Experimental Design

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Background

Our social group can have an influence on our choice of behavior. Although this is a well known fact, the proper mechanisms behind it are not yet studied to their full extent. In their study Pryor, C., Perfors, A., & Howe, P. D. (2019) investigated this influence, which we will replicate in order to examine their findings.

On the one hand, research has demonstrated that people prefer to behave in the same way as most people do, which is known as the descriptive norm effect. This line of reasoning predicts that if the considered group is mixed on their behavior, the descriptive norm effect will be weaker.
On the other hand, self-categorization theory claims that people's choice of behavior depends not only on the majority behavior, but also on whether they identify with the group or not. That is, people will prefer behavior of groups they identify themselves with (ingroup) and they will avoid behavior of groups they do not identify with (outgroup) in order to maintain their sense of ingroup identity. According to this theory, mixed behavior of others will result in an even stronger norm effect if there is a clear distinction between ingroup and outgroup behavior, leading to a preference of ingroup behavior.

Pryor et al (2019) tested the implications which the self-categorization theory makes about the effect of ingroup and outgroup norms on choice of behavior. This study will be a direct replication of their study.
In the experiment, participants are divided into two groups. In group one, participants are presented with an ingroup descriptive norm only, while in group two, participants are presented with both an ingroup descriptive norm favoring some behavior and an outgroup descriptive norm favoring the other behavior.

Hypotheses

The following hypotheses regarding the effects of ingroup and outgroup norms on the preferences of people's behavior will be tested. These correspond to the implications of the self-categorization theory.

- Across groups, participants will favor the descriptive norm of their ingroup (descriptive norm effect).
- Compared to group one, where participants are presented with an ingroup descriptive norm only, the descriptive norm effect will be stronger in group two, where participants are presented with a different descriptive norm in their outgroup than in their ingroup.

The alternative hypothesis, following the descriptive norm effect line of reasoning is:

- Compared to group one, the descriptive norm effect will be weaker in group two, where participants are presented with a different descriptive norm in their outgroup than in their ingroup.

Design

Materials. We will use the instructions and sentences provided by Pryor et al (supplementary material S1 and S3).

In order to apply a first clustering of participants in regards to their social beliefs, participants choose a social issue they care about most and are subsequently asked to indicate how much they agree with a statement about this issue. We decided to include issue statements from the same categories of social issues used in the original study, to display the same variety to participants:

Gun control: *"Adults should have the right to carry a concealed handgun"*
Ingroup: Pro-Gun Enthusiasts, Outgroup:Anti-Gun Advocates

Feminism: *"Feminism is important and beneficial to modern society"*
Ingroup: Pro-Feminism Enthusiasts, Outgroup: Anti-Feminism Advocates

Joe Biden: *"Joe Biden being president is good for the United States at this time"*
Ingroup: Pro-Biden Advocate, Outgroup: Anti-Biden Enthusiast

Immigration and Dreamers: *"Dreamers (undocumented immigrants who came to the US as children) should be allowed to stay in the United States"*
Ingroup: Pro-immigration Advocate, Outgroup: Anti-immigration Enthusiast

Transgender rights: *"Transgender people should be allowed to use the bathrooms of the gender they identify as"*
Ingroup: Pro-Transgender rights Advocate, Outgroup: Anti-transgender rights Enthusiast

Drug legalization: *"Possession of drugs should be legalized"*
Ingroup: Pro-drug legalization Advocate, Outgroup: Anti-drug legalization Enthusiast

Colin Kaepernick kneeling during the national anthem: *"Colin Kaepernick was wrong to kneel during the national anthem"*
Ingroup: Pro-Colin Kaepernick kneeling Advocate, Outgroup: Anti-Colin Kaepernick kneeling Enthusiast

Buying and wearing fur: *"Buying and wearing fur is wrong"*
Ingroup: Pro-fur Enthusiast, Outgroup: Anti-fur Advocate

Taxing religious organization: *"Religious organizations should be taxed"*
Ingroup: Pro-Taxing religious organization Enthusiast Outgroup: Anti-Taxing religious organization Advocate

We exchanged the name of the political leader of the USA from Trump to Biden to update the statements and make them true within the current context. However, in comparison to the original study, we can imagine different people identifying with this opinion due to a difference in political opinions and a difference in Biden's ability to be a polarizing figure.

In order to elicit a choice of behavior from participants, a moral dilemma is presented, which is the same for all participants:

Imagine you have witnessed a man rob a bank. However, you then saw him do something unexpected with the money. He donated it all to a run-down orphanage that would benefit greatly from the money. You must decide whether to call the police and report the robber or do nothing and leave the robber alone.

The norms presented to participants follow a shared scheme and differ with respect to being ingroup or outgroup norms, participant's respective chosen social issue and the behavior that is allocated to ingroup and outgroup respectively.

The ingroup norm is of the form *"Approximately 60% of participants who agreed with you about [chosen social issue] chose to [behavior option]."*

The outgroup norm is of the form *"Approximately 85% of participants who disagreed with you about [chosen social issue] chose to [behavior option]."*

In order to play into the narrative of the fictional previous study that was introduced to participants, they are asked to report how they feel about their behavior choice. Response was measured on a 7-point Likert scale from "Very good" to "Very bad".
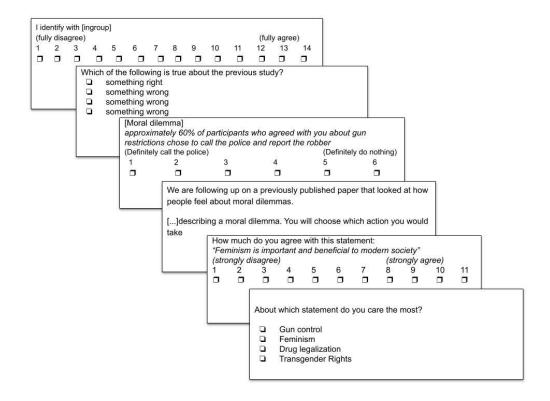
An understanding check is used in order to exclude participants who may have not paid enough attention. They were asked whether four statements about the previous study are correct or incorrect.

A single-item social identification measure (Postmes, T., Haslam, S. A., & Jans, L. (2013)) is used to ensure that people identify with their ingroup and do not identify with their outgroup. Agreement was measured on a 7-point Likert scale ranging from 1 (fully disagree) to 7 (fully agree). Choices ranging from 1 to 3 are treated as no identification, 4 is treated as neutral and 5 to 7 are treated as identification.

"I identify with [ingroup]" and *"I identify with [outgroup]"*.

Procedure. The experiment consists of roughly five parts
1. introduction and demographic information
2. determination of ingroup and outgroup of participant
3. instructions and information about "previous study"
4. moral dilemma and choice of behavior
5. understanding check and social identification measure

Figure 1. Visualization of the procedure of the experiment. The exact implementation may differ.

In the first part, participants are presented with a written introduction which discloses the next steps of the experiment (up until instructions). In the next step, participants are asked to disclose demographic information about age and gender.

In the second part, participants are asked to indicate which social issue (see materials) they care about most and are then presented with a statement about this issue. Here, participants are asked to indicate to which extent they agree with the statement on a 11-point Likert scale ranging from -5 (Strongly Disagree) to +5 (Strongly Agree).

In the third part, participants are presented with written instructions for the experiment. They are informed that this study is a follow up of a previous study which investigated how people feel during a moral dilemma. This is untrue and only included to justify the presentation of a moral dilemma.

In the fourth part, participants are presented the moral dilemma and norm(s). Depending on which group a participant belongs to, this includes only an ingroup norm (group one) or both an ingroup and outgroup norm (group two). The order of norms presented is randomly varied in group two. Which norm was chosen by the ingroup of a participant is also randomized. Participants are then asked to indicate which behavior they would prefer on a 6-point Likert scale ranging from "Definitely call the police and report the robber" to " Definitely do nothing and leave the robber alone.". After this, participants are asked to indicate how they feel about their choice in order to play into the narrative of the fictional previous study.

In the fifth part, participants are asked to fill out the understanding check and afterwards the social identification measure (see materials).

References

Postmes, T., Haslam, S. A., & Jans, L. (2013). A single-item measure of social identification: Reliability, validity, and utility. *British journal of social psychology*, *52*(4), 597-617.

Pryor, C., Perfors, A., & Howe, P. D. (2019). Conformity to the descriptive norms of people with opposing political or social beliefs. *PloS one*, *14*(7), e0219464.