When Hatred Becomes Mundane: Desensitization After Repeated Exposure to Hate Speech

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Abstract

The thesis is titled “When Hatred Becomes Mundane: Desensitization After Repeated Exposure to Hate Speech” and written by Maren Langenkamp under the supervision of Milan Obaidi, Associate Professor, Department of Psychology, University of Oslo, and Rolf Reber, Professor, Department of Psychology, University of Oslo. Hate speech is common on social media and sometimes in political speeches. In several instances, terrorists have been mainly or exclusively radicalized online. Therefore, it is important to understand how hate speech affects people and how psychological responsiveness to it changes upon repeated exposure. The main research question is, how does desensitization to hate speech occur, and under which circumstances does it occur? More specifically, do offensiveness perceptions change in the presence of familiar versus unfamiliar statements and do factors such as political viewpoint and generalized prejudice affect this process? Other repetition effects, such as the truth effect, have been studied with a repeated exposure paradigm. A design adapted from truth judgement research was used. Participants were recruited via Amazon’s Mechanical Turk and located in the United States to three studies in total, a pilot study, Study 1, and Study 2. Data was collected for this project specifically, as it was a standalone project. Participants were exposed to offensive statements in two phases, an exposure phase, and a judgement phase. During the exposure phase, participants saw one-half of the statements in random order. During the judgement phase, participants saw all statements, the repeated statements from the exposure phase, as well as the new ones in random order. During the judgement phase, participants were asked to provide offensiveness ratings for all statements on a 7-point Likert scale ranging from not at all offensive to extremely offensive. The difference in offensiveness ratings for new versus repeated statements served as a measure of desensitization. The primary analyses for desensitization upon repetition are not supported, but an alternative analysis of desensitization over time shows that participants got desensitized slightly differently than expected. They rated earlier statements as more offensive than later statements. Participants were also more likely to rate statements targeting groups they favoured as more offensive than statements targeting groups they disfavoured. The relationship between generalized prejudice and desensitization remains unclear. Gender was related to offensiveness ratings in Study 1 but not in Study 2, and a previous exposure measure added in Study 2 showed no relationship between previous exposure and

offensiveness ratings. The results have implications for our understanding of how people get desensitized to hate speech.

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"If you support Gun Control & have a problem with AR-15 gun owners you're a Fascist Nazi. #GunControlisFascism #GuncontrolisFascist to #ResistGunControl is to #ResistFascism" (Pringle, 2019) and "INSECTS that FEED OFF The BLOOD of CHILDREN = NRA" (LIBERTY, 2018).

These are some of the statements that one can find when looking into the debate about gun rights and gun control on Twitter (https://twitter.com/). With this type of discourse publicly available on social media and other platforms, the question is: How does repeatedly being exposed to hate speech affect us? More specifically, how does it affect our evaluation and perception of hate speech? The current project aims to investigate whether offensiveness perceptions change in the presence of familiar versus unfamiliar statements. Further, it examines the extent to which factors such as personal opinion and generalized prejudice affect this process. To my knowledge, so far, only two studies have empirically studied this desensitization effect to hate speech, which involves perceiving hate speech as less harmful with repeated exposure (Leets, 2001; Soral et al., 2018). Another aim of the current thesis is to replicate previous findings to expand on the evidence by using a different design to study desensitization to hate speech. I have explored the topic of desensitization to hate speech and the effects this may have in a previous exam (Langenkamp, 2019).

To study hate speech, it must be defined. According to Fischer et al. (2018), hate is an emotion or sentiment that is typically longer lasting than other emotions, is associated with the goal of physical or social destruction of the target of hate, and is characterized by a disinterest in compromise or peace. The authors also point out that hate is well maintained without interpersonal interactions and commonly passed on from generation to generation. Halperin et al. (2012) define hatred toward outgroups as "a secondary, extreme, and continuous emotion that is directed at a particular group and that fundamentally and all-inclusively denounces it" (Halperin et al., 2012, p. 2). Based on this definition of hatred, hate speech can be defined as speech directed at a particular group that fundamentally and all-inclusively denounces that group, utilizing some or all of the elements in Sternberg (2018)'s FLOTSAM model, fear, license, obedience to authority, trust, sense of belonging to a valued group, amplification of arousal, and modelling.

Throughout Donald Trump's 2016 election campaign, he repeatedly targeted various minority groups in the United States with discriminatory statements (Bobo, 2017) with far-reaching implications for these minorities (Hswen et al., 2021). Throughout the election

campaign and subsequent election in 2016, researchers found a link between his demonization of minorities and the extent to which people approved or accepted that kind of language. This change in perceived social acceptability was present among Trump and Clinton supporters (Crandall et al., 2018). Trump supporters, but not Clinton supporters, also expressed higher levels of modern sexism after the 2016 election than before, which involves the denial of gender discrimination and the resentment of favours that women are perceived to receive (Rattan et al., 2019). Additionally, expressions of prejudice and stereotypes among one group can influence others' expressions of prejudice (Stangor et al., 2016). Showing some consequences of hate speech, the frequently anti-immigrant rhetoric of the campaign for the UK to leave the EU and the results of the BREXIT vote led to increases in hate crimes, potentially offering the perpetrators a feeling of legitimacy for these crimes (Piatkowska & Stults, 2021).

In a cross-national study including up to 162 countries, there was a connection between politicians' hate speech and domestic terrorism. From 2000 to 2017, the analyses show that countries with a higher frequency of hate speech expressed by politicians also saw higher counts of domestic terrorism. It was suggested that politicians' hate speech might contribute to radicalization and readiness for violence in the form of domestic terrorism (Piazza, 2020). Evidence on how hate groups operate and spread their message online shows how effectively various hate groups have used the internet to network and recruit new members into a radicalized ideology (McNamee et al., 2010).

There are numerous examples of terror attacks where the primary identified source of radicalization was various online fora, including the attacker responsible for the Charleston church massacre in 2015 and the right-extreme gunman who attacked a mosque in Bærum, Norway and murdered his Chinese-Norwegian sister (Andresen & Tvedt, 2019; Berman, 2016). These examples may represent the extreme outcome, but if many of the people who end up committing terror attacks and murdering people in the real world are primarily socialized and radicalized online, it is important to understand the psychological processes involved in frequent exposure to hate speech. Also, people who never agree with the content they read and never become radicalized may still be affected by this content. It is therefore important to understand which effects this exposure to hateful content has on them.

Hate websites, blogs and other online formats have increased dramatically since the late nineties (Douglas, 2009). Hate speech laws in different countries are associated with how much youth are exposed to hate speech online, with stricter laws helping to reduce exposure (Hawdon et al., 2017). Research has also shown that hate groups' different types of

communication strategies are differently effective (Lee & Leets, 2002). The adolescent participants initially rated more subtle, highly narrative communication as more persuasive than shorter, more explicit communication. However, the participants rated the shorter, more explicit communication as more persuasive in the long run. Participants' responses to open-ended questions backed up the ratings. Kaakinen et al. (2021) found an association between social media use to follow events after a terrorist attack and exposure to online hate. They also found an association between exposure to online hate and a perception of a Zeitgeist of fear in four out of the five examined countries. Out of Norway, Finland, France, Spain and the United States, Norway was the only country in the sample with no association between online hate and a perceived Zeitgeist of fear.

As previously mentioned, there is also evidence to suggest that merely being exposed to hate speech changes how we evaluate that type of speech and that over time, it might appear less harmful due to repeated exposure (Leets, 2001). Evidence suggests that outgroup prejudice may increase with higher levels of desensitization to hate speech (Soral et al., 2018).

Several issues in US politics today are highly controversial. Proponents of either side use hateful language to attack the opposite opinion group, as exemplified by the tweets on gun control above. Other similarly controversial topics are abortion and marriage equality for same-sex relationships. Either side of these issues is favoured more by either Republicans or Democrats in Gallup polls. According to Gallup polls, 67 % of Americans stated that same-sex marriage should be recognized as legal, while 31 % answered that it should not be legally recognized in 2019. Fewer Republicans (49%) than Democrats (83%) supported same-sex marriage (McCarthy, 2020). On abortion, in a 2019 Gallup poll, 12 % of Republicans and 39% of Democrats answered that abortion should be legal under any circumstances (Gallup Inc., n.d.). Similarly, 21% of Republicans self-identified as pro-choice, and 75 % of Republicans self-identified as pro-life. Among Democrats, 68 % self-identified as pro-choice, while 29 % self-identified as pro-life (Gallup Inc., n.d.). In 2018, 67 % of respondents supported stricter gun laws, while 28 % supported no change, and 4 % supported less strict gun laws. Among Republicans, 41 % supported stricter gun laws, while 90 % of Democrats and 65% of Independents supported stricter gun laws (Reinhart, 2018, 18.05.). Data from the General Social Survey supports these tendencies, reporting that stances on abortion rights have been mostly stable over the last decades (Smith et al., 2020). Conservatives were reportedly more likely to oppose abortion rights, and liberals were more likely to support abortion rights. Additionally, while most people supported legislation requiring a license to

buy a gun, conservatives were more likely than liberals to oppose such legislation, with this ideological gap widening. The authors also reported that support for same-sex marriage had increased markedly between 1988 and 2010, but conservatives were more likely to oppose such legislation (Smith et al., 2020). Some of these sources reported results categorizing respondents as either Democrats, Independents or Republicans, while other sources categorized participants as conservatives and liberals. Both categorizations result in the same general outline of target issue proponents and opponents.

A different type of exposure effect is changes in truth judgements upon repeated exposure. Being exposed to statements repeatedly has led to participants rating these statements as more truthful than unfamiliar statements (Hasher et al., 1977). This effect remained true for improbable statements (Pennycook et al., 2018). Statements were also judged as more truthful when they resembled statements one week later, even though they contradicted the original statement. In contrast, they were judged as less truthful when presented a few minutes after the original statements (Garcia-Marques et al., 2015). Increased processing fluency has been proposed as a mechanism for increased perceptions of truthfulness after repeated exposure (Begg et al., 1992; Dechêne et al., 2010; Reber & Schwarz, 1999).

What happens when we are repeatedly exposed to statements that not only claim some fact but that are also hatefully targeting others? Do we also process these statements more fluidly over time and question their content less, and become desensitized to them? More importantly, do we become psychologically less responsive to their hateful content? The main research question is, how does desensitization to hate speech occur, and under which circumstances does it occur? More specifically, I want to investigate whether offensiveness perceptions change in the presence of familiar versus unfamiliar statements and look at whether factors such as political viewpoint and generalized prejudice affect this process.

Theory

Desensitization to Violence

The General Aggression Model (GAM) is used in a large and varied research field studying human aggression and violence (Anderson & Bushman, 2002). A few aspects and findings which are especially relevant for the current project will be discussed here. The GAM has been proposed as an explanatory model for the desensitization effect of violent media consumption (Carnagey et al., 2007). According to the GAM, aggressive behaviour is based on learning, activating, and applying aggression-related knowledge structures in memory. In one study, half of the participants played a violent video game for 20 minutes,

and the other half played a non-violent video game for 20 minutes. Afterwards, all participants' physiological responses to viewing real-world violence were recorded. The participants who had first played a violent video game showed lower physiological arousal in reaction to real-world violence than those who had played a non-violent video game. Additionally, the authors found no correlation between participants' preferences for violent media and their degree of desensitization during the experiment (Carnagey et al., 2007). Across a series of studies, further evidence supporting the GAM has shown that viewing media violence reduced empathy and helping behaviour and changed normative beliefs about violence (Krahé, 2014). The author found that frequent exposure to media violence was associated with lower physiological arousal, and greater desensitization to media violence.

If we get desensitized to physical violence after repeated exposure, what happens when we are repeatedly exposed to hate speech? Some previous research has shed light on this. For example, Relia et al. (2019) found that racist online activity correlates with hate crimes. In addition, Blake et al. (2021) showed how misogynistic tweets correlate with and positively predict violence against women.

GAM researchers have suggested before, without testing it empirically, that verbal violence might lead to similar desensitization as physical violence, with repeated exposure to hate speech leading to desensitization and increased levels of prejudice (Anderson & Bushman, 2018). In a study on majority and minority members' reactions to racist and offensive language, desensitization was proposed as one explanation for the phenomenon that members of the targeted minority rated these expressions as less harmful than majority members did (Leets, 2001). In this study, desensitization was self-reported.

To my knowledge, the applicability of the GAM to desensitization to forms of speech has only been tested empirically by Soral et al. (2018). In this case, verbal violence was understood as verbal abuse directed at a person based on their actual or perceived group membership. Based on definitions of desensitization to physical violence, the authors define desensitization to hate speech as "the reduction of negative cognitive and affective responses to verbally violent stimuli" (Soral et al., 2018, p. 137). Soral et al. (2018) found that participants got desensitized to hate speech, which was related to increased prejudice against the targeted groups. The current project builds further on the idea of using the GAM as a framework for studying the effects of repeated exposure to hate speech. The current project aims to replicate the effect of desensitization to hate speech and investigate the roles of other factors such as generalized prejudice and previous exposure. This project is different from the studies reported by Soral et al. (2018), in some important ways. While Soral et al. (2018)

conducted their studies in Poland, studying majority population members' reactions to hate speech targeting marginalized groups (e.g., LGBTQ+, Muslims), the current studies are conducted in the U.S. and do not use the minority-majority framework. Instead, targeted groups are opinion groups on either side of contemporary political debates. Additionally, Soral et al. (2018) used a design comparing a control group that was not exposed to hate speech in the training phase with an experimental group exposed to hate speech in the training phase. During the judgement phase, both groups were exposed to hate speech. Their differences in offensiveness judgements were used as a measure for desensitization to hate speech. In the current project, all participants are exposed to hate speech in both phases, and instead, a counterbalanced design is used. This counterbalanced design removes individual differences as a possible explanation for changes in offensiveness ratings after exposure. The use of opinion groups on either side of politically relevant issues in the United States today as target groups excludes the possibility of the desensitization effect being limited to particular groups, as would be the case in Soral et al. (2018) where marginalized target groups were used.

If changing perceived prejudice norms leads to desensitization to hate speech, there should be a desensitization effect to hate speech, regardless of the participant's political affiliation or the target. Thus, Hypothesis 1 is:

H1: Repeated statements will be rated as less offensive than new statements.

Motivated Reasoning

Motivated reasoning is "the tendency of people to confirm assessments of information to some goal or end extrinsic to accuracy" (Kahan, 2013, p. 408). Different motivational goals lead to different strategies for reasoning and different results. Accuracy goals and directional goals are motivational goals, where accuracy goals lead to a deeper processing of issue-related information, and directional goals are characterized by trying to find convincing arguments for the preferred conclusion (Kunda, 1990). Mercier and Sperber (2011) have argued that people's goal in reasoning is not necessarily to find the truth but to deliver the most convincing argument. Further, both directional and accuracy goals can be associated with high and low effort, and bias and self-serving conclusions can arise from unsuccessful accuracy-oriented reasoning or successful directional reasoning (Leeper & Slothuus, 2014).

Several processes have been identified as contributing to motivated reasoning, among them are prior attitude, which led participants to view attitude-confirming arguments as stronger than disconfirming arguments, disconfirmation bias, meaning that attitude-confirming arguments were uncritically accepted and disconfirming arguments were

counterargued, and finally confirmation bias, as participants tended to seek out confirming evidence when they could choose their sources (Taber & Lodge, 2006). Participants with high scores on the Cognitive Reflection Test showed higher levels of motivated reasoning, and motivated reasoning was not due to an overreliance on heuristics (Kahan, 2013). Additionally, self-serving motivated reasoning was similarly present for both liberals and conservatives, countering the idea that conservative tendencies to a higher need for cognitive closure and close-mindedness lead to a greater degree of motivated reasoning (Kahan, 2013).

Further, a person's worldview influences the outcome of motivated reasoning, specifically their levels of social dominance orientation (SDO) and right-wing authoritarianism (RWA) (Crawford et al., 2013). For example, SDO and RWA led to different conclusions when evaluating the content and authors of articles on affirmative action and same-sex relationships, respectively. SDO predicted positive evaluations of the content and author of an anti-affirmative-action article. Meanwhile, RWA predicted favourable evaluations of an anti-same-sex relationship article and unfavourable evaluations of a pro-same-sex relationship article (Crawford et al., 2013).

Motivated reasoning has also led participants to attribute violent acts to either mental illness or terrorism depending on which answer fit their worldview better. It has also led participants to distance the perpetrator of violent acts more or less from the in-group, depending on whether he was reported to be politically motivated or mentally ill respectively (Noor et al., 2019). According to the presented evidence on motivated reasoning, participants in the present studies can be expected to perceive the presented statements differently, depending on whether they consider themselves a member of the targeted opinion group or not. More specifically, participants who consider themselves a member of the targeted group are expected to rate the statement as more offensive than participants who do not consider themselves a member, as a form of directional goal-motivated reasoning, interpreting the information in the statement in a self-serving light. While the target groups were chosen to align with political conservative and liberal opinions in the U.S., they may not align perfectly, and so this is tested in two ways:

H2: Participants will rate statements targeting the position they support as more offensive than statements targeting the position they oppose. This hypothesis will be tested (1) by comparing liberals and conservatives regarding hate speech against liberal and conservative positions, respectively, and (2) by comparing statements regarding abortion rights, gun regulation and marriage equality that are in favour of or in opposition to the participant's own political beliefs and values.

Prejudice Norms and Generalized Prejudice

Prejudice “represents a negative (or less positive) evaluative or affective response, or both, to others in a given context based on their group membership” (Dovidio & Gaertner, 2010, p. 1085). Tolerance norms for prejudice can change over time and be affected by the social environment. For example, confederates' expression of negative stereotypes about a group has led participants to express higher levels of negative stereotypes against the group (Hsueh et al., 2015).

Another study showed how participants' tolerance norms for prejudice changed after Trump's election as U.S. president in 2016 (Crandall et al., 2018). The participants in this study were asked about their perceptions of prejudice norms, how acceptable they thought it was to express prejudice toward a variety of groups, as well as their self-reported levels of prejudice. Several target groups were included, some Trump had been targeting throughout the campaign, and some he had not been targeting. Approximately half of the participants were Trump supporters, while the other half were Clinton supporters. The results showed that among both Trump and Clinton supporters, perceptions of prejudice norms changed toward tolerating the expression of prejudice toward the targeted groups more, but not the not-targeted groups. However, Trump supporters reported higher levels of prejudice toward targeted groups than Clinton supporters did, but there was no difference in prejudice toward non-targeted groups. This difference persisted after the election (Crandall et al., 2018). These studies show how perceptions of prejudice norms can change over time and affect tolerance of expressions of prejudice and behaviour, regardless of personal agreement.

Expressions of prejudice can be affected by socially relevant others. Stangor et al. (2016) demonstrated how participants' stereotypes about a group were affected by information about the stereotypes held by others about the group. This effect applied both when stereotypes were suggested to be more positive and negative than the participant estimated. Additionally, it was stronger when the stereotype opinion came from ingroup versus outgroup members. Participants of another study have also been affected by confederates' expressed support for or condemnation of racism to support or condemn those racist expressions (Blanchard et al., 1994). Non-target individuals may be more effective in confronting prejudicial statements than target individuals due to the audience's differential perceptions (Rasinski & Czopp, 2010). In this study, participants evaluated White confronters of another White person making anti-Black prejudicial remarks more positively and persuasive than Black confronters of the same remarks. In a different study, confronters of a highly offensive remark were evaluated more positively than when they did not confront the

remarks. Also, the perpetrator was evaluated less positively, and the statement was evaluated as more offensive when the perpetrator was confronted than when confrontation was absent (Dickter et al., 2012).

Allport proposed the concept of a prejudiced personality: “a person’s prejudice is unlikely to be merely a specific attitude toward a specific group; it is more likely to be a reflection of his whole habit of thinking about the world he lives in (Allport, 1958, p. 170). This concept has since been termed generalized prejudice and has previously been measured as prejudice against a range of low-status groups (Crawford & Brandt, 2019). Broad generalized prejudice is used to measure prejudice against a greater variety of low- and high-status groups. (Crawford & Brandt, 2019). Research has linked broad generalized prejudice to basic personality traits. More specifically, broad generalized prejudice was linked to low Agreeableness and Conscientiousness. High Openness and low Conscientiousness were linked to higher levels of prejudice against conservative targets. In contrast, low Openness and high Conscientiousness were linked to prejudice against liberal targets. A perceiver-target dissimilarity concerning the link between prejudice and Openness was proposed (Crawford & Brandt, 2019).

Generalized prejudice has often been conceptualized as outgroup negativity, but researchers have found that generalized prejudice predicts prejudice toward both outgroups and ingroups and is based on a target group's power and status rather than group membership (Bergh et al., 2016). Generalized prejudice has also been found to be negatively related to empathy (Bäckström & Björklund, 2007). This relationship was partly due to a negative relationship between empathy and SDO, which impacted generalized prejudice. However, even after SDO and RWA were controlled for, low empathy was still related to generalized prejudice. Further, compared to female participants, male participants displayed higher levels of generalized prejudice. Gender differences in empathy explained this relationship (Bäckström & Björklund, 2007).

Using a combination of exploratory and confirmatory factor analysis, Bergh and Brandt (2021) mapped generalized prejudices independent of specific target groups. They found no connection between self-identified social status and prejudice against rich versus marginalized groups. However, they did find a link between self-identified values and prejudices against conventional versus unconventional groups. According to the authors, negative evaluations of marginalized and unconventional groups were closely related, and so were negative evaluations of privileged and conventional groups.

The ideological conflict hypothesis predicts that people on either end of the conservative-liberal scale hold higher levels of prejudice toward individuals with conflicting political and moral preferences from their own (Reyna et al., 2014). Conservatives are more likely to hold prejudices against groups that are commonly perceived as more liberal and are often stigmatized, like African Americans or immigrants. In contrast, liberals have shown greater prejudice toward groups commonly perceived as conservative, like religious groups or pro-life advocates (Reyna et al., 2014). More recent research has suggested that both economic and social ideology are associated with prejudice directed at groups with conflicting ideology, but that differences in social ideology may be more potent in eliciting prejudice (Crawford et al., 2017). Czarnek et al. (2019) found that both right-wing and left-wing participants exhibited prejudice against ideologically dissimilar others. Value violation was identified as a mediator for this relationship, where the negative evaluation of the outgroup increased when the outgroup member was violating the participant's values. This effect remained true for both cultural and economic ideologies.

In summary, a participant's level of generalized prejudice, as well as their level of exposure to similar statements before the experiment, may affect perceived offensiveness of statements, which is why two additional hypotheses are tested:

H3: The individual level of generalized prejudice affects levels of desensitization to hate speech.

H4 (only Study 2): Participants' previous exposure to similar statements affects levels of offensiveness ratings in the study.

Social Dominance Orientation and Right-Wing Authoritarianism

SDO refers to the “extent to which one desires that one’s in-group dominate and be superior to outgroups” (Pratto et al., 1994, p. 742). On the other hand, individuals high in RWA “believe strongly in submission to established authorities and the social norms these authorities endorse” (Altemeyer, 1998, p. 48). SDO and RWA have been proposed as personality characteristics, social attitudes or motivational goals (Duckitt & Sibley, 2010). SDO is characterized by a view of the world as a competitive jungle in which people fight for power and attempt to maximize their position. In contrast, RWA is characterized by a need for traditionalism and social order, and the world is seen as a dangerous place (Duckitt & Sibley, 2010). In terms of social and economic policy, SDO has been found to match conservative economic policies, while RWA has been found to match conservative social policies (Crawford, 2017). Researchers have found that RWA predicted support of hate speech prohibiting laws, and SDO predicted a lack of support for such laws (Bilewicz et al.,

2017). The authors suggested that participants high in RWA exhibited a willingness to penalize non-normative behaviour, assuming hate speech as a norm violation. In support of this, they found that participants high in RWA were more supportive of hate speech prohibiting laws when the hate speech targeted groups perceived to be protected by norms prohibiting expressions of explicit prejudice than for groups not protected by such norms. As mentioned above, SDO and RWA can affect the outcome of motivated reasoning (Crawford et al., 2013), in the current project SDO and RWA will be explored as potential factors influencing desensitization to hate speech.

The Current Research

Studies 1 and 2 were designed to measure a desensitization effect to hate speech by comparing offensiveness ratings in response to hate speech statements that are familiar to participants from previous exposure, compared to offensiveness ratings in response to unfamiliar statements. Statements were pilot tested. These statements were then used in Studies 1 and 2 to examine a desensitization effect.

The GAM is used as an explanatory model for desensitization effects to hate speech, as Soral et al. (2018) proposed. Previous research has shown that exposure to hate speech leads to desensitization to hate speech and increased prejudice (Soral et al., 2018). Desensitization to hate speech can be considered a long-term process, likely to be strongest and longest lasting in response to chronic, long-term exposure to hate speech (Soral et al., 2018). However, as described in greater detail in the method section, the current project's design looks at a short-term effect, where desensitization is measured immediately after exposure to hate speech due to practical constraints. This short-term measure of desensitization has been employed both in previous research on desensitization to hate speech (Soral et al., 2018) and in research on desensitization to media violence (Anderson & Bushman, 2018; Bushman et al., 2015). The target groups are proponents of positions on either side of several political issues relevant in the United States today. One side is more supported by liberals and the other side is more supported by conservatives. Using opinion groups on either side of various political issues ensures a balanced design that can isolate desensitization independent of the target group. This balance is important, considering that acceptance of prejudice toward different groups has been demonstrated to be affected by political affiliation (Crawford & Pilanski, 2014).

Design

For Studies 1 and 2, a repeated exposure design is used. A repeated exposure design has been used to study truth perceptions of familiar and unfamiliar claims (Hasher et al.,

1977). In this type of design, participants are initially exposed to one set of statements, followed by a pause of varying length. Participants are then exposed to the second set of statements, comprised of the previously presented statements plus the new, unfamiliar statements. In the second phase, participants are asked to rate the truthfulness of the statements. Higher truthfulness ratings for familiar versus new statements are a measure of the truth effect (Dechêne et al., 2010). In a longitudinal study, participants were exposed to plausible statements in an initial exposure phase and asked to rate the truthfulness of either the identical statements or the opposite statements either a few minutes or a week later (Garcia-Marques et al., 2015). When participants rated the statements a few minutes after the initial exposure, they rated the opposite statements as less likely to be true than the unknown statements. When participants rated the statements one week later, they rated the opposite statements as more likely to be true than the unknown statements. In the current project, participants do not rate the likelihood of truth for a statement. Instead, they rate how offensive they perceive the statement to be, similar to Soral et al. (2018). Studies 1 and 2 are conducted in two phases, an exposure phase and a judgement phase. Participants are shown half of all statements during the exposure phase, followed by a brief filler task. During the judgement phase, participants are shown the same statements as during the exposure phase and the unfamiliar statements in random order. For each statement in the judgement phase, participants are asked to rate how offensive they find the statement on a Likert-type scale ranging from not at all offensive (0) to extremely offensive (6). The difference in offensiveness ratings between new and repeated statements serves as a measure of desensitization. After the offensiveness ratings, participants are asked to complete some additional measures. Participants are recruited in the U.S. through Amazon's Mechanical Turk (Mturk).

The statements used in the study were created to closely resemble publicly available social media statements found on sites such as Twitter (https://twitter.com/), 4chan (https://4chan.org/) and Reddit (https://www.reddit.com/) to increase external validity. To ensure internal validity, the groups targeted by the statement had to be interchangeable. This interchangeability was necessary for the design of Studies 1 and 2, in which the target groups of statements are exchanged, such that half of the participants see a particular statement as targeting same-sex marriage supporters. The other participants see the same statement as targeting opponents of same-sex marriage. An example of this is "Loons who support gay marriage are dim idiots." This statement is switched into a statement targeting those who oppose same-sex marriage, to "Loons who oppose gay marriage are dim idiots."

Following the literature on ideological conflict theory, the target groups were chosen as pairs on opposite sides of a political debate relevant in the U.S. today. Liberals more often support one position on the issue, and conservatives more often support the other side to balance the design. None of the groups is marginalized, and liberals and conservatives can be expected to, on average, hold similar levels of prejudice to the groups. This balance removes the possible explanation of either liberals or conservatives having more favourable opinions of the target groups for any differences in offensiveness ratings between liberal and conservative participants. The target groups are opinion groups on either side of three issues: abortion rights, gun regulation and marriage equality, with supporters and opponents of pro-choice, supporters and opponents of gun control, and supporters and opponents of equal legal recognition of same-sex marriage as target groups.

Method

Ethical Considerations

Participants were informed that the study contained offensive language in the posting on Mturk and the consent form. The consent form also stated that they could skip any questions they did not wish to answer. Participants were debriefed about the purpose of the study after completion. While there was a potential for psychological discomfort for participants, the risks associated with this study were considered minimal. No deception was used in any of the reported studies. Participants were also carefully debriefed, where they were informed that the statements were selected for their harmful content and about the importance of studying the effects of hateful language publicly available online. The statements participants were exposed to were either available online in public access forums, sometimes with edits to make them more suitable for the study but without increasing the level of offensiveness, or they were written to be similar to statements found online. Therefore, it is likely that participants have been exposed to similar speech outside of the studies already. Hate speech is readily available online, and many people are exposed to instances of hate speech (Hawdon et al., 2017). It is therefore important to study the effect that repeated exposure has on people.

Pilot Study

The pilot study was conducted to select suitable statements for Studies 1 and 2. The goal was to find the most offensive statements for each target group.

Participants

Data collection took place between December 24 – December 31, 2020. In total, 336 participants were recruited. Of the total sample, 21 participants failed one or more attention

checks and were excluded a priori from analyses, leaving a sample of N = 305. Of the remaining sample (M_{age} = 36.83, SD_{age} = 10.80, 110 female), two participants reported their gender as other, and two did not report their gender. Concerning education, 20.32 % had completed high school, 61.31 % had a bachelor's degree, and 17.70 % had a master's degree or higher.

Procedure

The study was approved by the Institutional Review Board at the University of Oslo. In total, 160 statements were used in the pilot study, between 25 and 27 per target group. The study was presented to Mturk workers as an "Evaluation of social media posts" with the description: "Give us your evaluation of social media posts." The reward was set to two USD for participation. Participants were told that the study's purpose was to examine people's evaluations of different types of social media posts. Each participant was presented with 53 out of 160 statements in random order, and which statements participants were presented with was fully randomized. Four attention checks were presented in between statements. After the rating section, participants were asked demographic questions and questions about their political views. Then participants were debriefed and thanked for their participation.

Measures

Stimulus Material. The pilot study aimed to select 84 offensive statements to serve as stimulus material in the main studies. The required statements were offensive language or hate speech statements, targeting one of six target groups: supporters and opponents of pro-choice, supporters and opponents of gun control, and supporters and opponents of equal legal recognition of same-sex marriage as target groups.

The response scale for the statements was a 7-point Likert scale (0 = *not at all offensive* to 6 = *extremely offensive*). See Appendix A for the complete list of statements.

Attention Checks. Four attention checks were interspersed between the statements. The attention checks were items with the instruction: "Please rate how offensive you find the following statement." In place of a statement, participants were instructed which response option to choose: "Please choose the hardly at all offensiveness option". Each attention check instructed participants to select a different response option.

Political Views. After participants had completed the offensiveness ratings, they were asked about their political views. Participants were asked to "Please indicate which option best reflects your political views". Responses were given on a 7-point Likert scale (1 = *very conservative* to 7 = *very liberal*).

Additionally, participants were asked about their opinions regarding the three issues addressed in the stimulus statements, abortion, same-sex marriage, and gun laws. For each topic, participants were instructed: "Please indicate which option best indicates your personal views on the following issues:", responses were on 5-point Likert scales, on abortion (1 = *strongly pro-life* to 5 = *strongly pro-choice*), on gun laws (1 = *strongly for gun control* to 5 *strongly against gun control*), and on same-sex marriage (1 = *strongly for same-sex marriage* to 5 = *strongly against same-sex marriage*).

Results

On political views, 92 of 304 responded with conservative, 42 responded with neither conservative nor liberal, and 170 were liberal. On the specific issues, 169 of 304 supported pro-choice, 71 were indifferent, and 64 were opposed. Similarly, 128 of 304 supported same-sex marriage, 67 were indifferent, and 109 were opposed. Concerning gun control, 116 of 304 supported gun control, 63 were indifferent, and 125 were against gun control.

From the complete list of 160 statements, 84 were selected for use in Studies 1 and 2. The 14 statements with the highest overall mean offensiveness ratings for each of the six target groups were selected. The selected statements were rated between $M_{statement}$ = 3.34, SD = 1.75 and $M_{statement}$ = 4.62, SD = 1.48. The mean offensiveness rating of the selected statements was $M_{offensivenss}$ = 3.69, SE = .06. For more results, see Appendix B.

Study 1

Study 1 was preregistered on AsPredicted (https://aspredicted.org/blind.php?x=469ww2, link blinded for review).

Participants

The recruitment target for the study was 200 participants. A power analysis was conducted as recommended by Westfall et al. (2014) with the online calculator (jakewestfall.org/power) to arrive at the minimum number of participants for this design. For this study, with a counterbalanced design, an effect size of d = 0.3, and 84 stimulus statements, the recommended minimum number of participants is 64.2 to attain statistical power of 1 - β = 0.8. The recruitment target was set to 200 to account for potential outliers and failures of attention checks.

Data collection took place between February 09 and February 19, 2021. In total, 239 participants were recruited. Of the total sample, 104 participants failed one or more attention checks and were excluded a priori from analyses, leaving a sample of N = 133 participants. Participants' age ranged from 23 to 71 (M_{age} = 38.38, SD_{age} = 10.95, 43 female), and one participant reported their gender as other. In analyses where gender was a factor, the

participant who responded “other” was excluded. On education, 1.50 % of participants reported not having completed high school, 41.35 % reported having completed high school, 49.62 % reported having completed a bachelor's degree, and 7.52 % reported having a master's degree or higher.

Procedure

The study was approved by the Institutional Review Board at the University of Oslo. Participants were recruited via Mturk. The study was presented to Mturk workers as an "Evaluation of social media posts", and the description said, "Give us your evaluation of social media posts." The reward was set to five USD for participation. Participants over the age of 18 located in the United States were eligible. Participants were told that the study's purpose was to examine people's evaluations of different social media posts and that the complete study would take about 30 to 45 minutes to complete. Each participant was presented with 42 statements to read presented in random order except for three statements which were in fixed positions followed by attention checks. The statements were followed by the Positive and Negative Affective Schedule (Watson et al., 1988), which served as a filler task before the next phase. Participants were then asked to rate the 42 statements from the exposure phase and 42 new statements presented in random order during the judgment phase. Participants were randomly assigned to a condition based on two grouping factors: Group and Version. Versions A and B refer to two sets of statements, where Version A contained the original statements as presented in the pilot study. Version B contained the same statements with the opposite target group. Within each version, participants were assigned to either Group 1 or Group 2, where participants assigned to Group 1 saw one-half of the statements in the exposure phase. Participants in Group 2 saw the other half of statements in the exposure phase. Participants in Groups 1 and 2 within each version saw the same statements in the judgement phase. After the judgement phase, participants were asked to complete additional measures, including SDO, RWA, generalized prejudice, demographic questions, and political views. At the end of the study, they were debriefed.

Measures

Stimulus Material. The statements selected during the pilot study were used for the desensitization measure. Participants were asked to rate each statement on the same 7-point Likert scale as in the pilot study. See Appendix A for the complete list of statements as well as the reversed Version B statements.

Attention Checks. There were different versions of attention checks during the exposure phase and the judgement phase. During the exposure phase, participants were

presented with three attention checks at fixed positions in the survey. The attention checks asked participants to identify which topic out of four options the previous statement targeted. The response choices were: "Gun laws", "Climate change", "Abortion", and "Same-sex marriage". During the judgement phase, attention checks were the same as in the pilot study.

Broad Generalized Prejudice. The broad generalized prejudice scale, as presented by Crawford and Brandt (2019), was used. As part of this scale, participants were asked to indicate their feelings to different social groups on a continuous feeling thermometer scale with the endpoints 0 and 100. Groups include "Investment bankers", "Small business owners", "Elderly people", and "Feminists". There are 20 groups in total. Following Crawford and Brandt (2019), participants' scores for generalized prejudice are measured by averaging feeling thermometer scores across all groups.

Political Views. Finally, participants were asked the same questions about their political views as the pilot study participants were.

Results

Due to an error in the survey, stimulus statements targeting pro-life and pro-choice supporters, as well as one statement on same-sex marriage, could not be included in the analysis. See Appendix A, Table A10 for the excluded same-sex marriage statement. The results reported below include ratings of statements on gun laws and the correct same-sex marriage statements only.

Screening. Screening showed that skewness and kurtosis values were within a range of ± 1.5 for most statements. There were only a few statements for which the value for kurtosis or skewness were outside the ± 1.5 range. There is only one statement for which the kurtosis value exceeded ± 2. Neither skewness nor kurtosis exceeded ± 1 for any of the mean values used in the following analyses. Results are reported without Greenhouse-Geisser or Hyunh-Feldt corrections. Applying corrections did not yield different results.

H1: Repeated Statements Will be Rated as Less Offensive Than New Statements. The model was set up as a 2 (Repetition) x 2 (Group) x 2 (Version) design, where repetition is a within-subjects factor, and group and version are between-subjects factors. The main effect of repetition was not significant, with $F(1, 129) = 3.27$, $p = .073$ and partial $\eta^2 = .03$. The direction of the repetition effect was in the expected direction, with the estimated marginal means: $M_{new} = 3.74$, $SE = .102$, 95 % CI [3.54, 3.94] and $M_{repeated} = 3.70$, $SE = 0.10$, [3.50, 3.91]. Hypothesis 1 is not supported. Further interactions effects of Group and Version were not significant and will not be considered further. Observed power for the main effect was relatively low, at $1 - \beta = .44$.

H2: Participants Will Rate Statements Targeting the Position They Personally Support as More Offensive Than Statements Targeting the Position They Oppose. See Appendix C for details on participants' responses to questions concerning political views and topic opinions. Hypothesis 2 was tested with a series of ANOVAs, set up as 2 (Statement set) x 4 (Statement target) x 2 (Group) x 2 (Version) x 2 (Political views). For the tests of the specific opinions, instead of political views, marriage opinion and gun opinion were entered into separate analyses, also each with two levels. In this analysis, participants who answered that they were neutral on either measure of political views were excluded from the analyses since they cannot be considered a member of the target group on either side of the issue. The analysis revealed no significant main effect of political views, with $F(1,104) = 2.82$, $p = .096$. The interaction term Statement target * Version * Political views was statistically significant, with $F = (3, 312) = 3.58$, $p = .014$, partial $\eta^2 = .03$ meaning that participants' political views were related to their offensiveness ratings. No further interaction terms involving political views were statistically significant. See Appendix C for all mean values. T-tests showing the difference in ratings for conservative and liberal target groups by participant political views are shown in Table 1. The t-tests show that the difference between offensiveness ratings for liberal target groups was statistically significant, with liberals rating these statements as more offensive than statements targeting conservative groups, both in Versions A and B. This difference is consistent with the hypothesis. Conservative participants did not rate statements targeting liberal and conservative target groups significantly differently.

Table 1

Differences in Offensiveness Ratings by Participant Political Views

Version	Participant	*M*	*SD*	*SE*	95% CI	*t*	*df*	*p*	*d*
A	Conservative	-0.20	0.62	0.16	[-0.55, 0.14]	-1.29	14	.219	-0.33
	Liberal	-0.63	1.04	0.15	[-0.94, -0.33]	-4.14	45	> .001	-0.61
B	Conservative	0.21	0.76	0.16	[-0.11, 0.54]	1.36	22	.188	0.28
	Liberal	-0.23	0.56	0.11	[-0.44, -0.01]	-2.17	27	.039	-0.41

Note. $M = M_{\text{conservative target}} - M_{\text{liberal target}}$

The second part of the hypothesis involved running the analysis with opinions on the specific topics. There was no main significant effect of marriage opinion, with $F(1, 105) =$

1.03, $p = .313$. There was a statistically significant interaction effect of Statement target * Version * Marriage opinion, with $F(3, 315) = 4.65$, $p = .003$, partial $\eta^2 = .04$.

For mean values, see Appendix C. Table 2 shows that supporters of same-sex marriage rated statements targeting supporters of same-sex marriage as more offensive than statements targeting opponents of same-sex marriage, both in Versions A and B. Ratings by opponents of same-sex marriage did not significantly differ for the target groups.

Table 2

Differences in Offensiveness Ratings by Participant Marriage Opinion

Version	Participant	*M*	*SD*	*SE*	95% CI	*t*	*df*	*p*	*d*
A	Opponent SSM	-0.25	0.54	0.15	[-0.59, 0.09]	-1.63	11	.132	-0.47
	Supporter SSM	-0.75	1.23	0.18	[-1.12, -0.39]	-4.14	45	> .001	-0.61
B	Opponent SSM	0.30	1.29	0.37	[-0.52, 1.13]	0.82	11	.432	0.24
	Supporter SSM	-0.69	0.85	0.13	[-0.95, -0.43]	-5.32	42	> .001	-0.81

Note. $M = M_{\text{anti-same-sex marriage target}} - M_{\text{pro-same-sex marriage target}}$. SSM = same-sex marriage.

Same as for same-sex marriage opinion, there was no significant main effect of gun opinion, with $F(1, 108) = 0.07$, $p = .790$. There was a statistically significant interaction effect of Statement target * Version * Gun opinion, with $F(3, 324) = 6.36$, $p < .001$, partial $\eta^2 = .06$. The estimated marginal means are presented in Appendix C.

The t-tests in Table 3 show that in Version A, supporters of gun control rated statements targeting supporters of gun control as more offensive than statements targeting opponents of gun control. In Version B, opponents of gun control rated statements targeting opponents of gun control as more offensive than statements targeting supporters of gun control. Opponents of gun control in Version A and supporters of gun control in Version B did not rate statements targeting the opposing groups significantly differently.

Table 3

Differences in Offensiveness Ratings by Participant Gun Opinion

Version	Participant	*M*	*SD*	*SE*	95% CI	*t*	*df*	*p*	*d*
A	Opponent GC	-0.15	0.50	0.12	[-0.40, 0.10]	-1.24	17	0.233	-0.29
	Supporter GC	-0.51	1.06	0.17	[-0.85, -0.17]	-3.04	39	.004	-0.48
B	Opponent GC	0.63	0.59	0.12	[0.39, 0.87]	5.12	25	> .001	1.06
	Supporter GC	0.10	0.78	0.14	[-0.18, 0.38]	0.73	31	0.473	0.13

Note. $M = M_{\text{gun control opponent target}} - M_{\text{gun control supporter target}}$. GC = gun control.

While the interaction effects of the ANOVA indicate that participants' political views affect offensiveness ratings, many differences in offensiveness ratings were non-significant. However, when differences were significant, they were in the expected direction. These results provide mixed support to Hypothesis 2.

H3: The Individual Level of Generalized Prejudice Affects Levels of Desensitization to Hate Speech. The repeated measures ANOVA to test Hypothesis 3 was set up as 2 (Repetition) x 2 (Group) x 2 (Version) with broad generalized prejudice entered as a covariate. The interaction effect of Repetition * Generalized prejudice was not significant, with $F(1,127) = 0.04$, $p = .848$, partial $\eta^2 < .001$. The main effect of generalized prejudice was not significant, with $F(1,127) = 2.48$, p = .118, partial $\eta^2 = .02$ and no further main or interaction effects with broad generalized prejudice were statistically significant. Thus, the evidence did not support the third hypothesis. The main effect for repetition changes when generalized prejudice is entered into the model, with $F(1, 127) = .051$, $p = .822$.

Gender. This analysis was not preregistered. Gender was entered into the model as a between-subjects factor. The ANOVA design was 2 (Statement set) x 4 (Statement target) x 2 (Version) x 2 (Group) x 2 (Gender). The main effect for gender was significant, with $F(1, 124) = 6.74$, $p = .011$, partial $\eta^2 = .05$. On average, women rated statements as more offensive, $M_{\text{women}} = 4.10$, $SE = 0.18$, 95% CI [3.75, 4.45] than men, $M_{\text{men}} = 3.55$, $SE = 0.12$, [3.30, 3.79], $t(130) = 2.50$, $p = .014$, $M_{\text{difference}} = .54$, $SE_{\text{difference}} = 0.21$, [0.11, 0.96], $d = 0.47$, [0.10, 0.83]. See Appendix D for more additional results on RWA and SDO.

Desensitization Over Time. As an alternative analysis, the development of offensiveness ratings for each participant over time was assessed. This analysis was conducted to test whether participants got desensitized to the continued exposure to similar hate speech statements instead of getting desensitized to the repeated exposure to the same statement as proposed in Hypothesis 1. This analysis was not preregistered. A new set of variables was created, such that each participant had an outcome variable for each statement

they rated, according to when they rated it. Statements were presented in random order. So, each participant now had variables Offensiveness_1, Offensiveness_2, …. Offensiveness_88. There were 84 statements and four attention checks. Responses for the attention checks and the statements containing mistakes were not included in the variable, but they led to a higher number of variables total. Participant ID, Version and Group were grouping factors, with a random intercept for time and offensiveness as the dependent variable. The covariance structure was set as diagonal. The slope for Time was estimated at b = -0.004, SE_b = 0.001., 95% CI [-0.01, -0.002], t(134.51) = -4.29, p < .001. These results mean that there was a significant negative development in offensiveness ratings, meaning that earlier statements were rated as more offensive than later statements.

Discussion

In Study 1, the main hypothesis of desensitization to hate speech was not supported. There was no statistically significant repetition effect. There are several possible explanations for this. One explanation is that there is no desensitization effect in response to hate speech. However, there are other studies that have shown desensitization to hate speech effects (Leets, 2001; Soral et al., 2018). Another potential explanation is that power was too low to detect a desensitization effect. There were mistakes in the stimulus material so that some Phase 1 statements were identical for different participant groups. These statements were excluded from the analysis, which led to lower statistical power. With Study 2, the aim is to increase power to eliminate that as a possible explanation.

Evidence for the effect of political views on offensiveness ratings was mixed. Hypothesis 2 was partially supported. The interaction effects were significant, but differences in mean offensiveness ratings were frequently non-significant. Participants who rated the statements targeting the opposing opinion group as more offensive were liberal participants Version A, supporters of same-sex marriage, supporters of gun control in Version A and opponents of gun control in Version B. Hypothesis 3 was not supported, as there was no interaction of generalized prejudice and the repetition effect.

Additional analyses showed that men rated statements as less offensive than women did. Previous research has found that men dominate behavioural right-extremism and express more extreme views than women, though the attitudinal difference is smaller than the behavioural difference (Rippl & Seipel, 1999). Among adolescents and young adults in Belgium, women were less exposed to violent extremist content than men (Schils & Pauwels, 2014). An added measure for previous exposure in Study 2 will help determine whether the gender difference found can be explained by different levels of exposure for men and women.

As an alternative analysis of desensitization to hate speech, the additional analysis of desensitization over time was conducted. This analysis showed that participants rated earlier statements as more offensive than later statements.

Study 2

Study 2 was preregistered on AsPredicted (https://aspredicted.org/SDY_UIZ, link blinded for review).

Participants

The recruitment target for the study was 400 participants. A power analysis was conducted. Study 1 showed a small effect size, d = .27, for the repetition effect ($t(132) = 1.84$, p = .68). As recommended by Westfall, Kenny, and Judd (2014), their online calculator (jakewestfall.org/power was used (jakewestfall.org/power) to arrive at the minimum number of participants for this design. For this study, with a counterbalanced design, an effect size of d = 0.27 and 84 stimulus statements, the recommended minimum number of participants is 96.4 to attain statistical power of $1 — \beta = 0.8$. More participants were recruited to avoid poor data quality and account for two separate sets of statements.

Data collection took place between March 26 and April 06, 2021. In total, 452 participants were recruited. Of the total sample, 80 failed attention checks or did not complete the survey and were excluded a priori from analyses, leaving a sample of N = 372. Participants' age ranged from 20 to 76 (M_{age} = 36.97, SD_{age} = 10.76, 144 female), and one participant reported their gender as other. In analyses where gender was a factor, the participant who responded "other" was excluded. On education, 0.54% of participants reported not having completed high school, 27.96 % reported having completed high school, 57.52 % reported having completed a bachelor's degree, and 13.98 % reported having a master's degree or higher.

Procedure

The study was approved by the Institutional Review Board at the University of Oslo. The procedure was the same as in Study 1, with a few minor changes. The mistakes in the stimulus material from Study 1 were corrected so that statements targeting all six target groups were included in the analyses.

Measures

The measures were identical to those in Study 1, with few exceptions. The mistakes in the stimulus material were corrected. Also, a measure for previous exposure was added.

Previous Exposure. After participants finished all offensiveness ratings, they were asked how often they had previously been exposed to similar statements, with three

questions. “Considering the past year, how often have you seen similar statements?” with a 5-point Likert scale (1 = *never* to 5 = *very often*). The other two questions were “I have seen similar statements during the last month.” And “I have seen similar statements during the last three days”, each with the response options “agree” and “disagree”.

Results

Screening. Screening showed that skewness and kurtosis values were within a range of ± 1.5 for most statements. The value for kurtosis or skewness was outside the ± 1.5 range for only a few statements. There was only one statement for which the kurtosis value exceeded ± 2. Neither skewness nor kurtosis exceeded ± 1 for any of the mean values used in the following analyses. Results are reported without Greenhouse-Geisser or Hyunh-Feldt corrections. Applying corrections did not yield different results.

H1: Repeated Statements Will be Rated as Less Offensive Than New Statements. The ANOVA was set up the same way as in Study 1. The main effect of repetition was not statistically significant, with $F(1, 368) = .001$, $p = .979$, partial $\eta 2 < .001$. There was a significant interaction effect of Repetition * Group, with $F(1, 368) = 12.90$, $p < .001$, partial $\eta 2 = .03$. For Group 1, the repetition effect was not in the expected direction, with $M_{new} = 3.88$, $SE = .09$, 95% CI [3.70, 4.04] and $M_{repeated} = 3.92$, $SE = .09$, [3.78, 4.08], $t(182) = -2.65$, $p = .009$, $M = -0.05$, SD = 0.23, $SE = 0.02$, [-0.08, -0.01], $d = -0.20$, meaning that repeated statements were rated as more offensive than new statements. For Group 2, the repetition effect was in the expected direction, with $M_{new} = 3.87$, $SE = .084$, [3.71, 4.04] and $M_{repeated} = 3.83$, $SE = .083$, [3.66, 3.99], $t(188) = 2.48$, $p = .014$, $M = 0.04$, $SD = 0.25$, $SE = 0.02$, [0.01, 0.08], $d = 0.18$, meaning that repeated statements were rated as less offensive than new statements. No other main or interaction effects were significant. Examining the mean ratings by the different groups more closely, $M_{Group\ 1} = 3.89$ and $M_{Group\ 2} = 3.85$, $t(370) = 0.34$, $p = 0.738$, $M_{difference} = 0.04$, $SE_{difference} = 0.12$, 95% $CI_{difference}$ [-0.19, 0.27]. Additionally, statement set 1, $M_{Statement\ set\ 1} = 3.89$, was on average rated as more offensive than statement set 2, $M_{Statement\ set\ 2} = 3.85$ was, $t(371) = 3.62$, $p < .001$, $M = 0.04$, $SD = 0.24$, $SE_M = 0.01$, 95% CI [0.02, 0.07]. The Groups rated statement sets slightly differently, $M_{Group\ 1,\ Statement\ set\ 1} = 3.91$ and Statement set 2 at $M_{Group\ 1,\ statement\ set\ 2} = 3.87$. Group 2 on the other hand rated Statement set 1 at $M_{Group\ 2,\ Statement\ set\ 1} = 3.87$, and Statement set 2 at $M_{Group\ 2,\ Statement\ set\ 2} = 3.83$. These results mean that Hypothesis 1 was not supported.

H2: Participants Will Rate Statements Targeting the Position They Personally Support as More Offensive Than Statements Targeting the Position They Oppose. See Appendix E for details on participants’ responses to questions concerning political views and

topic opinions. The ANOVA model for hypothesis two was set up as 2 (Statement set) x 6 (Statement target) x 2 (Group) x 2 (Version) x 2 (Political views)[1]. On political views, for each measure, participants who responded that they were neutral were excluded from the analysis since they cannot be considered a member of the target group on either side of the issue.

There was no statistically significant main effect of political views, $F(1,317) = 0.01$, $p = .939$, partial $\eta^2 > .001$. The interaction effect of Statement target * Version * Political views was statistically significant, with $F(5, 1585) = 17.87$, $p < .001$, partial $\eta^2 = .05$. The estimated marginal means are shown in Appendix E. Table 4 shows differences in offensiveness ratings of target groups by participants' political views. Liberals in both versions rated statements targeting liberal target groups as significantly more offensive than statements targeting conservative target groups. Conservative participants did not show significant differences in offensiveness ratings. The interaction effect Version * Political views was also statistically significant, with $F(1, 317) = 8.99$, $p = .003$, partial $\eta^2 = .03$. This interaction means that there were differences in the distribution of political views between participants in Versions A and B.

Table 4

Offensiveness Ratings by Participant Political Views

Version	Participant	*M*	*SD*	*SE*	95% CI	*t*	*df*	*p*	*d*
A	Conservative	0.26	1.04	0.15	[-0.35, 0.56]	1.78	49	.082	0.25
	Liberal	-0.30	0.57	0.05	[-0.40, -0.19]	-5.64	117	>.001	-0.52
B	Conservative	0.13	0.71	0.09	[-0.05, 0.32]	1.42	58	.161	0.19
	Liberal	-0.18	0.49	0.05	[-0.28, -0.08]	-3.58	97	.001	-0.36

Note. $M = M_{\text{conservative target}} - M_{\text{liberal target}}$

Entering participants' opinions on same-sex marriage into the analysis, there was a significant interaction effect for Statement target * Version* Marriage opinion, with $F(5, 1565) = 24.65$, $p < .001$, partial $\eta^2 = .07$. The estimated marginal means are shown in Appendix E. Table 5 shows differences in offensiveness ratings of target groups by

[1] In the preregistration, the analysis was stated as: 2 (Statement set) x 4 (Statement target) x 2 (Group) x 2 (Version) x 2 (Political views), with 4 target groups instead of 6. This was a mistake in the preregistration, as there were 6 target groups, they should all be included in the analysis.

participant marriage opinion. The main effect of same-sex marriage opinion was not significant, $F(1, 312) = 0.84$, $p = .360$, partial $\eta^2 = .003$. Supporters of same-sex marriage rated statements targeting supporters of same-sex marriage as significantly more offensive than statements targeting opponents of same-sex marriage. In Version A, opponents of same-sex marriage rated statements targeting opponents of same-sex marriage as more offensive than statements targeting supporters of same-sex marriage. In Version B, opponents of same-sex marriage showed non-significant differences in the offensiveness ratings of the target groups.

Table 5

Differences in Offensiveness Ratings by Participant Marriage Opinion

Version	Participant	*M*	*SD*	*SE*	95% CI	*t*	*df*	*p*	*d*
A	Opponent SSM	0.34	1.02	0.14	[0.07, 0.61]	2.53	56	.014	.34
	Supporter SSM	-0.52	0.91	0.09	[-0.69, -0.34]	-5.82	104	>.001	-0.57
B	Opponent SSM	-.005	1.07	0.16	[-0.34, 0.32]	-0.03	42	0.976	-0.005
	Supporter SSM	-0.76	0.81	0.08	[-0.91, -0.61]	-10.07	114	>.001	-0.94

Note. $M = M_{\textit{anti-same-sex-marriage target}} - M_{\textit{pro-same-sex-marriage target}}$. SSM = same-sex marriage.

Entering participants' opinions on abortion into the analysis, there was a significant interaction effect with Statement target * Version * Abortion opinion, with $F(5,1580) = 18.56$, $p < .001$, partial $\eta^2 = .06$. See Appendix E for estimated marginal means. Table 6 shows participants' offensiveness ratings for target groups by abortion opinion. The main effect for abortion opinion was not statistically significant, $F(1,316) = 3.29$, $p = .071$, partial $\eta^2 = .01$. Participants in Version A consistently rated statements targeting the position they favoured as more offensive than they rated statements targeting the position they opposed. In Version B, differences in offensiveness ratings were non-significant. The main effect of abortion opinion was not significant.

Table 6

Differences in Offensiveness Ratings by Participant Abortion Opinion

Version	Participant	*M*	*SD*	*SE*	95% CI	*t*	*df*	*p*	*d*
	Opponent PC	0.43	1.03	0.15	[0.13, 0.73]	2.90	47	.006	0.42

Version	Participant	*M*	*SD*	*SE*	95% CI	*t*	*df*	*p*	*d*
A	Supporter PC	-0.21	0.63	0.06	[-0.33, -0.10]	-3.60	114	>.001	-0.34
B	Opponent PC	0.23	0.86	0.12	[-0.01, 0.47]	1.92	51	.060	0.27
	Supporter PC	-0.02	0.50	0.05	[-0.12, 0.07]	-0.43	108	.666	-0.04

Note. M = $M_{pro\text{-}choice\ supporter\ target} - M_{pro\text{-}choice\ opponent\ target}$. PC = pro-choice

Entering participants' opinions on gun control into the analysis, there was a significant interaction effect for Statement target * Version * Gun opinion, with $F($5, 1570) = 15.40, $p < .001$, partial $\eta^2 = .05$. See Appendix E for all mean values. The main effect of gun opinion was not statistically significant, $F(1,314) = 1.09$, $p = .297$, partial $\eta^2 = .003$. The t-tests presented in Table 7 show that in Version A, supporters of gun control rated statements targeting supporters of gun control as significantly more offensive than statements targeting opponents of gun control. In Version B, supporters of gun control rated statements targeting opponents of gun control as more offensive than statements targeting supporters of gun control, which is inconsistent with Hypothesis 2. Opponents of gun control in Version B rated statements targeting opponents of gun control as more offensive than they rated statements targeting supporters of gun control, consistent with Hypothesis 2. These results lend some further support to Hypothesis 2, though the ratings by supporters of gun control in Version B are inconsistent with the hypothesis.

Table 7

Differences in Offensiveness Ratings by Participant Gun Opinion

Version	Participant	*M*	*SD*	*SE*	95% CI	*t*	*df*	*p*	*d*
A	Opponent GC	0.15	1.08	0.14	[-0.13, 0.42]	1.08	61	.284	0.14
	Supporter GC	-0.36	0.57	0.06	[-0.47, -0.25]	-6.33	103	>.001	-0.62
B	Opponent GC	0.34	0.78	0.10	[0.15, 0.53]	3.51	64	.001	0.44
	Supporter GC	0.29	0.54	0.06	[0.17, 0.40]	5.05	90	>.001	0.53

Note. $M = M_{\text{gun control opponent target}} - M_{\text{gun control supporter target}}$. GC = gun control.

H3: The Individual Level of Generalized Prejudice Affects Levels of Desensitization to Hate Speech. The ANOVA was set up as 2 (Repetition) x 2 (Group) x 2 (Version) with broad generalized prejudice as a covariate. The main effect for generalized prejudice was statistically significant, with $F = (1, 364) = 20.11$, $p < .001$, partial $\eta^2 = .05$,

lower levels of generalized prejudice were positively correlated with offensiveness ratings, with $r = .23$, $p < .001$ The interaction effect for Repetition * Generalized prejudice was not statistically significant, with $F(1, 365) = .54$, p = .464, partial $\eta^2 = .11$. The main effect for repetition was not statistically significant with $F(1, 364) = .56$, $p = .454$, partial $\eta^2 = .002$, but the interaction term for Repetition * Group was, with $F(1, 364) = 12.77$, $p < .001$, partial $\eta^2 = .03$. No other main or interaction effects were statistically significant. Since there was no desensitization effect and the interaction effect of repetition and generalized prejudice was non-significant, Hypothesis 3 is not supported.

H4: Participants' Previous Exposure to Similar Statements Affects Levels of Offensiveness Ratings in the Study. To the measure of frequency of exposure during the previous year, 35 of 372 participants responded never to have seen similar statements, 110 responded that they had rarely seen similar statements, 140 responded to the measure with "sometimes", 64 with "quite often" and 23 with "very often". On the other measures, 179 of 372 participants responded that they had seen similar statements during the previous month, and 88 of 372 responded that they had seen similar statements during the previous three days.

Previous exposure was entered into the model as a between-subjects factor, giving the model 2 (Repetition) x 2 (Group) x 2 (Version) x 3 (Exposure), where responses on the exposure scale were grouped into three categories, rarely, sometimes, and often. The main effect for exposure was not statistically significant, with $F(1, 367) = 0.389$, $p = .534$, partial $\eta^2 = .001$. The interaction effect for Repetition * Exposure was not statistically significant, with $F = (1, 367) = 0.76$, $p = .385$, partial $\eta^2 = .002$. The interaction effect for Repetition * Group was statistically significant, with $F(1, 367) = 13.13$, $p < .001$, partial $\eta^2 = .04$. This means that Hypothesis 4 is not supported. As and additional analysis which was not preregistered, the effect of gender on frequency of previous exposure was examined. A t-test showed that this effect was not significant, $t(369) = -1.54$, $p = .125$, $M_{\text{difference}} = -0.17$, $SE_{\text{difference}} = 0.11$ 95 % $\text{CI}_{\text{difference}}$ [-0.38, .05].

Gender. Additional analyses of gender were mentioned in the preregistration as exploratory, but no concrete analyses were preregistered. Gender was entered into the model as a between-subjects factor, giving the model 2 (Repetition) x 2 (Group) x 2 (Version) x 2 (Gender). The main effect for gender was not significant, with $F(1, 364) = 0.55$, p = .458, partial $\eta^2 = .002$. The Repetition* Group interaction was significant, with $F(1, 364) = 14.63$, p < .001, partial $\eta^2 = .04$. No other main or interaction effects were significant. See Appendix D for additional results on RWA and SDO.

Desensitization Over Time. The same alternative analysis as in Study 1 concerning the development of offensiveness ratings for each participant over time was conducted. This analysis was not preregistered. Same as in Study 1, a new set of variables was created, such that each participant had an outcome variable for each statement they rated, according to when they rated it. Statements were presented in random order. So, each participant now had variables Offensiveness_1, Offensiveness_2, …. Offensiveness_88. There were 84 statements and four attention checks. Responses for the attention checks were not included in the variable, but they led to a higher number of variables total. Participant ID, Version and Group were grouping factors, with a random intercept for time and offensiveness as the dependent variable. The covariance structure was set as diagonal. The slope for Time was estimated at b = -.003, SE_b = .0005, 95% CI [-0.004, -0.002], $t(381.13) = -6.61$, $p < .001$. These results mean that there was a significant negative development in offensiveness ratings, meaning that earlier statements were rated as more offensive than later statements.

Discussion

The analysis showed no repetition effect in Study 2. However, the values obtained for new and repeated statements for Groups 1 and 2 separately give the appearance of a repetition effect that leads to opposite results on offensiveness ratings. Participants were randomly assigned to one of four groups, Version A Group 1 or 2, or Version B Group 1 or 2. Group 1 in each version saw Statement set 1 during the exposure phase, and Group 2 saw Statement set 2 during the exposure phase. All participants saw Statement sets 1 and 2 during the judgement phase. Statements were presented in random order in both phases. The observed values can be explained by looking at the mean offensiveness ratings for the two sets, independent of a repetition effect. As reported in the results, on average, statements were rated as non-significantly more offensive by Group 1 than Group 2. Additionally, Statement set 1 was on average rated as more offensive than Statement set 2. This resulted in both groups rating Statement set 1 as more offensive than Statement set 2. Statement set 1 was repeated for Group 1 and new for Group 2. This led to the effect that looks like opposite repetition effects, when it is the result of Groups 1 and 2 rating statements slightly differently, in combination with Statement sets 1 and 2 being rated slightly differently in average offensiveness.

Participants tended to rate statements targeting the position they supported as more offensive than statements targeting the position they opposed. However, differences in offensiveness ratings were not always statistically significant. When differences in offensiveness ratings were statistically significant, they were in the predicted direction,

except for supporters of gun control in Version B, who rated statements targeting opponents of gun control as more offensive than statements targeting supporters of gun control.

These results offer mixed support for Hypothesis 2, predicting that political views influence the participants' evaluation of how offensive statements are. The analyses further showed that there was a main effect of generalized prejudice on offensiveness ratings. However, the interaction effect for Repetition * Generalized prejudice was non-significant, so the results do not support Hypothesis 3.

In Study 2, an additional measure was added, asking participants about previous exposure. The analysis showed that previous exposure did not relate to offensiveness ratings. Previous exposure was not significantly related to gender, and the gender differences found in Study 1 were not replicated in Study 2. The analysis of desensitization over time showed that earlier statements were rated as more offensive than later statements. The effect detected by this analysis is a slightly different one from the effect suggested in Hypothesis 1. This supports the results found in the desensitization over time analysis in Study 1 and lends further support to the idea that participants got desensitized in response to the repetition of similar offensive statements, rather than the repetition of the same statement.

General Discussion

The studies were designed to explore how offensiveness perceptions change in the presence of familiar versus unfamiliar statements and how other factors such as personal opinion and generalized prejudice affect this process. Other repetition effects, such as the truth effect, have been shown to occur after repeated exposure to the same statement (Pennycook et al., 2018). Previous research has found an effect of desensitization to hate speech (Leets, 2001; Soral et al., 2018). Participants in the present studies were exposed to a selection of statements during the exposure phase. After a brief break, they were asked to rate those same and new statements on offensiveness, presented in random order. Repeated statements were expected to be rated as less offensive compared to new statements due to desensitization. The primary analyses found no repetition effect in either study, meaning that neither study supported Hypothesis 1. The results of the desensitization over time analysis suggest that a desensitization effect to hate speech may be different from the one originally proposed. The results of the primary and desensitization over time analyses together suggest that participants did not get desensitized to the exact statements, but more to the types of statements, and the type of language. At the time of the first offensiveness rating, participants had already been exposed to 42 hate speech statements, and many of the statements used in the study were similar to each other. This suggests that development

would possibly be even stronger if the first statements participants were exposed to had been rated on offensiveness.

The two studies also showed some mixed results on the other hypotheses. Study 1 lent mixed support to Hypothesis 2, and Study 2 replicated this finding, though there were some exceptions in the data. These results mean that participants' political views did affect offensiveness ratings. Differences in offensiveness ratings were not always significant. In the instances when they were significant, the differences in offensiveness ratings were affected in the expected direction, except for supporters of gun control in Version B of Study 2. These results align with directional goals of motivated reasoning, which suggests that people interpret information in a way that suits their preferred conclusion (Kunda, 1990).

Hypothesis 3 stated that the level of desensitization was related to levels of generalized prejudice. The data did not support this hypothesis, but in Study 2, there was a significant main effect of generalized prejudice. Those low on generalized prejudice rated statements as more offensive than those high on generalized prejudice. However, there was no significant interaction effect of repetition and generalized prejudice, and the repetition effect was insignificant. The additional analyses of desensitization over time have shown that the desensitization effect is likely different than hypothesised. Therefore, if present, any interaction of desensitization with generalized prejudice can be expected to occur with desensitization over time, rather than the one measured in Hypothesis 3. It is therefore not clear what the relationship between generalized prejudice and repeated exposure to hate speech is.

Regarding gender differences, female participants in Study 1 rated statements as more offensive than male participants, but these results were not replicated in Study 2. Additionally, as analyses concerning Hypothesis 4 showed, previous exposure was not related to offensiveness ratings. Previous research has suggested a gender difference in exposure levels to violent extremism (Schils & Pauwels, 2014), so it is interesting that we did not find this difference in Study 2. The assumption following the gender differences in Study 1 was that they were due to different levels of previous exposure. As gender had no effect on frequency of previous exposure in Study 2, this assumption was not confirmed. To my knowledge, there are no studies that have tested how long a desensitization effect lasts. Of 372 participants in Study 2, only 23 responded that they had seen similar statements "very often" during the previous year, and 88 responded that they had seen similar statements during the previous three days. Details about the frequency of exposure over the previous three days were not measured. If there is an effect of previous exposure, participants in Study

2 were potentially not exposed to similar hateful statements frequently enough or recently enough to see an effect with the measures applied, or the measures were not precise enough to detect a difference.

Theoretical Implications

The General Aggression Model has been used to explain how repeated exposure to violence, typically studied as violence on TV or in video games, can lead to desensitization to such violence (Anderson & Bushman, 2002). One core proposition of the current project was that repeated exposure to verbal violence, operationalized as hate speech, would lead to similar results. Leets (2001) and Soral et al. (2018) have previously shown in studies how this can happen. The main analyses for the current project did not provide support for this effect. The additional analyses of desensitization over time did suggest that such an effect was present but not exactly as anticipated. Typically, studies on desensitization to physical violence investigate whether participants get desensitized to similar acts of violence, not whether they get desensitized to the same act of violence. See, for example, Carnagey et al. (2007). The results from the current project suggest that this may also apply to desensitization to hate speech. The decline in offensiveness ratings in the desensitization over time analyses suggests that it may lead to a lower psychological response to such statements.

The design of the current studies was adapted from studies investigating the illusory truth effect. In the case of truth judgements, the repetition of the same statement has been found to lead to greater judgements of truthfulness (Brashier & Marsh, 2020). In the case of hate speech, on the other hand, it seems as though the general presence of hate speech toward a certain group leads to the desensitization effect, as suggested by previous work (Leets, 2001; Soral et al., 2018), and supported by the analyses of desensitization over time. However, hate speech often contains claims about the targeted group, which are misrepresented as facts. For examples of this, see Filibeli and Ertuna (2021) and shut down twatter (2020). Potentially, both an illusory truth effect and a desensitization to hate speech effect could independently be contributing to higher levels of prejudice and potentially outgroup violence. In addition, previous research on hate crime and triggering events has shown how political rhetoric can be a legitimizing factor for hate crime offenders (Piatkowska & Stults, 2021). Together, these effects may create an evil cycle of hate speech, hate crimes, increased tolerance for expressions of hate, and rising levels of prejudice.

Practical Implications

This desensitization effect has implications for the effects of hate speech spread by politicians, social media, or other ways. Similar hateful speech being repeated about a group

has been shown to change norms and affect levels of prejudice (Bobo, 2017; Hswen et al., 2021). The relevance of desensitization to hate speech in the construction of hate speech laws has been pointed out before. Leets (2001) argued that laws based on the victim's perceived harm are problematic when those who are most likely to be targeted by hate speech are also likely to be desensitized to it because they are exposed to it more frequently. Those targeted may be less likely to perceive it as harmful, resulting in reduced protection from hate speech (Leets, 2001). The consequences of such speech may, with desensitization, become less obvious, with hate becoming more normative (Soral et al., 2020). The alternative analysis of desensitization over time in the current project further supports that hate speech is seen as less offensive upon repeated exposure. Further, statements were short and lacked further context or explanation, similar to hate speech on social media. The desensitization over time analysis shows that even such short and context-lacking statements may be enough to get desensitized to them. This shows how social media can be an environment with conditions conducive to desensitization to hate speech. Additionally, the partisanship in offensiveness perception found in the current studies can be expected to contribute to difficulties agreeing on what type of speech should be restricted, both by law and social media.

Limitations

There are a few limitations to the studies. First, the mistakes in Study 1 limit the analysis and reliability of the results. The mistakes were corrected in Study 2. Additionally, a higher number of participants was recruited for Study 2 to increase statistical power compared to Study 1. However, neither study supported the desensitization hypothesis, meaning that the preregistered analyses did not show a repetition effect in offensiveness ratings. While the desensitization over time analysis showed this effect, this analysis was not preregistered, and the study was not designed specifically for this type of analysis. Participants were exposed to 42 statements before they rated statements. For a desensitization over time analysis, participants should ideally rate offensiveness from the first statement. The results from the desensitization over time analysis must therefore be interpreted with care.

Participants were recruited from Mturk and were located in the United States exclusively. Limiting recruitment of participants to the U.S. was necessary as the stimulus statements were derived from the context of current social debates in the U.S. However, this limits the generalizability of the results beyond the U.S. In addition, the samples were predominantly highly educated, liberal, and young, which limits the generalizability of the results to other groups in society (Norenzayan et al., 2010). Mturk samples tend to be

younger and more liberal than the United States average but comparable to other convenience samples (Berinsky et al., 2012).

Additionally, while previous research on desensitization to hate speech has focused on marginalized groups (Leets, 2001; Soral et al., 2018), membership in the groups in the present studies can be seen as voluntary as they are based on political opinion groups. These groups were chosen to enable a balanced design with liberal and conservative supported groups, considered equivalents on either side. This design adds to the desensitization literature because it is different from previous work. Still, it also limits how this can be generalized to other forms of hate speech targeting marginalized groups. Another limitation is that the statements were quite similar, as they were designed to let the target groups be interchangeable. This interchangeability helped ensure internal validity at the cost of ecological validity. Often, statements on social media have more specific content, like calling out prominent people or mentioning other related topics. For an example of this, see Pleska (2020). However, the results showed that offensiveness ratings still were influenced by participants' political views, which suggests that participants still paid attention to who the target group was, and which view the statement supported.

Future Directions

The hypothesis of desensitization in response to repeated exposure to hate speech could not be confirmed in these studies. However, the participants seem to have gotten desensitized to the hate speech presented, as the additional analyses of desensitization over time showed. The results of the desensitization over time analyses are interesting because they concur with previous similar studies (Leets, 2001; Soral et al., 2018). Therefore, a study designed for the desensitization over time analysis is needed to replicate the results. This should also help clear up the relationship between generalized prejudice and desensitization, as the current project could not address this question. The relationship between gender, frequency of exposure and desensitization should also be explored further, as well as the relationship between group membership and desensitization. Whether participants got more desensitized to statements targeting groups they disagreed with compared to statements targeting groups they agreed with was not addressed by the current studies. Still, it showed that participants tended to rate statements targeting positions they supported as more offensive than statements targeting positions they opposed. There is a potential to explore that relationship further to see how it develops over time with desensitization. Adjusting the design to measure offensiveness from the first statement could answer whether this is a linear development over time.

An interesting question is whether participants got desensitized to all statements continuously or whether statements for each target group desensitized participants to statements targeting this particular target group. Previous research has considered desensitization a target-group specific phenomenon (Bilewicz et al., 2017; Soral et al., 2018). This target-desensitization relationship would be interesting to investigate in future studies directly. Adding conditions where target groups are introduced in different patterns like entering a target group from the start for one group and entering it later for another could also answer how target-group specific the phenomenon is. Changing the characteristics of statements would offer more information on whether people get desensitized to certain types of insults, such as equating a group with the Nazis.

Adding a longitudinal design to explore how long any potential desensitization effects last would also further our understanding of the desensitization effect. To my knowledge, no studies have yet shown if desensitization to hate speech effects last over time. In terms of real-world consequences, desensitization over time would arguably be the most consequential and thus important to investigate directly. Asking about previous exposure is one way to address this but testing previous exposure experimentally would enable more robust conclusions. Future research may also investigate whether there can be positive effects of desensitization. For example, when confronted with hate speech, the emotional reaction and shock may be strong. It is conceivable that a certain level of desensitization lessens the emotional response, enabling the individual to respond in a more productive and meaningful way. Such an effect may only be present, if at all, to a certain level of desensitization. Beyond this level, the participant may not see enough harm to respond, as previous research has pointed out how desensitization can make people judge offences as less harmful (Leets, 2001),

After establishing a desensitization effect to hate speech and how it works, the next step is to find out how it can be prevented or reversed. For example, future projects may investigate whether an act of responding to or reporting a comment can reduce desensitization or whether it can reverse it. Since empathy and moral beliefs about the offence are related to desensitization to physical violence (Krahé, 2014) and lowered sympathy for the victims of hate speech (Soral et al., 2018), it would be interesting to manipulate these factors to see how they interact with the process of desensitization to hate speech.

Conclusion

The desensitization effect that was found in the current studies was slightly different from the one originally proposed. The results suggest that participants did not get desensitized to any exact statement, but the desensitization effect was linked to the repetition of similar hateful statements. Participants also showed partisanship in their evaluation of the statements, rating statements targeting their position as more offensive than statements targeting their opposing position. This effect can be expected to contribute to difficulties in agreeing on how harmful various instances of hate speech are and consequently how to handle them. Future studies should investigate different characteristics of the desensitization effect as well as how desensitization can be prevented or reversed.

References

[maple leaf] [@gnarlymae]. (2020, October 15). *this is a reminder that if you're against abortion or gay marriage rights i fucking hate you. it's cool to* [Tweet]. Twitter. https://twitter.com/gnarlymae/status/1316846673692418049

Allport, G. W. (1958). *The nature of prejudice* (Abridged ed.). Addison-Wesley Publishing Company, Inc.

Almostsuicide1234. (n.d.). *Gun CONTROL is rooted in racism, for fucksake, and is incredibly well documented. What a bunch of crap.* [Comment on online forum post]. Reddit. Retrieved October 22, 2020 from https://www.reddit.com/r/liberalgunowners/comments/grv80i/what_are_yalls_thoughts_on_this_im_pro_second/fs19b56/?utm_source=share&utm_medium=web2x&context=3

Altemeyer, B. (1998). The other "authoritarian personality". *Advances in Experimental Social Psychology*, *30*, 47-92. https://doi.org/10.1016/S0065-2601(08)60382-2

Anderson, C. A., & Bushman, B. J. (2002). Human aggression. *Annual Review of Psychology*, *53*(1), 27-51. https://doi.org/10.1146/annurev.psych.53.100901.135231

Anderson, C. A., & Bushman, B. J. (2018). Media violence and the General Aggression Model. *Journal of Social Issues*, *74*(2), 386-413. https://doi.org/10.1111/josi.12275

Andresen, F., & Tvedt, K. (2019, August 20). Terrorsiktede Philip Manshaus: - Veldig uvanlig. *Dagbladet*. https://www.dagbladet.no/nyheter/veldig-uvanlig/71504363

anonymous. (n.d.). *There's literally no good reason to be anti-gay marriagge. Your only excuse is ignorance.* [Online forum post]. Whisper. Retrieved October 22, 2020 from http://whisper.sh/whisper/0511d0903dcaa939172127e1e377ecded3b012/Theres-literally--no-good-reason-to-be-anti-gay--marraigeYour-only-e

Bäckström, M., & Björklund, F. (2007). Structural modeling of generalized prejudice: The role of social dominance, authoritarianism, and empathy. *Journal of individual differences*, *28*(1), 10-17. https://doi.org/10.1027/1614-0001.28.1.10

Begg, I. M., Anas, A., & Farinacci, S. (1992). Dissociation of processes in belief: Source recollection, statement familiarity, and the illusion of truth. *Journal of Experimental Psychology: General*, *121*(4), 446-458. https://doi.org/10.1037/0096-3445.121.4.446

Bergh, R., Akrami, N., Sidanius, J., & Sibley, C. G. (2016). Is group membership necessary for understanding generalized prejudice? A re-evaluation of why prejudices are interrelated. *Journal of Personal and Social Psychology*, *111*(3), 367-395. https://doi.org/10.1037/pspi0000064

Bergh, R., & Brandt, M. J. (2021). Mapping principal dimensions of prejudice in the United States. *Journal of Personality and Social Psychology*. https://doi.org/10.1037/pspi0000360

Berinsky, A. J., Huber, G. A., & Lenz, G. S. (2012). Evaluating online labor markets for experimental research: Amazon.com's Mechanical Turk. *Political Analysis*, *20*(3), 351-368. https://doi.org/10.1093/pan/mpr057

Berman, M. (2016, August 23). Prosecutors say Dylann Roof 'self-radicalized' online, wrote another manifesto in jail. *The Washington Post*. https://www.washingtonpost.com/news/post-nation/wp/2016/08/22/prosecutors-say-accused-charleston-church-gunman-self-radicalized-online/

Bilewicz, M., Soral, W., Marchlewska, M., & Winiewski, M. (2017). When authoritarians confront prejudice. Differential Effects of SDO and RWA on support for hate-speech prohibition. *Political Psychology*, *38*(1), 87-99. https://doi.org/10.1111/pops.12313

Bizumic, B., & Duckitt, J. (2018). Investigating right wing authoritarianism with a very short authoritarianism scale. *Journal of social and political psychology*, *6*(1), 129-150. https://doi.org/10.5964/jspp.v6i1.835

Blake, K. R., O'Dean, S. M., Lian, J., & Denson, T. F. (2021). Misogynistic tweets correlate with violence against women. *Psychol Sci*, *32*(3), 315-325. https://doi.org/10.1177/0956797620968529

Blanchard, F. A., Crandall, C. S., Brigham, J. C., & Vaughn, L. A. (1994). Condemning and condoning racism: A social context approach to interracial settings. *Journal of Applied Psychology*, *79*(6), 993-997. https://doi.org/10.1037/0021-9010.79.6.993

Bobo, L. D. (2017). Racism in Trump's America: Reflections on culture, sociology, and the 2016 US presidential election. *The British Journal of Sociology*, *68*, S85-S104. https://onlinelibrary.wiley.com/doi/full/10.1111/1468-4446.12324

Brashier, N. M., & Marsh, E. J. (2020). Judging truth. *Annual Review of Psychology*, *71*(1), 499-515. https://doi.org/10.1146/annurev-psych-010419-050807

Bushman, B. J., Anderson, C. A., Rich, M., Bickham, D. S., & Wartella, E. (2015). Understanding causality in the effects of media violence. *American Behavioral Scientist*, *59*(14), 1807-1821. https://doi.org/10.1177/0002764215596554

Carnagey, N. L., Anderson, C. A., & Bushman, B. J. (2007). The effect of video game violence on physiological desensitization to real-life violence. *Journal of Experimental Social Psychology*, *43*(3), 489-496. https://doi.org/10.1016/j.jesp.2006.05.003

Crandall, C. S., Miller, J. M., & White, M. H. (2018). Changing norms following the 2016 U.S. presidential election: The Trump effect on prejudice. *Social Psychological and Personality Science*, *9*(2), 186-192. https://doi.org/10.1177/1948550617750735

Crawford, J. T. (2017). Are conservatives more sensitive to threat than liberals? It depends on how we define threat and conservatism. *Social cognition*, *35*(4), 354-373. https://doi.org/10.1521/soco.2017.35.4.354

Crawford, J. T., & Brandt, M. J. (2019). Who is prejudiced, and toward whom? The Big Five traits and generalized prejudice. *Personality and Social Psychology Bulletin*, *45*(10), 1455-1467. https://doi.org/10.1177/0146167219832335

Crawford, J. T., Brandt, M. J., Inbar, Y., Chambers, J. R., & Motyl, M. (2017). Social and economic ideologies differentially predict prejudice across the political spectrum, but social issues are most divisive. *Journal of Personality and Social Psychology*, *112*(3), 383-412. https://doi.org/10.1037/pspa0000074

Crawford, J. T., Jussim, L., Cain, T. R., & Cohen, F. (2013). Right-wing authoritarianism and social dominance orientation differentially predict biased evaluations of media reports. *Journal of Applied Social Psychology*, *43*(1), 163-174. https://doi.org/10.1111/j.1559-1816.2012.00990.x

Crawford, J. T., & Pilanski, J. M. (2014). Political intolerance, right and left. *Political Psychology*, *35*(6), 841-851. https://doi.org/10.1111/j.1467-9221.2012.00926.x

Czarnek, G., Szwed, P., & Kossowska, M. (2019). Right- and left-wing prejudice toward dissimilar groups in cultural and economic domains. *European Journal of Social Psychology*, *49*(4), 807-823. https://doi.org/10.1002/ejsp.2548

Dechêne, A., Stahl, C., Hansen, J., & Wänke, M. (2010). The truth about the truth: A meta-analytic review of the truth effect. *Personality and Social Psychology Review*, *14*(2), 238-257. https://doi.org/10.1177/1088868309352251

Declan B [@Duvangrgata1]. (2020, October 5). *the absolute fucking brain worms one needs to have to think that allowing gay marriage has had "ruinous consequences for* [Tweet]. Twitter. https://twitter.com/Duvangrgata1/status/1313164869441470465

Dickter, C. L., Kittel, J. A., & Gyurovski, I. I. (2012). Perceptions of non-target confronters in response to racist and heterosexist remarks. *European Journal of Social Psychology*, *42*(1), 112-119. https://doi.org/10.1002/ejsp.855

Douglas, K. M. (2009). Psychology, discrimination and hate groups online. In A. N. Joinsen, K. Y. A. McKenna, T. Postmes, & U.-D. Reips (Eds.), *Oxford Handbook of Internet*

Psychology (1st ed., pp. 155-163). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780199561803.013.0011

Dovidio, J. F., & Gaertner, S. L. (2010). Intergroup Bias. In S. T. Fiske, D. T. Gilbert, & G. Lindzey (Eds.), *Handbook of Social Psychology* (5th ed., Vol. 2, pp. 1084-1121). Wiley. https://doi.org/10.1002/9780470561119.socpsy002029

Duckitt, J., & Sibley, C. G. (2010). Personality, ideology, prejudice, and politics: A dual-process motivational model. *Journal of Personality, 78*(6), 1861-1894. https://doi.org/10.1111/j.1467-6494.2010.00672.x

Filibeli, T. E., & Ertuna, C. (2021). Sarcasm beyond hate speech: Facebook comments on syrian refugees in Turkey. *International journal of communication, 15*, 2236-2259.

Fischer, A., Halperin, E., Canetti, D., & Jasini, A. (2018). Why we hate. *Emotion Review*, *10*(4), 309-320. https://doi.org/10.1177/1754073917751229

Gallup Inc. (n.d.). *Abortion trends by party identification*. Retrieved 2020, August 09 from https://news.gallup.com/poll/246278/abortion-trends-party.aspx

Garcia-Marques, T., Silva, R. R., Reber, R., & Unkelbach, C. (2015). Hearing a statement now and believing the opposite later. *Journal of Experimental Social Psychology*, *56*, 126-129. https://doi.org/10.1016/j.jesp.2014.09.015

Halperin, E., Canetti, D., & Kimhi, S. (2012). In love with hatred: Rethinking the role hatred plays in shaping political behavior. *Journal of Applied Social Psychology*, *42*(9), 2231-2256. https://doi.org/10.1111/j.1559-1816.2012.00938.x

Hasher, L., Goldstein, D., & Toppino, T. (1977). Frequency and the conference of referential validity. *Journal of verbal learning and verbal behavior*, *16*(1), 107-112. https://doi.org/10.1016/S0022-5371(77)80012-1

Hawdon, J., Oksanen, A., & Räsänen, P. (2017). Exposure to online hate in four nations: A cross-national consideration. *Deviant behavior*, *38*(3), 254-266. https://doi.org/10.1080/01639625.2016.1196985

Ho, A. K., Sidanius, J., Kteily, N., Sheehy-Skeffington, J., Pratto, F., Henkel, K. E., Foels, R., & Stewart, A. L. (2015). The nature of Social Dominance Orientation: Theorizing and measuring preferences for intergroup inequality using the new SDO 7 Scale. *Journal of Personality and Social Psychology*, *109*(6), 1003-1028. https://doi.org/10.1037/pspi0000033

Hsueh, M., Yogeeswaran, K., & Malinen, S. (2015). "Leave Your Comment Below": Can biased online comments influence our own prejudicial attitudes and behaviors? *Human communication research*, *41*(4), 557-576. https://doi.org/10.1111/hcre.12059

Hswen, Y., Xu, X., Hing, A., Hawkins, J. B., Brownstein, J. S., & Gee, G. C. (2021). Association of "#covid19" versus "#chinesevirus" with anti-Asian sentiments on twitter: March 9-23, 2020. *American Journal of Public Health, 111*(5), 956-e959. https://doi.org/10.2105/AJPH.2021.306154

Kaakinen, M., Oksanen, A., Gadarian, S. K., Solheim, Ø. B., Herreros, F., Winsvold, M. S., Enjolras, B., & Steen-Johnsen, K. (2021). Online hate and zeitgeist of fear: A five-country longitudinal analysis of hate exposure and fear of terrorism after the Paris terrorist attacks in 2015. *Political Psychology*. https://doi.org/10.1111/pops.12732

Kahan, D. M. (2013). Ideology, Motivated Reasoning, and Cognitive Reflection. *Judgment and decision making, 8*(4), 407-424.

Krahé, B. (2014). Media violence use as a risk factor for aggressive behaviour in adolescence. *European Review of Social Psychology, 25*(1), 71-106. https://doi.org/10.1080/10463283.2014.923177

Kunda, Z. (1990). The case for motivated reasoning. *Psychological bulletin, 108*(3), 480-498. https://doi.org/10.1037/0033-2909.108.3.480

Langenkamp, M. (2019). *Desensitization to hate speech* [Exam]. Department of Psychology, University of Oslo.

LeadingOrange. (2018, November 09). *Gun enthusiasts (U.S.) who resist gun control are whiny babies who don't deserve their guns They're basically saying "my hobby* [Online forum post]. Reddit. https://www.reddit.com/r/unpopularopinion/comments/9vm3x7/gun_enthusiasts_us_who_resist_gun_control_are/?utm_source=share&utm_medium=web2x&context=3

Lee, E., & Leets, L. (2002). Persuasive storytelling by hate groups online: Examining its effects on adolescents. *The American Behavioral Scientist, 45*(6), 927-957. https://doi.org/10.1177/0002764202045006003

Leeper, T. J., & Slothuus, R. (2014). Political parties, motivated reasoning, and public opinion formation. *Political Psychology, 35*(S1), 129-156. https://doi.org/10.1111/pops.12164

Leets, L. (2001). Explaining perceptions of racist speech. *Communication Research, 28*(5), 676-706. https://doi.org/10.1177/009365001028005005

LIBERTY [@LIBERTY66180098]. (2018, February 23). *INSECTS that FEED OFF The BLOOD of CHILDREN = NRA* [Tweet]. Twitter. https://twitter.com/LIBERTY66180098/status/966844616329789440

McCarthy, J. (2020, June 1). *U.S. Support for same-sex marriage matches record high*. Retrieved 2020, September 29 from https://news.gallup.com/poll/311672/support-sex-marriage-matches-record-high.aspx

McNamee, L. G., Peterson, B. L., & Peña, J. (2010). A call to educate, participate, invoke and indict: Understanding the communication of online hate groups. *Communication monographs*, *77*(2), 257-280. https://doi.org/10.1080/03637751003758227

Mercier, H., & Sperber, D. (2011). Why do humans reason? Arguments for an argumentative theory. *Behavioural and Brain Sciences*, *34*(2), 57-74. https://doi.org/10.1017/S0140525X10000968

Noor, M., Kteily, N., Siem, B., & Mazziotta, A. (2019). "Terrorist" or "Mentally Ill": Motivated biases rooted in partisanship shape attributions about violent actors. *Social psychological & personality science*, *10*(4), 485-493. https://doi.org/10.1177/1948550618764808

Norenzayan, A., Henrich, J., & Heine, S. J. (2010). Most people are not WEIRD. *Nature*, *466*(7302), 29. https://doi.org/10.1038/466029a

Pennycook, G., Cannon, T. D., & Rand, D. G. (2018). Prior exposure increases perceived accuracy of fake news. *Journal of Experimental Psychology: General*, *147*(12), 1865-1880. https://doi.org/10.1037/xge0000465

Piatkowska, S. J., & Stults, B. J. (2021). Brexit, terrorist attacks, and hate crime: A longitudinal analysis. *Social Problems*, 1-29. https://doi.org/10.1093/socpro/spab005

Piazza, J. A. (2020). Politician hate speech and domestic terrorism. *International Interactions*, *46*(3), 431-453. https://doi.org/10.1080/03050629.2020.1739033

Pleska, L. [@RadFemme74]. (2020, 2020, September 14). *Take your hypocrisy and get lost. Not one pro-life person ever cares about the living. Thats why none of* [Tweet]. Twitter. https://twitter.com/RadFemme74/status/1305586436612263941

Pratto, F., Sidanius, J., Stallworth, L. M., & Malle, B. F. (1994). Social dominance orientation: A personality variable predicting social and political attitudes. *Journal of Personality and Social Psychology*, *67*(4), 741-763. https://doi.org/10.1037/0022-3514.67.4.741

Pringle, D. [@ComradeDarren1]. (2019, July 27). *If you support Gun Control & have a problem with AR-15 gun owners you're a Fascist Nazi. #GunControlisFascism #GunControlisFascist to #ResistGunControl* [Tweet]. Twitter. https://twitter.com/ComradeDarren1/status/1155218414425784321

Rasinski, H. M., & Czopp, A. M. (2010). The effect of target status on witnesses' reactions to confrontations of bias. *Basic and applied social psychology*, *32*(1), 8-16. https://doi.org/10.1080/01973530903539754

Rattan, A., Effron, D. A., Georgeac, O. A. M., & Effron, D. A. (2019). An exploratory investigation of americans' expression of gender bias before and after the 2016 presidential election. *Social Psychological and Personality Science*, *10*(5), 632-642. https://doi.org/10.1177/1948550618776624

Reber, R., & Schwarz, N. (1999). Effects of perceptual fluency on judgments of truth. *Consciousness and Cognition*, *8*(3), 338-342. https://doi.org/10.1006/ccog.1999.0386

Reinhart, R. J. (2018, 18.05.). *In the news: Key insights into Americans' views on guns*. Gallup Inc. Retrieved 2020, September 29 from https://news.gallup.com/poll/234800/news-key-insights-americans-views-guns.aspx

Relia, K., Li, Z., Cook, S. H., & Chunara, R. (2019). *Race, ethnicity and national origin-based discrimination in social media and hate crimes across 100 U.S. cities*. arXiv. https://arxiv.org/abs/1902.00119

Reyna, C., Chambers, J. R., Crawford, J. T., Wetherell, G., Brandt, M. J., Chambers, J. R., & Crawford, J. T. (2014). The ideological-conflict hypothesis: Intolerance among both liberals and conservatives. *Current Directions in Psychological Science*, *23*(1), 27-34. https://doi.org/10.1177/0963721413510932

Rippl, S., & Seipel, C. (1999). Gender differences in right wing extremism: Intergroup validity of a second-order construct. *Social psychology quarterly*, *62*(4), 381-393. https://doi.org/10.2307/2695835

Schils, N., & Pauwels, L. J. R. (2014). Explaining violent extremism for subgroups by gender and immigrant background, using SAT as a framework. *Journal of strategic security*, *7*(3), 27-47. https://doi.org/10.5038/1944-0472.7.3.2

shut down twatter [@myaccthicjacked]. (2020, September 20). *Everyone has reproductive rights. Have sex, have babies. It's pretty basic. Murdering babies and selling their flesh for the Demons* [Tweet]. Twitter. https://twitter.com/myaccthijacked/status/1307522908458086402

Smith, T. W., Hout, M., Marsden, P. V., & Smith, T. W. (2020). Tracking US social change over a half-century: The General Social Survey at fifty. *Annual Review of Sociology*, *46*, 109-134. https://doi.org/10.1146/annurev-soc-121919-054838

Soral, W., Bilewicz, M., & Winiewski, M. (2018). Exposure to hate speech increases prejudice through desensitization. *Aggressive Behavior*, *44*(2), 136-146. https://doi.org/10.1002/ab.21737

Soral, W., Liu, J. H., & Bilewicz, M. (2020). Media of Contempt: Social Media Consumption Predicts Normative Acceptance of Anti-Muslim Hate Speech and Islamoprejudice. *International journal of conflict and violence*, *14*, 1-13.

Stangor, C., Sechrist, G. B., & Jost, J. T. (2016). Changing racial beliefs by providing consensus information. *Personality and Social Psychology Bulletin*, *27*(4), 486-496. https://doi.org/10.1177/0146167201274009

Sternberg, R. J. (2018). FLOTSAM: A model for the development and transmission of hate. *Journal of Theoretical Social Psychology*, *2*(4), 97-106. https://doi.org/10.1002/jts5.25

Taber, C. S., & Lodge, M. (2006). Motivated skepticism in the evaluation of political beliefs. *American journal of political science*, *50*(3), 755-769. https://doi.org/10.1111/j.1540-5907.2006.00214.x

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063-1070. https://doi.org/10.1037/0022-3514.54.6.1063

Westfall, J., Kenny, D. A., & Judd, C. M. (2014). Statistical power and optimal design in experiments in which samples of participants respond to samples of stimuli. *Journal of Experimental Psychology: General*, *143*(5), 2020-2045. https://doi.org/10.1037/xge0000014

Appendix A
Complete List of Stimulus Statements

Table A1

Statements Targeting Supportesr of Pro-Choice with Offensiveness Ratings and Selection Status For Further Studies

Statement	*n*	*M*	*SD*	Selected
Hey pro-choicers, I have a bullet for each and every one of you.	101	4.62	1.48	Yes
Pro-choicers should be executed.	104	4.18	1.64	Yes
Pro-choicers should be rounded up. Let's get a guillotine. Anyone with me?	106	4.16	1.66	Yes
Pro-abortionists are all retarded demons. You can't change my mind.	98	3.86	1.47	Yes
When all pro-choicers are purged from society, that will be a day to celebrate.	116	3.82	1.64	Yes
I heard pro-choicers are protesting again. I hope they burn in hell.	95	3.78	1.47	Yes
Guess who I hate more, Nazis or pro-choicers? That's right, it's a tie.	107	3.74	1.51	Yes
When do these schizo pro-choicers realize they are the pest?	93	3.69*	1.45	Yes
There's a special place in hell for people who support abortionism.	89	3.62	1.66	Yes
Pro-choice activists are absolute schizoid screwballs.	113	3.56	1.39	Yes
Pro-choicers must be so degenerate they don't see how villainous they are.	117	3.53	1.35	Yes
It's a sad world where abortionists are allowed to exist.	102	3.52	1.72	Yes
To all the schizoid freaks who call themselves pro-choice: stay far away from me.	95	3.51	1.64	Yes

Statement	*n*	*M*	*SD*	Selected
Abortionists are the worst kind of imbeciles.	117	3.46	1.80	Yes
I'm done arguing about abortion. Anyone who supports it is a moron.	91	3.46	1.52	No
The pro-choice movement is simply psychopathic.	104	3.38	1.53	No
It takes a special kind of monster to support pro-choice.	99	3.37	1.53	No
Who is actually depraved enough to support something as evil as pro-choice?	96	3.33	1.52	No
Why do I have to say it again? Pro-choice is the worst thing to happen to the world since fascism.	108	3.30	1.70	No
I literally loathe pro-choicers like nothing else in this world.	106	3.24	1.78	No
If there's one thing I literally detest, it's pro-choicers.	98	3.20	1.72	No
I wonder what causes someone to be so depraved that you actually support abortionism.	109	3.17	1.72	No
Here's to the people I hate the most: pro-choice villains.	105	3.10	1.58	No
Question to pro-choice idiots: Why do you hate life?	109	3.07	1.80	No
Pro-choice people might be the only people I truly despise.	108	2.89	1.73	No

Note. Offensiveness ratings for each statements: min = 0, max = 6, * min = 1

Table A2

Statements Targeting Opponents of Pro-Choice with Offensiveness Ratings and Selection Status for Further Studies

Statement	*n*	*Mean*	*SD*	Selected
When are we going to hang all those pro-lifers?	82	4.39	1.45	Yes
Maybe we should just electrocute all those anti-choice lunatics.	103	4.35	1.39	Yes
If you're pro-life you are motherfucking stupid, please get the fuck out of my face and feed. [a]	92	4.18	1.55	Yes
Imagine being as retarded as a pro-lifer.	100	3.84	1.61	Yes
I hate that we call them pro-lifers. We should be calling them Nazis.	106	3.77	1.55	Yes
I fucking hate any foolish pro-life protester.	104	3.75	1.55	Yes
When can we finally get rid of all those deranged pro-life nutcases?	108	3.65	1.48	Yes
I want to purge society from pro-lifers.	106	3.61	1.46	Yes
Who the fuck asked defective pro-life dumdums? Nobody.	105	3.54	1.69	Yes
Let's not forget, pro-lifers are the dumbest of dumb demons.	98	3.47	1.47	Yes
Can you imagine being as half-witted and evil as a pro-lifer?	98	3.43	1.54	Yes
To all pro-life lunatics: go back to the hell you came from.	120	3.43	1.54	Yes
The world would be a better place without those pro-life leeches.	103	3.40	1.65	Yes
Pro-lifers don't even realize they're fucking beasts.	107	3.38	1.48	Yes
Pro-lifers are Satan on earth.	97	3.37	1.65	No
Pro-life supporters are stupid maniacs.	105	3.30	1.39	No

Statement	*n*	*Mean*	*SD*	Selected
So called pro-lifers are pure evil.	101	3.28	1.74	No
Pro-life people are annoying idiots.	105	3.27	1.60	No
I literally hate all those pro-life idiots.	102	3.25	1.72	No
All pro-lifers are half-brained fanatics.	98	3.22	1.45	No
Anti-choice people are the worst kind of degenerates.	109	3.21	1.51	No
Everyone I know would love to tell a pro-lifer how truly despicable they are.	110	3.20	1.63	No
To all you pro-life protesters out there, you are all a bunch of psycho loons.	91	3.15	1.74	No
Pro-lifers are the biggest parasites.	93	3.06	1.51	No
Anti-choice people are scum.	95	3.04	1.57	No
Pro-lifers are the real-life vampires of this world.	104	3.02	1.82	No
Pro-lifers are irrelevant nutcases.	103	2.94	1.71	No
I honestly abhor pro-life protesters.	88	2.50	1.79	No

Note. Offensiveness ratings for each statements: min = 0, max = 6.

[a] (@_ssuuzzaayy, tweet no longer available, October 22, 2020)

Table A3

Statements Targeting Supporters of Same-Sex Marriage with Offensiveness Ratings and Selection Status for Further Studies

Statement	*n*	*Mean*	*SD*	Selected
People who support faggot marriage are dim-witted devils.	84	4.39*	1.39	Yes
Supporters of gay marriage should be executed.	109	4.33	1.68	Yes
All these fag marriage supporters should be purged.	105	4.31	1.53	Yes
What's up with all those fag marriage demanding idiots?	92	4.13	1.46	Yes
Here's a reminder that people who support fag marriage are the worst parasites out there.	101	4.12	1.61	Yes
New idea. Let's gas those fag marriage supporters.	98	3.93	1.82	Yes
Retarded gay marriage protesters. I abhor them.	103	3.89	1.46	Yes
So you support gay marriage? Who asked you, stupid insect.	99	3.77	1.56	Yes
I literally disdain those moronic freaks who support gay marriage.	93	3.75	1.61	Yes
Those gay marriage supporting crackpots are truly loathsome.	93	3.72	1.50	Yes
Is there any worse kind of degenerate lunacy than supporting same sex marriage?	103	3.69	1.52	Yes
Loons who support gay marriage are dim idiots.	108	3.69	1.53	Yes
Gay marriage supporters? More like parasitic monsters.	90	3.61	1.51	Yes
Who are those despicably fascists supporting gay marriage anyway?	114	3.58	1.47	Yes
Who will help me track down all those gay marriage preaching insects?	108	3.57	1.55	No
Gay marriage is truly psycho. Simple as that.	108	3.53	1.56	No

Statement	*n*	*Mean*	*SD*	Selected
Gay marriage supporters are all mentally defective dumdums.	95	3.46	1.61	No
Anybody with a bit of a brain knows that supporting gay marriage is absolute lunacy.	115	3.43	1.53	No
Everyone I know understands that supporting gay marriage is the worst kind of depraved nonsense.	101	3.42	1.42	No
Who the fuck thinks supporting gay marriage is acceptable?	102	3.36	1.80	No
I was recently asked if I support gay marriage. As if I'm that kind of psycho.	88	3.28	1.51	No
Those people who support gay marriage are freaking screwballs.	96	3.26	1.64	No
I honestly abhor those dense gay marriage supporters.	103	3.22	1.57	No
Supporting gay marriage is truly ludicrous.	107	3.14	1.77	No
I really loathe anyone who supports same sex marriage.	105	2.93	1.93	No

Note. Offensiveness ratings for each statements: min = 0, max = 6, * min = 1

Table A4

Statements Targeting Opponents of Same-Sex Marriage with Offensiveness Ratings and Selection Status for Further Studies

Statement	*n*	*Mean*	*SD*	Selected
Lunatics who are against gay marriage should be lined up.	96	3.93	1.49	Yes
Anti marriage equality maniacs need to be eliminated.	94	3.86	1.61	Yes

Statement	*n*	*Mean*	*SD*	Selected
I have secured a guillotine for all those moronic screwballs who oppose gay marriage.	88	3.80*	1.46	Yes
You gotta fucking hate those anti-gay marriage screeching monsters.	101	3.79	1.53	Yes
I honestly detest these anti gay marriage fuckwits.	89	3.78*	1.48	Yes
You need to have absolute fucking brain worms to think that allowing gay marriage has had bad consequences. [a]	106	3.70	1.52	Yes
I want to line up all these anti-gay marriage psychos.	98	3.67	1.67	Yes
Anti gay marriage dumbos should be put away.	98	3.60	1.55	Yes
This is a reminder that if you're against gay marriage rights I fucking hate you. [b]	114	3.59	1.59	Yes
Everyone I know fucking hates idiots who are against gay marriage	99	3.59	1.49	Yes
Who else would like to purge those anti gay marriage loons?	106	3.54	1.65	Yes
Who will help me round up all those imbecilic people who oppose gay marriage?	87	3.51	1.39	Yes
I fucking hate those anti-same sex marriage numbskulls.	96	3.50	1.64	Yes
Everyone knows that people who don't support gay marriage are basically Satan.	98	3.49	1.58	Yes

Statement	*n*	*Mean*	*SD*	Selected
These opponents of gay marriage are the absolute worst nutcases.	98	3.46	1.53	No
I'm tired of all those thick-headed anti-same sex marriage villains.	110	3.45	1.59	No
People who oppose same sex marriage are psycho.	90	3.44	1.64	No
People who oppose same sex marriage are the scum of the earth.	96	3.35	1.60	No
I absolutely abhor these brainless people who oppose same-sex marriage.	110	3.30	1.71	No
If you are against gay marriage, you are a real leech.	98	3.27	1.62	No
I truly loathe brainless idiots who are against same-sex marriage.	103	3.25	1.53	No
When will these devils who oppose gay marriage be forbidden.	120	3.23	1.65	No
People who are against same-sex marriage are feeble-minded insects.	108	3.14	1.68	No
I really loathe leeches who are against marriage equality.	111	3.06	1.64	No
I truly despise any pinhead who is against gay marriage.	102	3.02	1.71	No
I hate seeing these depraved birdbrains fighting marriage equality.	101	2.96	1.66	No

Statement	*n*	*Mean*	*SD*	Selected
Gay marriage opposers are truly laughable beasts.	99	2.96	1.68	No
There is literally no good reason to be anti-gay marriage. Your only excuse is ignorance. [c]	104	2.75	1.82	No

Note. Offensiveness ratings for each statements: min = 0, max = 6, * min = 1.

[a] (Declan B, 2020). [b] ([maple leaf], 2020). [c] (anonymous, n.d.).

Table A5

Statements Targeting Supporters of Gun Control with Offensiveness Ratings and Selection Status for Further Studies

Statement	*n*	*Mean*	*SD*	Selected
The day all these gun control crackpots are executed will be a good day.	97	4.19	1.67	Yes
I wish gun controllers would be lined up and executed. Problem solved.	96	4.11	1.67	Yes
Gun control supporters are the Nazis of our time.	102	3.79	1.55	Yes
Gun controllers are just as bad as Nazis. [a]	99	3.78	1.40	Yes
Gun control fuckwits should go to hell.	107	3.66	1.76	Yes
Gun control supporters are parasites that should be gotten rid of.	109	3.63	1.64	Yes
I hate that gun control supporters are allowed to exist.	104	3.61	1.80	Yes

Statement	*n*	*Mean*	*SD*	Selected
Anybody who supports gun control is a mentally deranged dumbo.	98	3.55	1.42	Yes
Even the dumbest people I know understand what a psycho pinhead you have to be to support gun control.	117	3.51	1.48	Yes
Gun control is rooted in racism, for fucksake, and is incredibly well documented. What a bunch of crap. [b]	109	3.44	1.74	Yes
Gun control nutcases might as well be locked up, they're all mentally defective anyway.	97	3.41	1.59	Yes
I hate gun controllers like no other pest on earth.	98	3.41	1.57	Yes
Gun control lunatics are just dumb idiots.	89	3.37	1.65	Yes
Wanna solve racism? Get rid of gun control lunatics once and for all.	92	3.34	1.75	Yes
Nobody is as depraved as a person actually supporting gun control.	101	3.33	1.58	No
There is no other reason to support gun control than being a loser nutcase.	111	3.30	1.42	No
I can't imagine ever being as deranged as a gun controller.	86	3.26	1.61	No
Gun controllers are the worst kind of stupid.	106	3.22	1.62	No
Hey Satan, meet your friends the gun control nuts.	91	3.19	1.71	No

Statement	*n*	*Mean*	*SD*	Selected
I honestly believe that there is no worse monster in this world than someone who demands gun control.	102	3.13	1.58	No
I can't think of anything worse than those gun control lunatics.	92	3.11	1.69	No
I loathe the scum that is gun control supporters.	105	3.09	1.71	No
I truly disdain those gun control lunatics.	115	3.00	1.65	No
Gun control supporters are the leeches destroying our country.	98	2.96	1.72	No
Another gun control rally. These people are truly deranged.	106	2.92	1.64	No
I'm not interested in discussion or any "compromise" with any of the rats who push gun control. [c]	113	2.81	1.57	No
If there is one thing I hate, it's a gun control protester.	97	2.70	1.84	No

Note. Offensiveness ratings for each statements: min = 0, max = 6.

[a] (Pringle, 2019). [b] (Almostsuicide1234, n.d.). [c] (@AlienGamer79, tweet no longer available, October 22, 2020)

Table A6

Statements Targeting Opponents of Gun Control with Offensiveness Ratings and Selection Status for Further Studies

Statement	*n*	*Mean*	*SD*	Selected
Someone help me build a guillotine for those gun nuts.	106	3.99*	1.38	Yes
I want to purge gun rights supporters from this country.	93	3.91	1.56	Yes
Everybody I know would like to line up those depraved gun rights nutjobs.	94	3.83	1.44	Yes
Second amendment gun nutjob lunatics are the worst kind of leeches.	99	3.67	1.33	Yes
Gun rights activists are insane maniacs.	101	3.58	1.55	Yes
Gun rights supporters should be forbidden to exist.	100	3.58	1.57	Yes
There's nothing more deranged than those gun nuts.	85	3.53	1.48	Yes
Supporting gun rights should be classified as a mental deficiency.	90	3.48	1.60	Yes
If you don't absolutely despise gun rights activists, you're just as evil and moronic as them.	84	3.44	1.37	Yes
Why do I hate gun rights supporters? Because they are fucking maniacs.	100	3.43	1.59	Yes
Gun rights supporters are a bunch of loser whiny babies.	102	3.42	1.53	Yes
I truly hate those gun rights brainless psychos.	92	3.41	1.60	Yes
Gun rights activists are soulless monsters. [a]	100	3.41	1.62	Yes
Great, another gun rally in town. AKA imbecile convention.	91	3.41	1.59	Yes
Gun rights supporters are not only thick-headed, they are also complete monsters.	92	3.39	1.56	No
Gun rights supporters are loser trash.	93	3.38	1.60	No

Statement	*n*	*Mean*	*SD*	Selected
Someone tell those gun rights supporters they are loony birdbrains. Thanks.	119	3.35	1.58	No
Those laughable gun rights activists are brainless idiots.	93	3.34	1.51	No
Nobody is as lamebrained as a gun rights protester.	107	3.29	1.56	No
I pity people who are so feeble minded that they actually support gun rights.	114	3.25	1.69	No
I hate those gun rights idiots. They are literally trash.	109	3.25	1.57	No
Gun rights activists are the most thick-headed part of society.	105	3.23	1.51	No
Gun rights activists are all foolish dumbos.	97	3.18	1.60	No
Everyone knows that there's nothing more evil than a gun rights supporter.	106	3.14	1.54	No
I know some dumb people. Not dumb enough to support gun rights though.	95	3.12	1.64	No
How can you be so dense that you actually support gun rights.	103	3.04	1.69	No
Gun enthusiasts who resist gun control are whiny babies. [b]	99	2.83	1.65	No

Note. Offensiveness ratings for each statements: min = 0, max = 6, * min = 1.

[a] (@remembrancermx, tweet no longer available, October 22, 2020). [b] (LeadingOrange, 2018)

Table A7

Statements Targeting Supporters of Pro-Choice and Their Opposite for Version B

Version A (original)	Version B (opposite)
Hey pro-choicers, I have a bullet for each and every one of you.	Hey pro-lifers, I have a bullet for each and every one of you.

Version A (original)	Version B (opposite)
Pro-choicers should be executed.	Pro-lifers should be executed.
Pro-choicers should be rounded up. Let's get a guillotine. Anyone with me?	Pro-lifers should be rounded up. Lets get a guillotine. Anyone with me?
Pro-abortionists are all retarded demons. You can't change my mind.	Pro-lifers are all retarded demons. You can't change my mind.
When all pro-choicers are purged from society, that will be a day to celebrate.	When all pro-lifers are purged from society, that will be a day to celebrate.
I heard pro-choicers are protesting again. I hope they burn in hell.	I heard pro-lifers are protesting again. I hope they burn in hell.
Guess who I hate more, Nazis or pro-choicers? That's right, it's a tie.	Guess who I hate more, Nazis or pro-lifers? That's right, it's a tie.
When do these schizo pro-choicers realize they are the pest?	When do these schizo pro-lifers realize they are the pest?
There's a special place in hell for people who support abortionism.	There's a special place in hell for people who oppose abortion rights.
Pro-choice activists are absolute schizoid screwballs.	Pro-life activists are absolute schizoid screwballs.
Pro-choicers must be so degenerate they don't see how villainous they are.	Pro-lifers must be so degenerate that they don't see how villainous they are.
It's a sad world where abortionists are allowed to exist.	It's a sad world where pro-lifers are allowed to exist.
To all the schizoid freaks who call themselves pro-choice: stay far away from me.	To all the schizoid freaks who call themselves pro-life: stay far away from me.
Abortionists are the worst kind of imbeciles.	Pro-lifers are the worst kind of imbeciles.

Table A8

Statements Targeting Opponents of Pro-Choice and Their Opposite for Version B

Version A (original)	Version B (opposite)
When are we going to hang all those pro-lifers?	When are we going to hang all those pro-choicers?
Maybe we should just electrocute all those anti-choice lunatics.	Maybe we should just electrocute all those pro-choice lunatics.
If you're pro-life you are motherfucking stupid, please get the fuck out of my face and feed.	If you're pro-choice you are motherfucking stupid, please get out of my face and feed.
Imagine being as retarded as a pro-lifer.	Imagine being as retarded as a pro-choicer.
I hate that we call them pro-lifers. We should be calling them Nazis.	I hate that we call them pro-choicers. We should be calling them Nazis.
I fucking hate any foolish pro-life protester.	I fucking hate any foolish pro-choice protester.
When can we finally get rid of all those deranged pro-life nutcases?	When can we finally get rid of all those deranged pro-choice nutcases?
I want to purge society from pro-lifers.	I want to purge society from pro-choicers.
Who the fuck asked defective pro-life dumdums? Nobody.	Who the fuck asked defective pro-choice dumdums? Nobody.
Let's not forget, pro-lifers are the dumbest of dumb demons.	Let's not forget, pro-choicers are the dumbest of dumb demons.
Can you imagine being as half-witted and evil as a pro-lifer?	Can you imagine being as half-witted and evil as a pro-choicer?
To all pro-life lunatics: go back to the hell you came from.	To all pro-choice lunatics: go back to the hell you came from.
The world would be a better place without those pro-life leeches.	The world would be a better place without all those pro-choice leeches.
Pro-lifers don't even realize they're fucking beasts.	Pro-choicers don't even realize they're fucking beasts.

Table A9

Statements Targeting Supporters of Same-Sex Marriage and Their Opposite for Version B

Version A (original)	Version B (opposite)
People who support faggot marriage are 59im-witted devils.	People who oppose gay marriage are 59im-witted devils.
Supporters of gay marriage should be executed.	Opponents of gay marriage should be executed.
All these fag marriage supporters should be purged.	All these gay marriage opponents should be purged.
What's up with all those fag marriage demanding idiots?	What's up with all those gay marriage opposing idiots?
Here's a reminder that people who support fag marriage are the worst parasites out there.	Here's a reminder that people who oppose same-sex marriage are the worst parasites out there.
New idea. Let's gas those fag marriage supporters.	New idea. Let's gas those gay marriage opposers.
Retarded gay marriage protesters. I abhor them.	Retarded gay marriage opponents. I abhor them.
So you support gay marriage? Who asked you, stupid insect.	So you oppose gay marriage? Who asked you, stupid insect.
I literally disdain those moronic freaks who support gay marriage.	I literally disdain those moronic freaks who don't support gay marriage.
Those gay marriage supporting crackpots are truly loathsome.	Those gay marriage opposing crackpots are truly loathsome.
Is there any worse kind of degenerate lunacy than supporting same sex marriage?	Is there any worse kind of degenerate lunacy than opposing same-sex marriage?
Loons who support gay marriage are dim idiots.	Loons who oppose gay marriage are dim idiots.
Gay marriage supporters? More like parasitic monsters.	Gay marriage opponents? More like parasitic monsters.
Who are those despicably fascists supporting gay marriage anyway?	Who are those despicable fascists opposing gay marriage anyway?

Table A10

Statements Targeting Opponents of Same-Sex Marriage and Their Opposite for Version B

Version A (original)	Version B (opposite)
Lunatics who are against gay marriage should be lined up.	Lunatics who are for gay marriage should be lined up.
Anti marriage equality maniacs need to be eliminated.	Pro marriage equality maniacs need to be eliminated.
I have secured a guillotine for all those moronic screwballs who oppose gay marriage. [a]	I have secured a guillotine for all those moronic screwballs who support gay marriage. [b]
You gotta fucking hate those anti-gay marriage screeching monsters.	You gotta fucking hate those pro-gay marriage screeching monsters.
I honestly detest these anti gay marriage fuckwits.	I honestly detest these pro-gay marriage fuckwits.
You need to have absolute fucking brain worms to think that allowing gay marriage has had bad	You need to have absolute fucking brain worms to think that allowing gay marriage has not had bad
I want to line up all these anti-gay marriage psychos.	I want to line up all these pro-gay marriage psychos.
Anti gay marriage dumbos should be put away.	Pro-gay marriage dumbos should be put away.
This is a reminder that if you're against gay marriage rights I fucking hate you.	This is a reminder that if you're for gay marriage rights I fucking hate you.
Everyone I know fucking hates idiots who are against gay marriage	Everyone I know fucking hates idiots who are for gay marriage.
Who else would like to purge those anti gay marriage loons?	Who else would like to purge those pro-gay marriage loons?
Who will help me round up all those imbecilic people who oppose gay marriage?	Who will help me round up all those imbecilic people who support gay marriage?
I fucking hate those anti-same sex marriage numbskulls.	I fucking hate those pro-same sex marriage numbskulls.
Everyone knows that people who don't support gay marriage are basically Satan.	Everyone knows that people who support gay marriage are basically Satan.

Note. [a] excluded from analyses in Study 1 due to error in Version B statement. [b] excluded from analyses in Study 1 because it was by error identical to the Version A statement.

Table A11

Statements Targeting Supporters of Gun Control and Their Opposite for Version B

Version A (original)	Version B (opposite)
The day all these gun control crackpots are executed will be a good day.	The day all these gun rights crackpots are executed will be a good day.
I wish gun controllers would be lined up and executed. Problem solved.	I wish gun rights supporters would be lined up and executed. Problem solved.
Gun control supporters are the Nazis of our time.	Gun rights supporters are the Nazis of our time.
Gun controllers are just as bad as Nazis.	Gun rights supporters are just as bad as Nazis.
Gun control fuckwits should go to hell.	Gun rights fuckwits should go to hell.
Gun control supporters are parasites that should be gotten rid of.	Gun rights supporters are parasites that should be gotten rid of.
I hate that gun control supporters are allowed to exist.	I hate that gun rights supporters are allowed to exist.
Anybody who supports gun control is a mentally deranged dumbo.	Anybody who supports gun rights is a mentally deranged dumbo.
Even the dumbest people I know understand what a psycho pinhead you have to be to support gun control.	Even the dumbest people I know understand what a psycho pinhead you have to be to support gun rights.
Gun control is rooted in racism, for fucksake, and is incredibly well documented. What a bunch of crap.	Gun rights is rooted in racism, for fucksake, and is incredibly well documented. What a bunch of crap.
Gun control nutcases might as well be locked up, they're all mentally defective anyway.	Gun rights nutcases might well be locked up, they're all mentally defective anyway.

Version A (original)	Version B (opposite)
I hate gun controllers like no other pest on earth.	I hate gun rights supporters like no other pest on earth.
Gun control lunatics are just dumb idiots.	Gun rights lunatics are just dumb idiots.
Wanna solve racism? Get rid of gun control lunatics once and for all.	Wanna solve racism? Get rid of gun rights lunatics once and for all.

Table A12

Statements Targeting Opponents of Gun Control and Their Opposite for Version B

Version A (original)	Version B (opposite)
Someone help me build a guillotine for those gun nuts.	Someone help me build a guillotine for those gun control nuts.
I want to purge gun rights supporters from this country.	I want to purge gun control supporters from this country.
Everybody I know would like to line up those depraved gun rights nutjobs.	Everybody I know would like to line up those depraved gun control nutjobs.
G R - Second amendment gun nutjob lunatics are the worst kind of leeches.	Gun control nutjob lunatics are the worst kind of leeches.
Gun rights activists are insane maniacs.	Gun control activists are insane maniacs.
Gun rights supporters should be forbidden to exist.	Gun control supporters should be forbidden to exist.
There's nothing more deranged than those gun nuts.	There's nothing more deranged than those gun control nuts.
Supporting gun rights should be classified as a mental deficiency.	Supporting gun control should be classified as a mental deficiency.
If you don't absolutely despise gun rights activists, you're just as evil and moronic as them.	If you don't absolutely despise gun control activists, you're just as evil and moronic as them.

Version A (original)	Version B (opposite)
Why do I hate gun rights supporters? Because they are fucking maniacs.	Why do I hate gun control supporters? Because they are fucking maniacs.
Gun rights supporters are a bunch of loser whiny babies.	Gun control supporters are a bunch of loser whiny babies.
I truly hate those gun rights brainless psychos.	I truly hate those gun control brainless psychos.
Gun rights activists are soulless monsters.	Gun control activists are soulless monsters.
Great, another gun rally in town. AKA imbecile convention.	Great, another gun control rally in town. AKA imbecile convention.

Appendix B
Pilot Study Additional Results

Table B1

Participant Political Opinion by Topic

Response scale	Topic		
	Pro-life	Gun control	Same-sex marriage
		n	
Strongly in favor	32	54	88
Somewhat in favor	32	62	40
Neither in favor nor opposed	71	63	67
Somewhat opposed	83	72	60
Strongly opposed	86	53	49
Total	304	304	304

Note. For every scale concerning participants' political views, one participant did not respond.

Table B2

Participant Political Views

Response scale	*n*
Very conservative	27
Moderately conservative	47
Slightly conservative	18
Neither liberal nor conservative	42
Slightly liberal	58
Moderately liberal	66
Very liberal	46
Total	304

Note. One participant did not respond.

Average ratings of the statements ranged from 4.62 (e.g., "Hey pro-choicers, I have a bullet for each and every one of you") to 2.5 (e.g., "I honestly abhor pro-life protesters"). Further exploratory analysis of offensiveness ratings in the pilot study showed that participants' opinions were correlated with their responses on the political views scale. There were significant relationships between the political views scale and the responses on each topic. Support for gun control and political views were negatively correlated, $r(302) = -.29$, 95% CI [-.41, -.17], support for same-sex marriage was also negatively correlated with global political views, $r(302) = -.29$, [-.40, -.17], and support for pro-life was positively correlated with global political views, $r(302) = .40$, [.28, .51] (all ps > .001). These correlations show that more conservative participants were also more likely to favour the conservative positions of pro-life, as well as against gun control and same-sex marriage. The scales were constructed in such a way that a negative correlation between support for same-sex marriage and political views indicates that more conservative participants were also more opposed to same-sex marriage, and negative correlations between support for gun control and political views indicate that more conservative participants were also more opposed to gun control legislation. Positive correlations between global political views and pro-life support indicate that more conservative participants showed a tendency to also support the pro-life position more, as opposed to pro-choice.

Appendix C
Study 1 Details on Participants' Political Views and Mean Ratings

Table C1

Participant Political Views

Political views	*n*
Very conservative	13
Moderately conservative	12
Slightly conservative	13
Neither liberal nor conservative	21
Slightly liberal	16
Moderately liberal	31
Very liberal	27

Table C2

Participant Opinions by Topic

	Topic		
Response scale	Pro-life	Gun control	Same-sex marriage
	n		
Strongly in favor	27	46	77
Somewhat in favor	7	26	12
Neither in favor nor opposed	11	17	20
Somewhat opposed	32	21	4
Strongly opposed	56	23	20
Total	133	133	133

Table C5

Offensiveness Ratings by Participant Political Views

Version	Political views	Target group	*M*	*SE*	95% CI
A	Conservative	Opponents of same-sex marriage	3.53	0.38	[2.79, 4.28]
		Supporters of same sex marriage	3.86	0.32	[3.23, 4.49]
		Opponents of gun control	3.22	0.38	[2.47, 3.97]
		Supporters of gun control	3.40	0.33	[2.75, 4.04]
	Liberal	Opponents of same-sex marriage	3.74	0.20	[3.34, 4.15]
		Supporters of same sex marriage	4.52	0.17	[4.18, 4.86]
		Opponents of gun control	3.48	0.21	[3.08, 3.89]
		Supporters of gun control	3.96	0.18	[3.61, 4.31]
B	Conservative	Opponents of same sex marriage	3.30	0.25	[2.81, 3.79]
		Supporters of same-sex marriage	3.63	0.29	[3.05, 4.21]
		Opponents of gun control	3.56	0.25	[3.06, 4.06]
		Supporters of gun control	2.88	0.30	[2.30, 3.47]
	Liberal	Opponents of same sex marriage	3.55	0.22	[3.11, 3.98]
		Supporters of same-sex marriage	4.02	0.26	[3.51, 4.54]
		Opponents of gun control	3.73	0.23	[3.28, 4.17]
		Supporters of gun control	3.70	0.26	[3.18, 4.22]

Table C6

Offensiveness Ratings by Marriage Opinion

Version	Participant marriage opinion	Target group	*M*	*SE*	95% CI
A	Supporters of same-sex marriage	Opponents of same-sex	3.72	0.21	[3.31, 4.13]
		Supporters of same-sex	4.48	0.18	[4.12, 4.83]
	Opponents of same-sex marriage	Opponents of same-sex	3.88	0.43	[3.04, 4.73]
		Supporters of same-sex	4.10	0.37	[3.38, 4.83]
B	Supporters of same-sex marriage	Opponents of same-sex	3.39	0.18	[3.02, 3.75]
		Supporters of same-sex	4.07	0.21	[3.65, 4.50]
	Opponents of same-sex marriage	Opponents of same-sex	3.35	0.35	[2.66, 4.05]
		Supporters of same-sex	3.12	0.41	[2.31, 3.92]

Table C7

Offensiveness Ratings by Gun Opinion

Version	Participant gun opinion	Target group	*M*	*SE*	95% CI
A	Supporters of gun control	Opponents of gun control	3.38	0.22	[2.94, 3.81]
		Supporters of gun control	3.87	0.19	[3.49, 4.24]
	Opponents of gun control	Opponents of gun control	3.43	0.33	[2.78, 4.07]
		Supporters of gun control	3.54	0.29	[3.00, 4.11]
B	Supporters of gun control	Opponents of gun control	3.55	0.22	[3.11, 3.98]
		Supporters of gun control	3.45	0.25	[3.00, 3.95]
	Opponents of gun control	Opponents of gun control	3.81	0.24	[3.35, 4.28]
		Supporters of gun control	3.18	0.27	[2.65, 3.72]

Appendix D
Results for Right-Wing Autoritarianism and Social Dominance Orientation

Measures

Right-Wing Autoritarianism

The very short authoritarianism scale provided by Bizumic and Duckitt (2018, α = .73) was used. The six-item scale included items such as "It's great that many young people today are prepared to defy authority.", "God's laws about abortion, pornography, and marriage must be strictly followed before it's too late." and "Our society does NOT need tougher government and stricter laws." Responses were recorded on an eight-point Likert scale (1 = *very strongly agree* to 5 = *very strongly disagree.* The response option "slightly agree" was omitted from the present survey. The response scale used by Items were reverse-scored as indicated by the authors (Bizumic & Duckitt, 2018). The full scale was reversed to align with the SDO scale. A mean score was computed for each participant for the right-wing authoritarianism scale.

Social Dominance Orientation

The eight-item social dominance orientation scale by Ho et al. (2015) (α = .78 – .90, across 6 samples) was used. On this measure, participants were asked to indicate how much they favour or oppose each idea on a seven-point Likert scale (1 = with the *strongly oppose* to 7 = *strongly favor*. Items included: "An ideal society requires some groups to be on the top and others to be on the bottom.", "Groups at the bottom are just as deserving as groups at the top." and "It is unjust to try to make groups equal." Items were reverse-scored as indicated by the authors (Ho et al., 2015), and the mean score was computed for each participant.

Study 1

No main or interaction effects for right-wing authoritarianism were statistically significant. The main effect for RWA was not statistically significant, with F (1,19) = .08, p = .783, partial η^2 = .004. The interaction term for Repetition * RWA was not statistically significant either, with F (1, 19) = 0.15, p = .705, partial η^2 = .01. When RWA was entered into the model, the repetition effect changed, with F = (1,19) = 0.01, p = .915, partial η^2 = .001. The mean scores of SDO were entered into the model as a covariate. The ANOVA design was 2 (Repetition) x 2 (Group) x 2 (Version). The main effect for SDO was not statistically significant, with F(1, 128) = 1.61, p = .207, partial η^2 = .01. The interaction effect for Repetition * SDO was not statistically significant either, with F(1, 128) = 1.941, p = .166, partial η^2 = .02. The main effect for repetition was significant with SDO as a covariate, with

$F(1, 128) = 4.67$, $p = .033$, partial $\eta^2 = .04$. These results mean that SDO was related to changes in offensiveness ratings.

Study 2

The main effect for RWA was not statistically significant, with $F(1, 367) = 2.31$, $p = .130$, partial $\eta^2 = .01$. The Repetition * Group interaction was not statistically significant either, with $F(1, 367) = 1.34$, $p = .248$, partial $\eta^2 = .004$. The Repetition * Group interaction was again statistically significant, with $F(1, 367) = 13.07$, $p < .001$, partial $\eta^2 = .03$. No other main or interaction effects significant. For SDO, The ANOVA design was 2 (Repetition) x 2 (Group) x 2 (Version), with SDO entered as a covariate. The model showed a main effect of SDO, with $F(1, 368) = 5.50$, $p = .020$ and partial $\eta^2 = .02$. There is a negative correlation between SDO and mean offensiveness ratings, $r = -.135$, $p = .009$, meaning that people who are higher in SDO tended to rate statements as less offensive.

The interaction effect for Repetition * SDO was not statistically significant, with $F(1, 367) = 0.14$, $p = .704$, partial $\eta^2 < .001$. The Repetition * Group interaction was again significant, with $F(1, 367) = 12.935$, $p < .001$ and partial $\eta^2 = .03$. No other main or interaction effects were statistically significant. These results show that people's SDO scores are related to offensiveness ratings.

Appendix E
Study 2 Details on Participants' Political Views and Mean Ratings

Table E1

Participant Political Views

Political views	*n*
Very conservative	36
Moderately conservative	35
Slightly conservative	38
Neither liberal nor conservative	47
Slightly liberal	68
Moderately liberal	82
Very liberal	66

Table E2

Participant Opinion by Topic

Response scale	Topic		
	Pro-life	Gun control	Same-sex marriage
		n	
Strongly in favor	52	106	174
Somewhat in favor	48	89	46
Neither in favor nor opposed	48	50	52
Somewhat opposed	81	69	42
Strongly opposed	143	58	58
Total	372	372	372

Table E3

Offensiveness Ratings by Participant Political Views

Version	Political views	Target group	*M*	*SE*	95% CI
A	Conservative	Supporters of same-sex marriage	3.48	0.17	[3.16, 3.81]
		Opponents of same-sex marriage	3.75	0.17	[3.41, 4.09]
		Supporters of pro-choice	3.43	0.16	[3.11, 3.75]
		Opponent of pro-choice	3.72	0.17	[3.39, 4.05]
		Supporters of gun control	3.34	0.17	[3.01, 3.67]
		Opponents of gun control	3.56	0.18	[3.22, 3.91]
	Liberal	Supporters of same-sex marriage	4.27	0.11	[4.06, 4.48]
		Opponents of same-sex marriage	3.87	0.11	[3.65, 4.09]
		Supporters of pro-choice	4.09	0.11	[3.89, 4.30]
		Opponents of pro-choice	3.93	0.11	[3.71, 4.14]
		Supporters of gun control	3.92	0.11	[3.71, 4.14]
		Opponents of gun control	3.60	0.12	[3.38, 3.83]
B	Conservative	Supporters of same-sex marriage	4.37	0.16	[4.06, 4.68]
		Opponents of same-sex marriage	4.18	0.15	[3.88, 4.48]
		Supporters of pro-choice	4.31	0.16	[4.00, 4.61]
		Opponents of pro-choice	4.50	0.15	[4.21, 4.80]
		Supporters of gun control	3.99	0.16	[3.67, 4.31]
		Opponents of gun control	4.37	0.16	[4.07, 4.68]
	Liberal	Supporters of same-sex marriage	4.27	0.12	[4.03, 4.51]
		Opponents of same-sex marriage	3.53	0.12	[3.30, 3.76]
		Supporters of pro-choice	4.06	0.12	[3.82, 4.30]
		Opponents of pro-choice	4.05	0.12	[3.82, 4.28]
		Supporters of gun control	3.65	0.13	[3.41, 3.90]
		Opponents of gun control	3.87	0.12	[3.63, 4.11]

Table E4

Offensiveness Ratings by Marriage Opinion

Version	Participant	Target group	*M*	*SE*	95% CI
A	Supporter of same-sex marriage	Opponents of same-sex	3,74	0,12	[3,49; 3,98]
		Supporters of same-sex	4,25	0,12	[4,02; 4,49]
	Opponent of same-sex marriage	Opponents of same-sex	3,96	0,17	[3,63; 4,29]
		Supporters of same-sex	3,61	0,16	[3,29; 3,93]
B	Supporter of same-sex marriage	Opponents of same-sex	3,42	0,11	[3,20; 3,65]
		Supporters of same-sex	4,18	0,12	[3,95; 4,41]
	Opponent of same-sex marriage	Opponents of same-sex	4,07	0,19	[3,70; 4,44]
		Supporters of same-sex	4,07	0,19	[3,70; 4,45]

Table E5

Offensiveness Ratings by Abortion Opinion

Version	Participant abortion opinion	Target group	*M*	*SE*	95% CI
A	Supporter pro-choice	Opponents of pro-choice	3.79	0.11	[3.57, 4.02]
		Supporters of pro-choice	4.00	0.11	[3.78, 4.22]
	Opponent of pro-choice	Opponents of pro-choice	4.16	0.18	[3.81, 4.51]
		Supporters of pro-choice	3.72	0.18	[3.38, 4.07]
B	Supporter of pro-Choice	Opponents of pro-choice	3.96	0.12	[3.74, 4.19]
		Supporters of pro-choice	3.98	0.12	[3.75, 4.21]
	Opponent of pro-choice	Opponents of pro-choice	4.49	0.17	[4.16, 4.82]
		Supporters of pro-choice	4.27	0.17	[3.94, 4.61]

Table E6

Offensiveness Ratings by Gun Opinion

Version	Participant gun opinion	Target group	*M*	*SE*	95% CI
A	Supporter gun control	Opponents of gun control	3.38	0.12	[3.14, 3.62]
		Supporters of gun control	3.74	0.12	[3.50, 3.98]
	Opponent of gun control	Opponents of gun control	3.78	0.16	[3.46, 4.10]
		Supporters of gun control	3.63	0.16	[3.32, 3.94]
B	Supporter of gun control	Opponents of gun control	4.12	0.13	[3.87, 4.38]
		Supporters of gun control	3.85	0.13	[3.58, 4.11]
	Opponent of gun control	Opponents of gun control	3.83	0.15	[3.53, 4.14]
		Supporters of gun control	3.49	0.16	[3.19, 3.80]