remained relatively stable across both settings. This pattern is visualised in Figure 2.

Figure 2

Estimated Marginal Means of Perceived Influence by Group Composition and Gender
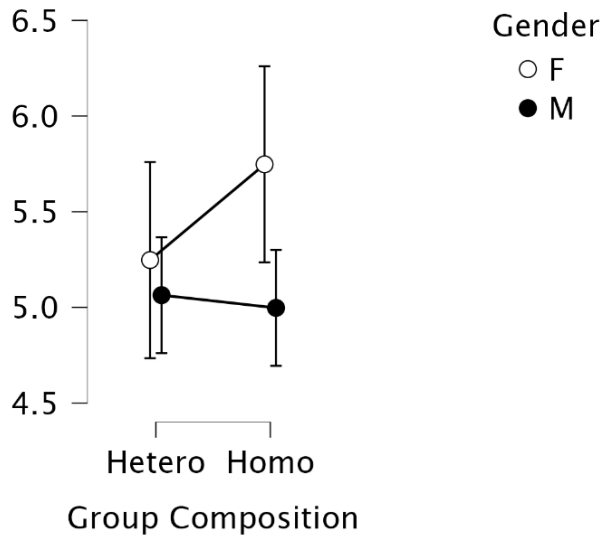
To test H3b and explore whether gender moderated the effects of group composition and condition order, a three-way mixed ANOVA was conducted, with group composition (within subjects) and condition order, and gender (between subjects) as the independent variables. No significant three-way interaction emerged ($F(1, 32) = 0.80$, $p = .379$, $\eta^2\square =$ .024), nor was there a significant interaction between group composition and gender ($F(1, 32)$ = 1.83, $p = .186$, $\eta^2\square = .054$). However, a significant interaction was found between gender and condition order, $F(1, 32) = 4.14$, $p = .050$, $\eta^2\square = .115$ (see Table B7), indicating that the order of conditions affected perceived influence differently for men and women.

To interpret this, simple main effects analyses were conducted. Among women, the effect of condition order approached significance ($F(1, 14) = 3.22$, $p = .094$), while no such trend appeared among men ($F(1, 18) = 1.30$, $p = .270$). A significant gender difference was found among those who started in a heterogeneous group ($F(1, 20) = 7.52$, $p = .013$), but not among those who began in a homogeneous group ($F(1, 13) = 0.04$, $p = .847$) (see Table B8). As illustrated in Figures 3 and 4, women reported a notable increase in perceived influence when moving from a heterogeneous to a homogeneous group. In contrast, men's ratings

remained stable, suggesting that sequencing may influence women's perceptions of influence more than men's.

Figure 3

Estimated Marginal Means of Perceived Influence for Female Participants by Group Composition and Condition Order
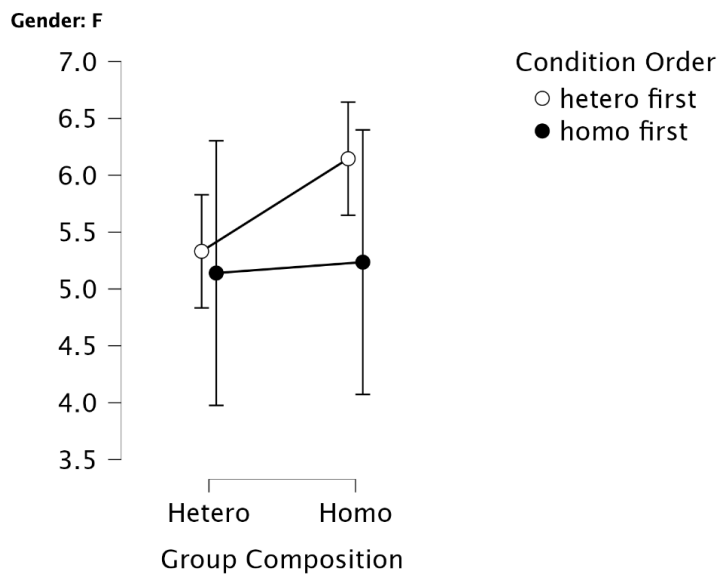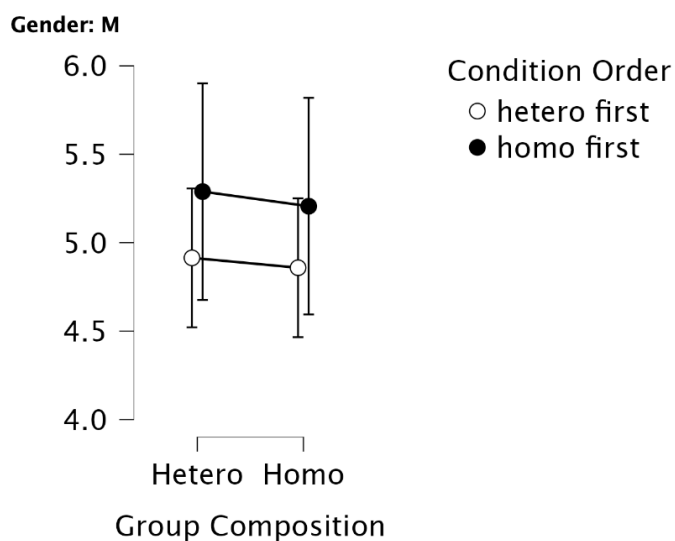

Figure 4

Estimated Marginal Means of Perceived Influence for Male Participants by Group Composition and Condition Order

Discussion

This study investigated how the composition and sequence of group discussions in citizen assemblies affect participants' perceived influence. Drawing on social identity theory (Tajfel & Turner, 1979) and the ASPIRe model (Haslam et al., 2003), we formulated hypotheses about the impact of group composition and order. Based on previous studies of gender dynamics in deliberation (Karpowitz et al., 2009; Carli, 2001), we predicted that participants would report a greater sense of influence in same-gender groups than in mixed-gender ones (H1). Moreover, we expected this effect to be amplified when participants started in a homogeneous group before transitioning to a heterogeneous one (H2). Furthermore, we expected this effect to be particularly pronounced for women, who tend to face more challenges in mixed-gender settings due to structural power imbalances and social norms that undermine their contributions (H3a, H3b). These hypotheses were informed by the idea that beginning deliberation in an identity-affirming environment may foster confidence and comfort, which in turn carries over into more diverse group discussions.

Hypothesis 1 was rejected, as participants did not report significantly higher perceived influence in homogeneous compared to heterogeneous groups. However, the means were in the predicted direction, with participants reporting higher perceived influence in homogeneous groups than in heterogeneous ones. Hence, the nonsignificance could be attributed to the study being underpowered, as we were unable to reach the target sample size of 52 participants.

Similarly, Hypothesis 2 was not supported, as there was no significant interaction between group composition and condition order. The descriptive trends did not follow the expected direction: participants who began in a homogeneous group showed relatively stable influence scores, while those who began in a heterogeneous group reported a slight increase in the second discussion. This pattern is in line with research showing that homogeneous group

settings tend to promote more balanced and confident participation, especially following earlier experiences of unequal dynamics in mixed groups (Zhou et al., 2023). Taken together, these findings do not support the sequencing assumptions of the ASPIRe model.

To explore gender dynamics, we tested whether gender moderated the relationship between group composition and perceived influence (H3a). While no significant interaction was found, the descriptive pattern aligned with expectations: women reported slightly higher influence in homogeneous groups, whereas men's ratings remained stable. These findings align with research on the empowering effect of identity-affirming spaces for women (Carli, 2001; Karpowitz et al., 2012). Interestingly, women in our sample reported significantly higher perceived influence overall, possibly due to the relatively egalitarian and reflective environment among psychology students.

Finally, our exploratory Hypothesis 3b was not supported, as no significant three-way interaction emerged. However, a significant interaction between gender and condition order indicated that sequencing affected women's, but not men's, perceived influence. Women who began in a heterogeneous group reported greater influence in the following homogeneous discussion, while those who started in a homogeneous group showed stable scores. These results contradict the ASPIRe model (Haslam et al., 2003) and imply that commencing in a mixed group could heighten women's awareness of power dynamics, making the subsequent same-gender setting more empowering (Carli, 2009; Karpowitz et al., 2012; Mendelberg et al., 2014).

Theoretical and Practical Implications

Our study contributes to the literature on equity and participation in deliberative settings by testing the ASPIRe model in a new context. The ASPIRe model was originally developed for organisational teams and assumes shared goals, familiarity, and long-term interaction, conditions which often do not apply in citizen assemblies (Haslam et al., 2003;

Haslam, 2014; Peters et al., 2013). Participants in citizen assemblies are usually strangers who are brought together for a short period of time and who may lack a shared institutional identity. These contextual differences could potentially explain why our findings did not support the model. Nonetheless, more research is needed to determine whether the model is appropriate for deliberative settings.

Women in our study reported greater perceived influence in homogeneous groups after starting in mixed-gender discussions, while men's ratings remained relatively stable. This sequencing pattern may reflect contrast effects, whereby perceptions of one setting are shaped by prior experiences (Schwarz & Bless, 1992). For women, who are often more attuned to social dynamics and hierarchies (Carli, 2001), transitioning into an all-female group following exposure to mixed-gender dynamics may have felt particularly empowering.

While our results do not support ASPIRe's sequencing logic, they offer valuable insights into designing inclusive deliberative processes. The women in our sample did not report lower perceived influence than the men overall; they just appeared to feel even more comfortable and confident when surrounded by other women, which highlights the value of enclaves as empowering spaces (Haslam et al., 2003; Karpowitz et al., 2009). Such identity-affirming settings may therefore be particularly empowering for marginalised individuals (Carli, 2001; Abdullah et al., 2016), such as women, given that men's perceived influence remained stable across both group types, while women experienced noticeable increases in homogeneous groups.

Limitations and Future Directions

There are several limitations to this study that should be acknowledged. Firstly, the study's small sample size likely limited the statistical power to detect interaction effects. Power analyses indicated that 52 participants were needed, but only 36 were recruited. This is especially relevant for Hypotheses 1 and 3a, where trends aligned with predictions but were

not statistically significant. Future research with larger, more diverse samples is needed to clarify whether these patterns reflect real effects or sample-specific variation.

Secondly, almost all of the participants were students, the majority of whom were psychology students discussing a university-related issue. This may have created a strong shared identity, regardless of gender. Their similar educational backgrounds and likely progressive views on gender equality may have reduced power imbalances. The gender-focused initiatives and the topic of budget cuts could also have increased gender salience, especially for women, influencing both engagement and perceived influence. As a result, findings may not generalise to more diverse or less egalitarian populations. As Greenwood et al. (2014) observe, shared experiences can sometimes override demographic differences in establishing a sense of comfort and connection. In our case, student identity and task relevance may have reduced the impact of gender composition.

Thirdly, our study treated gender as a binary variable, overlooking the experiences of non-binary and gender-diverse individuals and how gender intersects with other identities like ethnicity, age, and education. Our participants were relatively similar in age and education, which may have muted some of the complexities. Future research should adopt more inclusive, multidimensional frameworks to examine how overlapping identities influence perceived influence.

Fourthly, whilst perceived influence is important, it remains inherently subjective. Our study did not assess actual influence, such as idea uptake or speaking time. Future studies should include behavioural measures to compare perceived and actual influence. Previous studies (Mejias et al., 2017) have shown that subjective and observed participation can differ greatly, highlighting the importance of assessing both perceptions and real dynamics. Even though their study focused on participation rather than influence, the findings highlight the

importance of assessing both how participants perceive discussions and what actually happens during them.

Fifthly, the experimental nature of the study may limit the extent to which the findings can be generalised. Unlike real-world citizen assemblies, this setting lacked real-life stakes or policy consequences, which could have affected the participants' motivation, emotional investment, and readiness to assert their influence.

Finally, as the ASPIRe model was originally developed for organisational teams, it may need to be modified for use in deliberative forums. Therefore, future research should explore if and how the model can be adapted for citizen assemblies.

Conclusions

This study challenges the sequencing logic of the ASPIRe model by showing that starting in a homogeneous group did not enhance perceived influence in subsequent mixed-gender discussions. Instead, in our study, women reported higher perceived influence after transitioning from a mixed-gender group to a same-gender one. This suggests not a deficit in influence, but rather the potential power of contrast; experiencing both kinds of setting may heighten awareness of instances when one's voice is fully recognised. This effect was observed only among women, while men's perceived influence remained stable across settings. This highlights the importance of identity-affirming spaces for those who are systemically less heard.

Overall, these findings suggest that fostering inclusion in citizen assemblies requires further research into the intentional design of sequencing and the creation of identity-affirming spaces. As citizen assemblies evolve, future research should adapt identity-based models such as the ASPIRe model to reflect the nuanced social realities and lived experiences of participants, ensuring that all individuals feel equally empowered to influence and shape decisions.

Acknowledgments

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Appendix A

A1

Recruitment poster

A2

Questionnaire Items: Perceived Influence

1. **Your role in the discussion**

   On a scale from 1 (Strongly disagree) to 7 (Strongly agree), please indicate how much you agree with the following statements:

	Strongly Disagree (1)	2	3	Neutral (4)	5	6	Strongly Agree (7)
I feel like I had a significant influence on the group's discussion	❏	❏	❏	❏	❏	❏	❏
I believe my opinions shaped the group's final decision	❏	❏	❏	❏	❏	❏	❏
I feel like the other group members valued my input	❏	❏	❏	❏	❏	❏	❏

Appendix B

B1

*Test of Normality (Shapiro-*Wilk)

	W	*p*
Difference Score (Homo – Hetero)	0.97	.360

B2

Levene's Test for Homogeneity of Variances by Condition Order

	F (1, 34)	*p*
Homogeneous Condition	6.30	.017
Heterogeneous Condition	4.44	.042

B3

Levene's Test for Homogeneity of Variances by Gender

	F (1, 34)	*p*
Homogeneous Condition	0.76	.389
Heterogeneous Condition	0.06	.813

B4

Paired Samples T-test

	t (35)	*p*	Cohen's d
Homogeneous vs Heterogeneous	0.964	.171	0.161

B5

Results of Mixed-Design ANOVA on Perceived Influence (Group Composition × Condition Order)

	$F(1, 34)$	p	η^2
Group Composition	0.66	.423	0.019
Condition Order	0.02	.897	< 0.001
Group Composition x Condition Order	0.65	.425	0.019

B6

Results of Mixed-Design ANOVA on Perceived Influence (Group Composition × Gender)

	$F(1, 34)$	p	η^2
Group Composition	1.30	.262	0.037
Gender	4.19	.048	0.110
Group Composition x Gender	2.22	.145	0.062

B7

Results of Three-Way Mixed ANOVA on Perceived Influence (Group Composition × Gender × Condition Order)

|	$F(1, 32)$	p	η^2
Group Composition x Gender x Condition Order	0.80	.379	0.024
Group Composition x Gender	1.83	.186	0.054
Gender x Condition Order	4.14	.050	0.115

B8

Simple Main Effects of Condition Order and Gender on Perceived Influence

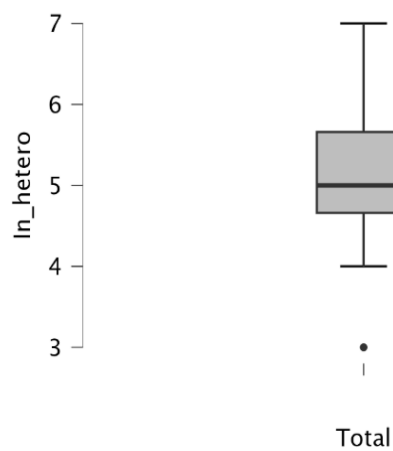|	F	p
Condition Order (within women)	$F(1, 14) = 3.22$	.094

Condition Order (within men)	$F(1, 18) = 1.30$	.270
Gender (within heterogeneous-first group)	$F(1, 20) = 7.52$	.013
Gender (within homogeneous-first group)	$F(1, 13) = 0.04$	.847

Appendix C

C1

Q–Q Plot of Difference Scores (In-homo - In_hetero)
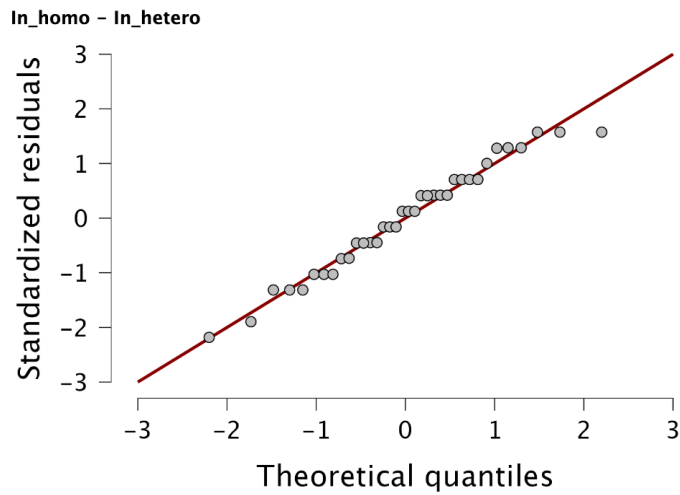
C2

Boxplot of Perceived Influence in Heterogeneous Groups

C3

Boxplot of Perceived Influence in Homogeneous Groups