

**Who is at the Table? Homogeneous vs Diverse Group Deliberations in Citizen  
Assemblies on Gender-Salient Issues**

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### **Abstract**

Gender has become an increasingly salient dimension of political polarization, yet little is known about how gender composition in deliberative settings influences attitudinal dynamics. This study examined whether gender-homogeneous discussion groups (all-male or all-female) produce greater attitude polarization than gender-heterogeneous groups when deliberating gender-salient university policies. Based on theories of social identity, deliberative democracy, and polarization, a within-subjects experimental design was used. Thirty-six university students (20 male, 16 female) participated in two 15-minute unmoderated group discussions, one in a homogeneous group and one in a heterogeneous group, focused on university policy programs. Attitude polarization was operationalized as changes in the strength (not direction) of individual preferences regarding gender-salient policies. Results showed no significant differences in polarization between homogeneous and heterogeneous discussions, nor between male and female participants in homogeneous groups. These findings challenge assumptions that demographic similarity inherently amplifies polarization and suggest that structured deliberative formats may mitigate identity-based reinforcement. The results underscore the importance of interaction norms over group composition in shaping opinion change.

**Keywords:** attitude polarization, deliberative democracy, gender, group composition, social identity

## **Who is at the Table? Homogeneous vs Diverse Group Deliberations in Citizen Assemblies on Gender-Salient Issues**

Political polarization has deepened across many advanced democracies. In the United States, women aged 18 to 30 are now 30 percent more liberal than their male peers, a gap that was created in just six years. Similar trends are visible in Western Europe as well, like Germany or the United Kingdom, with gender gaps of 30 and 25 percent, respectively (Burn-Murdoch, 2024). These patterns suggest that gender is becoming an increasingly salient factor of polarization, particularly among younger generations.

This emerging divide raises important questions about how social identities, such as gender, interact with attitude development. While macro-level explanations for gendered opinion gaps are well-documented (Inglehart & Norris, 2000; Ondercin & Lizotte, 2021), less is known about the micro-level processes through which attitudes are formed, reinforced, or challenged in interpersonal discussions (Levendusky et al., 2016).

One proposed mechanism for mitigating polarization is deliberative democracy, which encourages citizens to engage in structured group discussions designed to promote reflection and mutual understanding (Bächtiger et al., 2018). Yet, outcomes are not guaranteed. A growing body of research suggests that the composition of deliberative groups, specifically, whether participants share key identity markers, can significantly influence the direction and strength of opinion change (Luskin et al., 2022).

When individuals deliberate in gender-homogeneous groups, shared identities may foster in-group reinforcement and intensify pre-existing attitudes (Brauer et al., 2001; Levendusky et al., 2016; Paicheler, 1979). In contrast, gender-heterogeneous groups may introduce a diversity of viewpoints, encouraging perspective-taking and potentially moderating extreme positions (Levendusky et al., 2016; Yaniv, 2011). However, empirical evidence on how gender composition shapes these dynamics, especially in discussions of

gender-salient topics, remains limited. As deliberative forums become an increasingly common tool for democratic engagement (Flanigan et al., 2021; Stadelmann-Steffen & Dermont, 2016), it is essential to examine how the composition of such groups, particularly in terms of gender, shapes the dynamics and outcomes of these conversations.

### **Deliberative Democracy and Citizen Assemblies**

Deliberation refers to a structured and open-minded exchange of arguments and evidence aimed at helping individuals form more informed and reflective opinions (Abdel-Monem et al., 2010; Suiter et al., 2014). In a political context, deliberative democracy is seen as a mechanism to refine the “public will” by enabling participants to consider competing perspectives, weight potential outcomes, and relate policies to their values and interests (Luskin et al., 2022). Unlike informal discussions or debates, deliberation is not about winning arguments, but about reasoning together without coercion, deception, or withholding information (Abdel-Monem et al., 2010; Luskin et al., 2022). It does not require consensus but seeks to elevate the quality of opinion through mutual consideration of relevant viewpoints (Luskin et al., 2022; Suiter et al., 2014).

A key institutional expression of this ideal is the citizens assembly, a form of civic participation where a randomly selected and demographically representative group of citizens gathers to deliberate on a specific policy issue (Flanigan et al. 2021). Sometimes referred to as deliberative minipublics, these assemblies aim to stimulate how a well-informed public might reason under ideal conditions (Smith & Setälä, 2018; Fishkin, 2018). Participants are typically assigned to moderated small groups, provided with balanced informational materials, and encouraged to engage in thoughtful, inclusive dialogue (Abdel-Monem et al., 2010; Luskin et al., 2022; Perlaviciute, 2021). Citizen assemblies are increasingly used worldwide to address complex issues, from constitutional reforms to climate policy, highlighting their perceived

potential to enhance democratic legitimacy and public trust (Flanigan et al., 2021; Perlaviciute, 2021).

Well-designed deliberative processes, including citizens' assemblies, have been shown to promote cognitive elaboration, stimulate deeper understanding of issues, and facilitate meaningful opinion change (Luskin et al., 2022; Perlaviciute, 2021). Exposure to new and counter-attitudinal information, combined with active participation, can help individuals develop more stable and internally coherent attitudes (Luskin et al., 2022; Levendusky et al., 2016). These attitudes more closely reflect individuals "full consideration attitudes", the position they would hold if they had access to all relevant information and unlimited time to deliberate (Luskin et al., 2022; Perlaviciute, 2021).

However, the outcomes of deliberation are not always aligned with its normative ideals. Group discussions may give rise to so-called non deliberative effects, particularly when group composition mirrors broader social divisions. These include polarization, where average attitudes become more extreme; homogenization, where opinions converge and internal diversity is lost; and domination, where group outcomes disproportionately reflect the views of higher-status individuals (e.g. men or the highly educated). These risks are especially pronounced in discussions where identity is salient, such as those concerning gender, race, or cultural values (Paicheler, 1979; Perlaviciute, 2021).

### **Attitude Polarization**

A key distortion that can arise during deliberation is attitude polarization (Luskn et al., 2022). Unlike group polarization, which describes a directional shift in the average opinion of a group (Myers & Lamm, 1976), typically toward a more extreme version of the groups initial mean (McGarty et al., 1992), attitude polarization emphasized individual-level change (Brauer et al., 1995). It refers to the phenomenon in which individuals' preexisting opinions on an issue become more extreme or strongly held following a discussion due to the exposure

to like-minded arguments and social reinforcement, which increase confidence in one's views (Brauer et al., 1995; Myers & Bishop, 1971; Myers & Lamm, 1976; Levendusky et al., 2016). These dynamics are further intensified as individuals express their positions publicly, which heightens perceived conviction and integrates those attitudes more deeply into the self (Brauer et al., 1995; Myers & Lamm, 1976).

Importantly, polarization is not limited to directional shifts (e.g. moving ideologically left or right) but also includes attitude strengthening (Brauer et al., 1995; Levendusky et al., 2016). Attitude strengthening is a psychological process where attitudes become more stable, accessible, and resistant to change (Brauer et al., 1995). Strong attitudes are therefore more likely to guide behaviour, making them central to understanding political engagement and democratic responsiveness (Andersen, 2007). In this study, attitude polarization is therefore operationalized as an increase in attitude strength rather than a change in the direction, capturing the intensity with which individuals hold their views post-discussion, regardless of the specific stance they adopt.

Group deliberation is known to amplify attitude polarization through several mechanisms. Persuasive Arguments Theory posits that individuals are influenced by novel arguments that reinforce their existing preferences, increasing certainty and directional shift (Burnstein & Vinokur, 1977). Social Comparison Theory suggests that individuals adjust their positions to go along with, or even exceed, the perceived group norm to maintain status or identity alignment (Festinger, 1950). Self-Categorization Theory adds that people conform to what they perceive as the prototypical in-group stance (Turner & Reynolds, 2012).

While these mechanisms can operate in any group, their effects are especially pronounced in settings where members share salient identities (Levendusky et al., 2016; Yaniv, 2011). In such environments, discussion tends to produce both stronger and more extreme attitudes (Brauer et al., 1995; Myers & Lamm, 1975). In particular, the composition

of a group, can significantly influence whether attitudes are reinforced or re-evaluated (Oetzel, 1998; Lorenzi-Cioldi, 1991; Yaniv, 2011).

### **Homogeneous vs Heterogeneous Discussion Groups**

The structure of a deliberative group, whether composed of similar (homogeneous) or diverse (heterogeneous) individuals sets distinct conditions for attitude polarization (Oetzel, 1987; Paicheler, 1979; Yaniv, 2011). Group composition determines not only the type of arguments exchanged but also the social dynamics that shape how those arguments are received (Luskin et al., 2022; Oetzel, 2001).

#### ***Heterogeneous groups***

Heterogeneous groups introduce a mix of perspectives that could counteract or amplify polarization (Brauer, 2001). On the one hand, heterogeneous groups might encourage more balanced discussions, potentially leading to less extreme positions, as differing perspectives force individuals to critically engage with opposing views, (Levendusky et al., 2016). Similarly, the presence of relevant out-group members, such as immigrants in discussions on immigration, has been shown to moderate attitudes (Lindell et al., 2016).

On the other hand, some research has shown that heterogeneity does not always reduce polarization (Druckman et al., 2017; Paicheler, 1979; Levendusky et al., 2016). On identity-salient topics, the co-presence of an out-group can trigger defensive posturing before any discussion even begins (Abdel-Monem et al., 2010; Paicheler, 1979), leading participants to adopt rigid or exaggerated positions accordingly (Paicheler, 1979). For example, in gender-mixed groups discussing gender-related topics, women have been found to harden their views in expectation of male resistance (Gough & Peace, 2000). In such cases, polarization is not necessarily a product of discussion itself but rather of pre-existing intergroup tensions heightened by an out-group members presence in the discussion (Paicheler, 1979; Rathje et al., 2021).



### ***Homogeneous Groups***

By contrast, homogeneous groups foster social cohesion, shared norms, and minimal dissent (Seltzer & Kilmann, 1977; Jans et al., 2012). While these conditions may enhance comfort and mutual understanding, they also create ideal conditions for attitude reinforcement rather than reassessment (Levendusky et al., 2016; Myers & Lamm, 1975; Oetzel, 1998). In such groups, the absence of opposing perspectives means that individuals are more likely to encounter affirming rather than conflicting arguments (Luskin et al., 2022). This dynamic can strengthen conviction and lead to more extreme expressions of initial views (Brauer et al., 1995; Lindell et al., 2017; Isenberg, 1986). For example, Lindell et al. (2017) found that individuals in homogeneous groups with limited exposure to counter-attitudinal arguments, particularly when the out-group was physically absent, were more likely to polarize. The repeated exposure to shared arguments and social validation creates a reinforcing feedback loop, making attitudes more salient, certain, and resistant to change (Myers & Bishop, 1971; Brauer et al., 1995). These effects tend to be most pronounced in discussions where disagreement is not only rare but implicitly discouraged (Luskin et al., 2022; Perlaviciute, 2021).

Moreover, group members may conform to dominant narratives to maintain cohesion or affirm their group identity, while simultaneously processing information in a biased manner, favouring arguments that align with their pre-existing beliefs and discounting those that do not (Lavine et al., 2012; Kunda, 1990). Over time, this selective reinforcement makes attitudes more stable, accessible, and resistant to change (Levendusky et al., 2016; Visser et al., 2006).

Rather than fostering openness or critical engagement, deliberation in like-minded groups can thus lead individuals to become more confident in, and more committed to, their

prior beliefs. In these settings, polarization does not arise from conflict, but from consensus (Brauer et al., 1995).

### **The Role of Gender in Deliberation**

While homogeneity broadly fosters conditions for attitude polarization, gender adds a distinct and complex layer to this process (Karpowitz et al., 2015; Rudman & Goodwin, 2004). As a deeply social and salient category, gender not only structures interpersonal expectations but also carries embedded status hierarchies and identity meanings (Abrams et al., 1990; Pugh & Wahrman, 1983). These characteristics make gender a particularly important factor when group discussions focus on gender-salient issues.

In deliberative settings, gender does not operate as a neutral demographic variable (Karpowitz et al., 2012). It is often accompanied by status-based assumptions that shape who speaks, who is heard, and whose arguments carry weight (Eagly & Mladinic, 1994; Karpowitz et al., 2015). Drawing from status characteristics theory, men are typically perceived as the “higher status” group in task-oriented discussions, which can lead to unequal patterns of participation and influence, even in groups that are numerically balanced (Ridgeway & Correll, 2004). As a result, mixed-gender deliberations may reproduce subtle dominance structures that inhibit open expression, especially on topics tied to gender norms, roles, or rights (Coffé & Bolzendahl, 2010; Gough & Peace, 2000; Zhou et al., 2024).

By contrast, in gender-homogeneous groups, particularly all-female ones, such asymmetries may be less pronounced (Abdel-Monem et al., 2010; Pugh & Wahrman, 1983). Of particular interest in the context of gender-homogeneous groups is the differential pattern of implicit in-group bias observed across genders. Research in social psychology consistently shows that women exhibit stronger automatic preferences for their own gender group than men do. While men tend to show weaker or neutral in-group biases, women display a robust and consistent pro-female bias across various experimental paradigms (Rudman & Goodwin,

2004; Nosek et al., 2002). This asymmetry is attributed to several psychological mechanisms: cognitive balance (a stronger alignment between self-esteem, gender identity, and group preference), maternal bonding (which fosters early affiliated affect toward female caregivers), and perceived threat (where men are more frequently associated with dominance or aggression, making women and even men more likely to implicitly favour women as less threatening). In practice, this means women tend to feel a stronger sense of psychological affinity with other women, even in the absence of explicit ideological alignment (Brauer et al., 1995; Rudman & Goodwin, 2004). In all-female groups, this in-group bias may foster heightened trust, mutual reinforcement, and reduced dissent, conditions that can the strength of participants' attitudes over time (Eggins et al., 2002; Wetherell, 1990).

Adding to this, women have been found to exhibit higher levels of affective polarization than men in political contexts. Affective polarization refers to the extent to which individuals experience emotional hostility or negative feelings toward outgroups, particularly those with opposing social or ideological identities (Iyengar et al., 2012). Ondercin and Lizotte (2021) show that this affective divide is more pronounced among women, due in part to stronger partisan identity and more stable positions on value-laden issues such as abortion and gender equality. While affective and attitudinal polarization refer to different phenomena, both reflect the extent to which gender shapes interpersonal engagement and openness to dissenting views (Judge et al., 2023; Abrams et al. 1990).

### **Present study**

Despite growing interest in how group composition shapes deliberative outcomes, important empirical gaps remain. While prior research has established that group homogeneity often fosters conditions that promote polarization (Levendusky et al., 2016; Myers & Lamm, 1975), and that gender identity can amplify in-group alignment (Rudman & Goodwin, 2004; Ondercin & Lizotte, 2021), few studies have directly examined how gender

composition influences attitudinal polarization in deliberative settings, particularly on gender-salient topics.

Existing evidence is mixed. While theoretical accounts suggest that women's stronger in-group preferences and affective alignment may enhance polarization in all-female settings, some empirical findings complicate this picture. Notably, Paicheler (1979) found no significant difference in polarization between all-male and all-female groups deliberating on gender issues, while Pugh and Wahrman (1983) observed greater conformity among men than women in same-gender groups.

To address these gaps, the present study investigates how gender composition, specifically, gender homogeneous versus gender heterogeneous groups, affects attitude polarization in the context of a mock citizens' assembly. The discussion focused on a gender-salient issue, making gender identity a relevant feature of group dynamics. The central research question guiding this study is: How does the gender composition of deliberative groups influence the degree of attitude polarization when discussing gender-salient topics?

Based on the literature reviewed, the following hypotheses were formulated:

**Hypothesis 1:** Gender homogeneous discussion groups (all-male or all-female) discussing gender-salient topics will show greater attitude polarization compared to gender heterogeneous groups, with initial prevailing attitudes becoming stronger.

**Hypothesis 2:** Among gender homogeneous discussion groups on gender-salient topics, individuals in all-female groups will exhibit a greater degree of attitude polarization compared to all-male groups.

## Methods

### Participants

An a priori power analysis were conducted using G\*Power (Faul et al., 2009). For the within-subjects comparison of polarization across discussion types (paired-samples t test), a

total sample of 52 participants was required to detect a small to medium effect size ( $d_z = 0.35$ ) with 80% power and a significance level of  $\alpha = .05$ . For the between-subjects analysis comparing polarization by gender (independent-samples  $t$  test), a total sample of 202 participants (102 per group) was needed to detect a small to medium effect size ( $d = 0.35$ ) with the same statistical criteria. The final sample of 36 participants was underpowered for both the within-subjects and between-subjects analyses.

Participants were primarily recruited through the SONA research participation system at the University of Groningen, targeting first-year psychology students. To address the underrepresentation of male participants in this pool, additional participants were recruited through convenience sampling via the researchers' personal networks. Recruitment was also done digitally, through promotion with a flyer which was posted on social media and shared in different group chats (see Appendix A). Students recruited via SONA received course credit, which amounted to 1.3 credits, while those from the convenience sample were entered into a prize draw for one of four €25 vouchers.

A total of 37 participants took part in the study. One participant did not complete the post-discussion questionnaires and was therefore excluded, resulting in a final sample of 36 participants, of whom 20 were men and 16 were women. Demographic information collected included nationality and study or occupational status but was not included in the actual analysis.

### **Study Design**

The study followed a repeated-measures design, where each participant, either male or female, took part in two group discussions: one in a homogeneous setting and one in a heterogeneous setting. The order of discussion types was randomized across participants. The group discussions were about the university policy programmes, more specifically about which programmes should be cut due to the budgeting issues. The size of the group varied

from 3 to 5 participants. The discussions lasted 15 minutes and were unmoderated. Attitudes toward university policy programs were measured at three points: before the first discussion (baseline), after the homogeneous discussion, and after the heterogeneous discussion. The primary variable of interest was attitude polarization, operationalized as changes in strength of opinion on gender-salient policies over time.

### **Procedure and Materials**

Before beginning the study, participants were informed about the nature and structure of the research. They received an information sheet explaining the procedure, risks, and data privacy protocols, and were asked to sign a consent form confirming that they voluntarily agreed to participate and consented to data processing.

Upon arrival, participants were assigned unique ID numbers. They were first given an information sheet describing all six university policy programs under consideration for funding cuts or protection. These descriptions were based on real programs but slightly adapted to suit the study. This step was included to mimic the structure of mock citizen assemblies and to ensure that all participants had a uniform understanding of the programs being discussed.

Three of the six programs were gender-salient: the Center for Social Safety, the Diversity, Equity, and Inclusion Team, and the Rosalind Franklin Fellowship. The remaining programs were considered gender-neutral and were excluded from the analysis, as they were not relevant to the hypotheses of this paper. While these programs were based on existing University of Groningen initiatives, their descriptions were slightly adapted to better fit their classification as either gender-salient or neutral. The full descriptions provided to participants are included in Appendix B.

Participants then completed a baseline questionnaire measuring their attitudes toward the six programs. They were instructed as follows: “In the following table, indicate which two

(2) programs you personally prefer to cut (reduce fundings) in priority, which two (2) programs you personally prefer to protect (prioritise fundings), and two (2) programs to leave as ‘neutral’. Here we are asking for your own opinion. It does not have to be the same as the group.” This was a forced-choice task, meaning participants had to assign exactly two programs to each category (“cut”, “protect”, and “neutral”).

Next, participants rated the strengths of their opinion for each program they categorized as “cut” or “protect”, using a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree). If a program was categorized as neutral, participants were instructed to leave the strength rating as "Not Applicable". The instructions were: “Rate how strongly you feel about your decision to either cut or protect the program. If you put the program in the neutral category, mark it as Not Applicable (N/A)".

This combination allowed for capturing both directional choices and the intensity of each participant’s initial attitudes. The full questionnaire can be found in Appendix C.

Following the baseline questionnaire, participants were randomly assigned to either a homogeneous or heterogeneous group. They engaged in a 15-minute unmoderated structured group discussion, modelled after a citizen assembly, where they were instructed to reach consensus on how to allocate the six programs into the categories of “cut,” “protect,” and “neutral.”

After the discussion, participants completed the same questionnaire again to record their individual post-discussion opinions and strength-of-opinion ratings.

Next, participants were reassigned to a group of the opposite type from their first condition (i.e., if they started in a homogeneous group, they now joined a heterogeneous one, and vice versa). They participated in another 15-minute consensus discussion using the same structure and program materials. A final round of individual questionnaires was completed to assess their opinions after this second discussion.

At the end, all participants received a debriefing sheet informing them about the true purpose of the study, to investigate how group composition (homogeneous vs. heterogeneous) affects discussion dynamics and opinion formation. Participants were also informed the programs were manipulated to fit the format of the study.

### **Data Analysis**

The primary dependent variable was change in attitude strength, measured only for the three gender-salient programs. Attitude polarization was defined as increased conviction in participants' existing positions (Brauer et al., 1995; Levendusky et al., 2016), regardless of direction. Accordingly, directional shifts (e.g., cut vs. protect) were therefore excluded from analysis. Changes in strength scores served as the key indicator of polarization.

To compute attitude polarization, average strength-of-opinion scores were calculated at three time points: baseline (pre-discussion), post-homogeneous discussion, and post-heterogeneous discussion. Two difference scores were derived to quantify change over time:

- Change\_Hom\_vs\_Baseline: Change in strength of opinion from pre-discussion to post-homogeneous discussion.
- Change\_Het\_vs\_Baseline: Change in strength of opinion from pre-discussion to post-heterogeneous discussion.

The programs in the “neutral” category were coded as 0 during the data analysis. Rather than treating these zero values as missing data, they were retained in the analyses as meaningful indicators of no polarization. A value of 0 thus represents a deliberate neutral stance where no attitudinal commitment was expressed, a theoretically relevant state in a study of attitude polarization. Keeping these values allowed to capture shifts from neutral (no opinion) to polarized (strong opinion), and vice versa, reflecting both increases and decreases in polarization over time. As such, 0 values are integral to the change scores and to interpreting patterns of polarization across.



A paired-samples t test was conducted to examine whether the extent of attitude polarization differed between homogeneous and heterogeneous discussion groups. Since all participants experienced both conditions, a within-subjects comparison was appropriate.

To explore whether participant gender influenced the degree of polarization following homogeneous discussions, an independent-samples t test was conducted, with gender (male, female) as the independent variable and homogeneous attitude polarization (Change\_Hom\_vs\_Baseline) as the dependent variable.

Assumptions of normality were assessed using Q–Q plots and boxplots. Homogeneity of variances for the independent t test was assessed using Levene’s test. All analyses used a significance level of  $\alpha = .05$ .

## **Results**

### **Preliminary Analyses**

All assumptions for the two conducted t tests were met. Q–Q plots and boxplots indicated that the distributions of the relevant variables were approximately normal. Additionally, Levene’s test confirmed that the assumption of homogeneity of variances was not violated,  $F(1, 34) = 0.67, p = .41$ .

Overall, participants showed a modest increase in attitude strength following both discussion types, suggesting some general movement toward stronger or more polarized attitudes compared to baseline. However, the high variability across individuals indicates that this change was not consistent, and many participants likely remained neutral or made only slight attitude adjustments. When examining gender differences, men’s scores were relatively stable across conditions, with slightly greater variability following homogeneous discussions. Women, however, exhibited somewhat larger changes after heterogeneous discussions compared to homogeneous. Descriptive statistics are presented in Table 1.

### **Table 1**

*Descriptive Statistics for Change in Attitude Strength by Group Composition and Gender*

		M	SD	N
Change_Hom_vs_Baseline	F	0.23	0.74	16
	M	0.33	1.73	20
	Overall	0.29	1.37	36
Change_Het_vs_Baseline	F	0.63	0.85	16
	M	0.33	1.34	20
	Overall	.46	1.14	36

### **Comparing Polarization in Homogeneous vs. Heterogeneous Groups**

To test Hypothesis 1, a paired-samples *t* test was conducted to assess whether participants showed greater attitude polarization following homogeneous discussions compared to heterogeneous ones.

The analysis revealed no significant difference in changes in attitude strength, which served as the operational indicator of polarization, between the two conditions,  $t(35) = -1.09$ ,  $p = .28$ , Cohen's  $d = -0.18$ , 95% *CI* [-0.50, 0.15].

However, when examining the descriptive statistics, participants showed slightly higher polarization following heterogeneous discussion ( $M = 0.46$ ,  $SD = 1.14$ ) compared to homogeneous discussion ( $M = 0.29$ ,  $SD = 1.37$ ). Nonetheless, this difference did not reach statistical significance

These findings indicate that group composition did not significantly influence the extent of attitude polarization. Whether participants engaged in same-gender or mixed-gender discussions, the degree to which their attitudes became stronger remained similar. Full output statistics are presented in Appendix D.

### **Gender Differences in Homogeneous Group Polarization**

To test Hypothesis 2, an independent-samples *t* test was conducted to assess whether women showed greater attitude polarization than men following homogeneous group discussions.

The analysis revealed no significant difference in attitude strength change, between the two groups,  $t(34) = -0.22, p = .82$ , Cohen's  $d = -0.08$ , 95%  $CI [-1.05, 0.84]$ .

When examining the descriptive statistics, men reported slightly higher attitude polarization scores ( $M = 0.33, SD = 1.70$ ) than women ( $M = 0.23, SD = 0.74$ ), but this difference was not statistically significant.

These findings indicate that gender did not significantly influence the extent of attitude polarization following homogeneous group discussions. Full statistical output is presented in the Appendix E.

### Discussion

This study investigated how gender-based group composition influences attitude polarization during deliberative discussion on gender-salient university programs. Drawing on prior research two hypotheses were formulated. It was hypothesised that (H1) participants in gender-homogeneous groups would exhibit greater attitude polarization than those in heterogeneous groups (Brauer et al., 1995; Myers & Lamm, 1976; Yaniv, 2011). And that, (H2) among homogeneous groups, women would polarize more than men (Ondercin & Lizotte, 2021; Rudman & Goodwin, 2004). These expectations were grounded in social identity and deliberation theories suggesting that shared group identity fosters conditions of mutual reinforcement, particularly when the topic under discussion aligns closely with that identity (Brauer et al., 1995; Myers & Lamm, 1976; Levendusky et al., 2016). In addition, existing literature shows that women exhibit stronger in-group preferences, potentially intensifying polarization within all-female groups (Ondercin & Lizotte, 2021; Nosek et al., 2002).

However, the analysis did not support either hypothesis. No significant differences in polarization were found between homogeneous and heterogeneous groups, nor between men and women in homogeneous settings. Descriptively, participants displayed slightly more

polarization following heterogeneous discussions, with women showing a small increase in polarization in mixed-gender groups. While these patterns were not statistically significant, they run counter to theoretical expectations and suggest that other dynamics may have influenced the deliberative process. These unexpected trends serve as an opportunity to revisit assumptions about the effects of group similarity and identity alignment on attitude polarization.

### **Theoretical Considerations**

While prior research has shown that homogeneous groups can foster attitude polarization (Brauer et al., 1995; Levendusky et al., 2016; Myers & Lamm, 1976), empirical findings remain mixed, particularly in discussions of gender-salient topics. For example, Paicheler (1979) found no systematic differences in polarization between all-male or all-female groups deliberating gender-related issues. This suggests that gender alone may not reliably trigger polarization in group settings. The present study adds to this by indicating that, within a structured deliberative context, group homogeneity based on gender may not be sufficient to generate polarization effects.

Theoretically, homogeneous groups are expected to foster polarization through exposure to persuasive, attitude-consistent arguments, social comparison, and repeated expressions of shared viewpoint, which can in turn increase confidence and attitude strength over time (Brauer et al., 1995; Myers & Lamm, 1976; Levendusky et al., 2016). However, such mechanisms likely depend on the social identity salience and the communication norms shaping the interaction. Deliberative settings that emphasize reason-giving, mutual justification and perspective-taking may reduce identity salience by shifting participants' focus from group membership to argument quality (Abdel-Monem et al., 2010; Perlaviciute, 2021). In the present study, with a mock citizen assembly format, such norms might have been established. Prior research on similar formats, such as deliberative pools, suggests that these

environments can mitigate polarization and promote more reflective, moderate attitude change (Luskin et al., 2020; Suiter et al., 2014). The studies framework might have lessened reinforcement processes by leading participants to engage with opposing viewpoints instead of seeking attitudinal confirmation.

The operationalization of polarization as an increase in attitude strength, regardless of direction, also affects how these findings should be interpreted. The approach allowed to capture changes in participants' attitude certainty over time but may have lacked sensitivity to detect more subtle changes. The inclusion of neutral responses, which were coded as zero strength, also warrants careful thought. Participants who remained neutral both before and after discussion registered no change, potentially obscuring underlying dynamics among those who did shift. This issue aligns with previous research indicating that neutral attitudes often remain stable through discussion, thereby reducing overall polarization effects (Brauer et al., 2001).

Although no statistically significant gender-based differences in polarization emerged, the descriptive pattern showing slightly higher polarization among women in heterogeneous groups deserves careful attention. While not reaching significance, this pattern may still offer some insights into the underlying group dynamics.

One plausible, though untested, explanation involves the concept of defensive reasoning. Previous studies suggest that the presence of out-group members during identity-relevant discussions can heighten intergroup boundaries and lead individuals to reinforce their positions in anticipation of disagreement (Abdel-Monem et al., 2010; Paicheler, 1979). In the present context, women may have reinforced their attitudes in response to anticipated disagreement or perceived status asymmetries, particularly given the gendered nature of the topics under discussion. This mechanism aligns with research on affective polarization, which has found that women often display stronger emotional and value-based responses to gender-

salient issues and may react more intensely to perceived ideological threat (Ondercin & Lizotte, 2021; Rudman & Goodwin, 2004).

It is important to emphasize that these interpretations remain speculative, as constructs such as identity threat, defensive reasoning, or affective polarization were not directly measured, and the observed trends were not statistically significant. Nevertheless, the direction of the descriptive findings offers a potential avenue for future research to further explore how gender, identity salience, and group composition interact to shape deliberative outcomes.

More broadly, these results suggest that group homogeneity may not reliably amplify polarization in contexts where deliberative norms are present. This finding contributes to ongoing debates in deliberative democratic theory regarding the capacity of structured dialogue to mitigate identity-based polarization. The present study offers some evidence that inclusive, consensus-oriented formats may weaken expected group composition effects, even on identity-relevant issues.

### **Practical Implications**

The present study findings offer several helpful implications for the design of deliberative democratic processes. Most notably, the absence of significant differences in polarization between homogeneous and heterogeneous gender groups suggests that demographic composition alone may not reliably predict attitudinal outcomes in structured deliberation.

Organizers of citizen assemblies should be cautious about assuming that demographic composition alone will determine deliberative outcomes. Rather than relying primarily on demographic balancing, attention should be given to how discussions are structured, as features like consensus-building and equal participation may play a more important role in

mitigating polarization. In contexts where gender is a salient topic, attention should be focused not only to who is at the table, but also to how interactions are facilitated and framed.

Although no significant gender-based effects were found, the study supports a cautious interpretation: the role of identity salience in deliberation may vary depending on context and is likely influenced by factors beyond the scope of this design. Thus, rather than assuming fixed effects based on group makeup, deliberative practitioners should evaluate the interaction of identity relevance, facilitation structure, and participant expectations when aiming to foster inclusive, reflective discussion.

### **Limitations and Future Research**

While this study offers preliminary insights into how gender composition may shape attitude polarization in deliberative discussions on identity-relevant topics, several limitations should be considered when interpreting the findings and designing future research.

First, the relatively small sample size ( $N = 36$ ) limits the statistical power of the analyses and the generalizability of the results. With a larger and more diverse sample, subtle effects of group composition, particularly interactions between gender identity and deliberative context, might become more apparent. Moreover, the sample primarily consisted of psychology students at a Dutch university, many of whom were international and non-native English speakers. This homogeneity in academic background and potential variation in communication styles may have influenced how participants perceived group identity or engaged with the deliberative task (Karpowitz et al., 2015; Oetzel, 1998). Future studies should replicate this design in broader populations that vary in age, discipline, nationality, and prior exposure to deliberative settings.

Second, the use of convenience sampling, including recruitment through the researchers' personal networks, may have introduced familiarity among participants. Prior acquaintance can affect willingness to disagree, encourage conformity, or shape social

dynamics in ways that influence polarization (Brauer et al., 2001; Myers & Lamm, 1975).

Future studies should control for pre-existing relationships within groups and explore how familiarity moderates group influence and opinion change.

Third, although group composition was the central manipulation, gender ratios in heterogeneous groups were not systematically balanced. Prior research has shown that numerical representation can significantly affect deliberative participation, with those in the minority often speaking less or having less influence (Karpowitz et al., 2015). Future research should more rigorously control gender ratios within groups to assess how numerical representation interacts with identity salience and deliberative dynamics.

Fourth, the operationalization of attitude polarization presents methodological limitations. In this study, polarization was measured as change in strength of opinion toward gender-salient programs, using a scale developed specifically for this context. While this allowed for the detection of shifts in evaluative intensity, the scale has not undergone external validation. The inclusion of “neutral” responses coded as zero further complicates interpretation, as a score of zero may reflect either stable neutrality or disengagement (Brauer et al., 1995). Future studies would benefit from using validated measures of attitude strength, incorporating directional change metrics, or including discourse-based analyses to more fully capture polarization.

A related issue concerns the wording of the strength-of-opinion scale, which ranged from 1 (strongly disagree) to 7 (strongly agree). This phrasing may have inadvertently measured agreement with the policy content rather than strength of conviction in the participant’s choice to “cut” or “protect” the program. This ambiguity could reduce construct clarity and cause confusion among the participants. Future research should clearly frame strength scales as capturing attitude certainty or intensity to improve measurement precision.



Fifth, the categorization of university programs as gender-salient relied on researcher judgment. Although these classifications were informed by real-world initiatives, it is possible that participants perceived some non-gender programs, such as suicide prevention or mental health services, as equally important or morally salient. This may have blurred the intended manipulation. Future research should pre-test topic salience and perceived identity relevance to ensure alignment with participant perceptions. Expanding the scope to include other identity-relevant issues, such as race, immigration, or ideology, could further clarify how group composition interacts with identity salience in deliberation.

Finally, although the deliberative structure was inspired by citizen assemblies, the laboratory setting lacked real-world consequences, which may have limited participant engagement or reduced the salience of identity-based dynamics (Mutz, 2006). Future studies should aim to replicate these dynamics in more ecologically valid settings, such as simulations embedded in actual policy consultations or community deliberative forums, to better assess how identity and deliberative structure interact in practice.

In sum, these limitations do not undermine the study's theoretical relevance but point to key areas for refinement. Addressing these concerns, through more diverse samples, validated measures, controlled group structures, and realistic deliberative settings, will advance understanding of how social identity, group dynamics, and deliberation jointly shape polarization in democratic contexts.

## **Conclusion**

“Who is at the table?”, the guiding question of this paper and a central concern in debates about deliberation and inclusion. Yet, as this study shows, the mere presence of identity-similar individuals may not shape polarization in the way theory often suggests. By examining the role of gender composition in deliberative group settings, this research offers both unexpected and valuable insights. Contrary to expectations, neither gender-homogeneous

nor gender-heterogeneous groups produced significant differences in attitude polarization. Similarly, women did not polarize more in all-female groups compared to men in all-male groups, despite evidence of stronger affective divides among women on gender-related issues. These findings challenge assumptions that demographic similarity inherently amplifies polarization and suggest that, within structured, reason-oriented discussions, such dynamics may be more complex. In increasingly diverse and polarized societies, understanding these dynamics is essential for fostering inclusive dialogue and designing democratic spaces that promote thoughtful, rather than divisive, engagement.

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## Appendix A

Figure 1

*Recruitment poster for participant gathering*

WE INVITE YOU TO JOIN OUR STUDY ON



# CITIZEN ASSEMBLIES & BUDGET CUTS AT RUG

*Join a 1-hour study on budget cuts at Uni and share your voice!*

-  Two 15-min group discussions on budget cuts at Uni
-  Quick surveys before & after

**TOTAL TIME: 1 HOUR**

*Everyone is welcome!*

**INTERESTED?**



Snacks provided :)



Scan me

There are various time slots to choose from

**CHANCE TO WIN 25€ VOUCHER**  
(or sona credits for 1<sup>st</sup> year RUG psychology students)

**THANK YOU FOR YOUR INTEREST AND SUPPORT! <3**

## **Appendix B**

### **Program descriptions**

#### **1. Center for Social Safety**

A safe, confidential space for students and staff to seek support around harassment, intimidation, sexism or boundary-crossing behaviour. The Center for Social Safety (CSS) offers trauma-informed guidance, peer support, and prevention training. With over 60 Active Bystander training sessions held, we empower our community to speak up, step in, and support others.

#### **2. Diversity, Equity and Inclusion Team**

The Diversity, Equity, and Inclusion (DEI) team aims to make students and staff feel at home at the UG and experience a sense of belonging, regardless of gender or other differences. They drive an active diversity and inclusion policy that ensures to create equal opportunities as well as a stimulating and inclusive work and study environment for everyone.

#### **3. Elite Sports Student Grant**

Many top athletes are studying at the UG. The Elite Sports Student Programme helps them to combine their studies with their sport. Students with an elite sports student status are also eligible for financial compensation: the elite sports student grant, a joint scheme offered by Hanze UAS and the University of Groningen.

#### **4. Rosalind Franklin Fellowship**

The Rosalind Franklin Fellowship programme promotes the advancement of international female researchers. It gives talented female scientists the opportunity to secure a tenure-track position leading to full professorship.

#### **5. The Groningen University Institute for Drug Exploration (GUIDE)**

GUIDE performs and stimulates innovative and drug-oriented research. These new insights lead to the development of new drugs and/or treatment options or optimization of existing

therapies. The research revolves around central themes like healthy ageing, personalized medicine, and suicide prevention – a concern of great importance, particularly given the rising mental health challenges observed among younger populations.

#### 6. Student Service Centre

Many students encounter stress, identity struggles, anxiety, or depression during their studies. The Student Service Centre (SSC) supports students through study-related and psychological challenges. The SSC has launched a therapeutic app to provide education, resources, and access to therapists and specialized treatment programs.

## Appendix C

### Directionality scale

In the following table, indicate which two (2) programs you personally prefer to cut (reduce fundings) in priority, which two (2) programs you personally prefer to protect (prioritise fundings), and two (2) programs to leave as “neutral”.

Here we are asking for your own opinion. It does not have to be the same as the group

Center for Social Safety...*Cut/Protect/Neutral*

Diversity, Equity and Inclusion Team...*Cut/Protect/Neutral*

Elite Sports Student Grant...*Cut/Protect/Neutral*

Rosalind Franklin Fellowship...*Cut/Protect/Neutral*

The Groningen University Institute for Drug Exploration...*Cut/Protect/Neutral*

Student Service Centre...*Cut/Protect/Neutral*

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### Attitude strength scale

Rate how strongly you feel about your decision to either cut or protect the program. If you put the program in the neutral category, mark it as Not Applicable (N/A).

Center for Social Safety... *Strongly disagree/ Disagree/ Somewhat disagree/ Neutral/ Somewhat agree/ Agree/ Strongly agree*

Diversity, Equity and Inclusion Team... *Strongly disagree/ Disagree/ Somewhat disagree/ Neutral/ Somewhat agree/ Agree/ Strongly agree*

Elite Sports Student Grant... *Strongly disagree/ Disagree/ Somewhat disagree/ Neutral/ Somewhat agree/ Agree/ Strongly agree*

Rosalind Franklin Fellowship... *Strongly disagree/ Disagree/ Somewhat disagree/ Neutral/ Somewhat agree/ Agree/ Strongly agree*

The Groningen University Institute for Drug Exploration... *Strongly disagree/ Disagree/ Somewhat disagree/ Neutral/ Somewhat agree/ Agree/ Strongly agree*

Student Service Centre... *Strongly disagree/ Disagree/ Somewhat disagree/ Neutral/ Somewhat agree/ Agree/ Strongly agree*

## Appendix D

### Paired Samples t Tests

**Table 2**

*Descriptive Statistics for Homogeneous and Heterogeneous Groups (Paired Samples)*

Group Condition	Mean	N	SD	SE
Change_Hom_vs_Baseline	0.29	36	1.37	.23
Change_Het_vs_Baseline	0.46	36	1.14	.19

*Note.* Scores reflect the change in opinion strength from pre-discussion

**Table 3**

*Correlations Between Homogeneous and Heterogeneous Conditions (Paired Samples)*

	N	Correlation	Significance	
			One-Sided p	Two-Sided p
Hom & Het	36	.714	<.001	<.001

**Table 4**

*Paired Samples t Test Comparing Homogeneous and Heterogeneous Groups*

	M	SD	SE	95% CI		t	df	Significance	
				Lower	Upper			One-Sided p	Two-Sided p
Hom - Het	-0.18	0.97	0.16	-0.50	0.15	-1.09	35	.14	.28

**Table 5**

*Effect Size for the Paired Samples t Test Homogeneous and Heterogeneous Groups*

		Standard.	Point est.	95% CI	
				Lower	Upper
Hom - Het	Cohen's d	.97	-0.18	-0.51	0.15
	Hedges' corr.	.99	-0.18	-0.50	0.15

## Appendix E

### Independent Samples t Tests

**Table 6**

*Independent Samples t Test Comparing Men and Women in the Homogeneous Group*

		t	df	Significance		M	SE	95% CI	
				One-Side d p	Two-Sided p			Lower	Upper
Change_Hom_vs_Baseline	Equal variance assumed	-0.22	34	.41	.82	-0.10	0.46	-1.05	0.84
	Equal variance not assumed	-0.24	26.83	.41	.81	-0.10	0.43	-0.99	0.78
Change_Het_vs_Baseline	Equal variance assumed	0.76	34	.23	.46	0.29	0.39	-0.49	1.08
	Equal variance not assumed	0.79	32.50	.28	.43	0.29	0.37	-0.46	1.04

**Table 7**

*Effect Size for the Independent Samples t Test Comparing Men and Women in the*

*Homogeneous Group*

			95% CI		
		Standardizer	Point Estimate	Lower	Upper
Change_Hom_vs_Baseline	Cohen's d	1.39	-0.08	-0.73	0.58
	Hedged' correction	1.42	-0.07	-0.72	0.57
	Glass's delta	1.73	-0.06	-0.72	0.60
Change_Het_vs_Baseline	Cohen's d	1.15	0.25	-0.41	0.91
	Hedged' correction	1.18	0.25	-0.40	0.89
	Glass's delta	1.34	0.22	-0.45	0.88