

**Meritocracy and Education-based Status Threat: The Effect of Doubting the
Importance of Meritocracy on Outgroup Attitudes**

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Abstract

This study investigated whether education-based threats increased negative attitudes of higher educated people towards lower educated people and explored a possible interaction between parental educational background and these attitudes. We suggested that doubting education-based status may lead to higher educated people having less positive attitudes towards lower educated people. In this experimental study (N=194), the sample consisted of former and current university students answering questions about outgroup attitudes who were exposed to one of three articles (control condition, manipulation: doubting hard work, and perseverance, and doubting talent). Results showed that participants exposed to the manipulation 'doubting the importance of hard work' had slightly more positive attitudes towards lower educated people than participants in the control group. This was not the case for the manipulation condition 'doubting the importance of talent.' These results might inspire future improvements leading to an equal representation of the whole population concerning education.

Keywords: education, outgroup attitudes, meritocracy

Meritocracy and Education-based Status Threat

Academic education can be seen as a steppingstone that, if exerted correctly, can lead to increased success in various circumstances, such as financial advantages or improved social status (Kingston et al., 2003). Many leaders in different fields in our society had the opportunity to enjoy an outstanding education at an elite institution. But education also plays an influential role in many other essential components of people's lives, reaching from one's status and position in society (Poppitz, 2016) to health (Dilmaghani, 2020) and success in the labor market (Kingston et al., 2003). Considering all these outcomes that are partially related to an individual's education, it is crucial to note that not everyone enjoys an outstanding education. People from a lower socioeconomic background are underrepresented in higher education (OECD, 2020). Due to the role that education plays, this is also an indicator of people from lower social backgrounds not being represented in higher positions. The most considerable proportion of people in, i.e., the UK government are higher educated people (The Educational Backgrounds of Members of Parliament in 2010, 2010). These people are the primary decision-makers for the whole population, which leads to asking how they can be more inclusive with their policies to make them more readily available for people from all social classes.

Recent studies (Kuppens et al., 2018) have already displayed that higher educated people showed more substantial education-based intergroup bias than lower educated people. The current study concentrates on higher educated people as a sample and factors influencing their outgroup attitudes towards the lower educated. Namely, this study explores if priming non-meritocratic beliefs leads to a difference in outgroup attitudes of higher educated towards lower educated compared to a control group. To consider this, it has to be examined which concepts are commonly used to evaluate the resources needed to be successful.

Finding out more about these factors could lead to a greater understanding of how negative attitudes towards lower educated people could be reduced.

Meritocracy

A concept often used to explain educational success that is a common concept in the Western world is meritocracy. It is the belief that one's abilities and talent are the foundation of one's educational success (Young, 1958). It is assumed that one's position in society is achieved through merit (Kluegel & Smith, 1986).

Concerning education, meritocracy implies that natural ability, hard work, and motivation are the main factors influencing which level of education one can reach. While this assumes that higher educated people worked hard to earn their status and position in society, it simultaneously implies that people with a lower education did not achieve a higher education because of a lack of engagement in the process of reaching a higher outcome. A recent study found that the assumption that "beliefs supporting education-based meritocracy are widely shared" (Van Noord et al. 2019, p. 666). Hence, this underlines the assumption that meritocracy is a widely accepted concept regarding educational success.

Using the concept of meritocracy as an explanation for educational success does not only imply that everyone in society has similar opportunities from the beginning but also lowers the ambitions of people with lower societal status. The belief in meritocracy has been shown to be apparent in elite university students when asked about reasons for being accepted at Oxford University (Warikoo & Fuhr, 2014). These students showed meritocratic beliefs regarding the reasons for them being accepted, as they justified it with their hard work and abilities. Meanwhile, when asked about reasons for people coming out of less economically stable families not being accepted, they explained this by their lack of resources. This shows an apparent asymmetry between people's perception of the reasons for their success versus the

reasons for other people's success. Higher educated people use meritocratic beliefs strategically to justify their own status (Warikoo & Fuhr, 2014).

Madeira et al. (2019) stated in their study that priming participants with meritocratic beliefs led to less favorable outcomes for low-status members. Building on that, the current research explores if priming non-meritocratic beliefs also leads to less favorable outcomes or if the opposite is the case, namely that it leads to more positive attitudes. Suppose the foundation of higher educated people's justification for their own enhanced status is deprived of them. How would their way of thinking about lower-educated individuals change? The research question revolves around the following: Does threatening the status of higher educated people by putting doubt on the importance of meritocracy affect outgroup attitudes toward lower educated?

As a consequence of doubting the importance of meritocracy, they might feel the need to create a perceived distance between themselves and lower educated people, which might be achieved through increased negative attitudes towards lower educated people. This leads to hypothesis 1: higher educated people might have more negative attitudes towards lower educated people after being presented with evidence that doubts the relevance of meritocracy for being successful in education. These more negative attitudes might occur due to a perceived status threat. Tajfel and Turner declared that people want to maintain their positive social identity (Tajfel & Turner, 1979). If individuals base their ingroup identity on their hard work, as the students in Warikoo and Fuhr's (2014) study did, stating that this justification is not valid might lead these individuals to find another way to distinguish themselves as different from the lower educational group. As Ellemers (1993) stated, "the possibility that group members may be demoted to a low-status group might evoke the desire to protect one's current identity." This protection might show itself in displaying less positive attitudes towards lower-educated individuals.

Nonetheless, higher educated people might also feel less negative about lower educated people after doubting the existence of meritocracy. Suppose a trustworthy source tells them that meritocracy is not a relevant concept. In that case, it might diminish the perceived distance between them and lower educated people, leading to them perceiving lower educated people as less different from them and more positive in general. Thereby the nonexistence of meritocracy would give higher educated people less reason to perceive themselves as superior to lower educated people. This describes the underlying reasoning behind hypothesis 2: higher educated people might have more positive attitudes towards lower educated people after being presented with evidence that doubts the relevance of meritocracy for being successful in education.

Social Identity Theory

People tend to think more positively about their ingroup and try to distinguish themselves from the outgroup. This is part of the premises of Tajfel and Turner's (1979) social identity theory. In this regard, people want to stay in their group and protect their group membership and the status of that group if they deem their social group as more favorable than the alternatives (Ellemers, 1993).

Applying this to the current topic, the question arises whether the education of higher educated people's parents influences the extent to which they display negative outgroup attitudes toward lower educated people if they are confronted with sources that doubt the importance of meritocracy. Higher educated people with parents without a higher education had a change in education-related ingroup due to their education. Before attending higher education, they might have considered lower educated people as their ingroup. These people changed their group affiliation following their own education and now consider higher educated people as their ingroup. This might be perceived as them climbing the social ladder and therefore achieving a higher status. This change of social ingroup can be put in

perspective with the concept of the individual mobility belief structure (Ellemers, 1993).

Through the belief in meritocracy and thereby achieving a more favorable group membership, members of families with a lower educational background might see hard work and perseverance as means to achieve that said group membership. As Ellemers (1993) pointed out, individuals who perceive group boundaries to a more favorable group as permeable will be less satisfied with their current group membership, and their group identification decreases while wanting to reach a higher group membership. Meritocracy can be seen as a factor that enhances their own individual mobility to the group of higher educated people. Suppose they feel like this concept that they use to justify their achievement of gaining access to higher education is threatened. In that case, they might sense an elevated need to distinguish themselves from the outgroup, namely lower educated people, which might display itself in holding more negative attitudes towards lower educated people (Ellemers, 1993).

Regarding this, the sub-question of this research revolves around the influence of parents' education on outgroup attitudes of higher educated people towards lower educated people after their education-based status was threatened. Generally, children from families with higher educated parents have greater educational success (Buchmann & Hannum, 2001). People from a lower educational background need to put in more effort to achieve the same academic success as individuals from a higher educated background. Since higher educated people from a lower educated background might depend more on their educational achievements to ground their success, they might feel an increased level of threat if the importance of meritocracy is doubted. Moreover, higher educated people from a lower educated background might feel an elevated need for status protection. They might achieve this by distinguishing themselves from lower educated people by showing negative outgroup attitudes towards them (hypothesis 3). This need for status protection was explained by Ellemers (1993) in connection to social identity theory (Tajfel & Turner, 1979). Social

identity theory serves as one of the underlying concepts of this research as it illustrates how individuals define themselves through their group membership and how this membership is used to protect the image one holds of oneself.

Method

Participants

The sample used for the study consisted of 194 former or current University students. From the original sample of 260 participants, 66 (25%) had to be excluded as they did not reach a requirement for participating. For example, they did not finish the questionnaire sufficiently, were not 18 years old yet, or did not study at a university. In this case, not finishing the questionnaire sufficiently means not answering any of the questions presented after the manipulation was introduced. A cut-off point was established. Furthermore, participants who did not answer a control question correctly were excluded from the sample. The control question was used to observe if the participant was paying attention to the questions and read the questions thoroughly instead of randomly choosing an answer option.

Female participants made up 67 % of the sample, and 31 % of the participants were male, while 2 % did not identify as either male or female. The age of 93% of participants ranged from 18 to 30 years old, while 7% were older than 30. Of all the participants, 49% had a Dutch nationality, 37 % had a German nationality, and 14% had a different nationality. All participants had either reached a university degree or were still in university. Their university education was used to define them as higher educated people, which is the object of this study. Most participants viewed themselves as belonging to either the middle class (33%) or the upper-middle class (48%). A complete demographic overview can be found in Appendix C.

Materials

For the experimental design, a questionnaire was utilized containing tested and reliable questions drafted from sources found in the references section and questions made up by the researchers. The questionnaire was intended to measure attitudes of a higher educated population towards a lower educated population. It contained 26 questions and took about 10 minutes to complete on average.

Furthermore, the Qualtrics Platform (<https://www.qualtrics.com>) was used to display the questionnaire.

Research Design and Procedure

The research was an experimental design, which was conducted via survey research. It is a between-group experiment because not all participants are exposed to manipulations. Participants were randomly assigned to see one of three articles that informed them of different factors important to students' educational achievements. One article (control condition) emphasized the importance of intelligence, effort, and family background. The other article (manipulation 1) doubted the importance of effort and perseverance for educational success. The last article (manipulation 2) questioned the importance of natural ability or intelligence for being successful on an educational level. The independent variable of this study consisted of the group variable, which defined which of these three articles the participant was presented with.

Before distributing the questionnaire, an ethics committee approved it and the rest of the study. Two hundred sixty participants were recruited. Data collection took place from 10.12.2021 to 23.12.2021. The thesis students recruited fellow students and former students by contacting them via their network (via WhatsApp, Instagram, and Facebook) with the snowball method. The students announced the thesis research questionnaire and afterward sent the link to the questionnaire generated on Qualtrics. Furthermore, the SONA student pool has been used for participant recruitment, consisting of first-year Psychology students

studying at the University of Groningen. Students participating through the SONA student pool were compensated with 0.3 SONA credits. Participants recruited by the researchers directly were not compensated for their participation. Furthermore, each student sent out the questionnaire to two people before the survey was published. The pilot participants could test the questionnaire, point out anything unclear, and point out any mistakes that might have been apparent.

The exact hypotheses being investigated were not disclosed to avoid response bias, but the necessary information for participation was provided. Participants were provided with the e-mail address of one of the researchers in case any questions arose during the participation. It was indicated that participation is entirely voluntary and confidential and will take about 10 minutes. They were informed that they could stop their participation in the study at any time with no repercussions. After providing demographic information, they were asked about their baseline meritocracy beliefs to check that there is no significant difference between people's beliefs before being exposed to one of the conditions. These questions also were asked to explore meritocratic beliefs before being exposed to an article to see if the manipulation changed these beliefs. Next, participants were randomly assigned to one of three articles they had to read. Each of the articles was read by an approximately equal number of participants. Two articles served as the manipulation conditions and one as the control condition. After reading the article, participants answered questions about their attitudes towards different social groups (lower educated people, working-class people, and ethnic minority members) with a thermometer scale. This was followed by statements about less educated people and explored to which extent participants view lower educated people as responsible for societal issues. Afterward, participants were asked to indicate how much they agreed with statements concerning willingness to redistribute resources and meritocratic beliefs. Furthermore, they were asked about the importance of different factors (intelligence, perseverance, ambition,

luck, hard work, being born in a wealthy family, having well-educated parents, gender, ethnicity) for achieving success in education. The following questions concerned their identification with their ingroup. Furthermore, participants were asked to indicate if they feel like they are part of a discriminated group and, if so, on what grounds their group is discriminated against. Then, they were asked about further demographic information, followed by questions about their parents' education level. Finally, participants were asked to indicate their political orientation. After answering the questions, the participants were debriefed about the purpose of the study. The debriefing paragraph can be found in Appendix B.

A one-way ANOVA in SPSS (Version 28) was used to analyze the main research question, namely, if a difference in outgroup attitudes and willingness to redistribute resources in the different experimental conditions exists. The first analysis compared the scores on outgroup attitudes and willingness to redistribute resources of participants in the control condition with those of participants in the manipulation condition 1 (doubting the importance of hard work and perseverance). It was hypothesized that participants in the manipulation condition would have either less (hypothesis 1) or less (hypothesis 2) positive outgroup attitudes and willingness to redistribute resources than participants in the control condition. Additionally, scores on outgroup attitudes and willingness to redistribute resources of people in the control condition and manipulation condition 2 (doubting the importance of talent and natural ability) were compared. The hypothesis stated that participants in manipulation condition 2 would have either less (hypothesis 1) or more (hypothesis 2) positive outgroup attitudes and less willingness to redistribute resources.

The exploratory hypothesis revolved around the interaction of parental educational background on outgroup attitudes towards lower educated and willingness to redistribute resources. We hypothesized that there would be a difference in scores on outgroup attitudes

and willingness to redistribute resources between participants with a higher educated parent vs. a lower educated parent (hypothesis 3). For this purpose, a two-way ANOVA (SPSS 28) was used with a focus on the interaction of parental educational background and outgroup attitudes/willingness to redistribute resources.

The predictor variable used for the main question was the participant's condition in the experiment. This variable has three categories, namely the control condition and the two manipulation conditions, which consisted of doubting the relevance of hard work and perseverance and doubting the importance of talent. The outcome variables included measures of meritocracy beliefs before the manipulation, outgroup attitudes, willingness to redistribute resources, and identification measures.

For the explanatory question, the predictor variable was the same as for the main question. The outcome variables were the measures used for the main question and the father's educational level.

Measures

Demographics

First, we asked participants to share some demographic information. This included asking participants about their age (younger than 18, 18-30, older than 30) and their education level and field of education. The question about the education level was asked in the following manner: "Which of the following options best describe the highest educational level you are pursuing or have pursued?". Participants could choose between eight levels of education with the answer option "bachelor's degree" being the lowest possible degree which qualified participants to be included in the analysis. This is because the chosen definition of higher educated individuals for this study was doing a bachelor's degree or a higher degree than that. The question about participants' field of education was stated as follows: "Which of

the following best describes the education you are pursuing or have pursued?". Participants could choose from thirteen different broad fields to describe their field of education.

Baseline Meritocracy Attitudes

The following questions measured the participant's meritocratic beliefs before being exposed to one of the three articles. They were measured on a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The measure included statements like "uncontrollable factors often limit one's success, despite a person's best efforts" and "All people have equal opportunity to succeed" (see Appendix A). This scale consisted of four items with a Cronbach alpha of $\alpha=.465$. These questions were not validated.

Presented Article

Participants in the first experimental group were presented with a fictional scientific article about current research findings regarding doubting the relevance of hard work and perseverance. The intent is to educate the first experimental group on the possible non-meritocratic nature of an educational system. The participants in the second experimental group were presented with a fictional scientific article about current research findings regarding the doubting relevance of talent. The control group was presented with a fictional scientific article stating that intelligence, effort, and family background play essential roles in students' academic success.

Outgroup Attitudes

First, we measured outgroup attitudes on a thermometer scale (0 degree=dislike a great deal, 100 degree=like a great deal) towards different social groups (less educated people, working-class people, ethnic minority members, higher educated people, upper-class people, non-ethnic minority members). This question was derived from the American National Election Studies (Data Center, 2021). The beforementioned scale describes how much participants like or dislike different groups. Then, we asked participants to indicate how much

they agree with a set of statements about less educated people on a five-point Likert scale (1=strongly disagree, 5=strongly agree). The statements included reports about lower educated which display them in a rather negative matter. Some examples for the statements presented are "Many of the problems that we have to deal with in this country are due to the influence of the less educated" and "People who are less educated are meddling too often in affairs that they have no knowledge about" (see Appendix A). The second scale, "negative statements about the outgroup," consisted of three items with a Cronbach alpha of $\alpha=.789$. The questions were not validated.

Meritocracy And Willingness to Redistribute

Subsequently, participants were asked to indicate the extent to which they agree with a set of statements concerning their willingness to redistribute resources. Answers were measured on a five-point Likert scale (1=strongly disagree, 5=strongly agree). It included statements like "My university should prioritize people with a lower educational background over people with a higher educational background in admissions" and "I am willing to pay more taxes to enable equal pay for people of all levels of education" (see Appendix A). As we could not find any relevant questions measuring exactly the concepts being explored in the resources available to us, we formulated questions asking about participants' willingness to redistribute the resources available to them. This scale consisted of four items with a Cronbach alpha of $\alpha=.206$.

Factors Influencing Educational Success

Furthermore, participants were asked to indicate how important they think certain factors are for achieving success in education. This was measured on a scale from 0 (not at all important) to 100 (fairly important) and included factors like intelligence, perseverance, and ambition (see Appendix A). These statements were not validated.

Identification

The following question asked participants to indicate their identification with their ingroup of higher educated people on a five-point Likert scale (1=strongly disagree, 5=strongly agree). It included statements like "I feel a bond with people who have a similar level of education to my own" and "I feel committed to people who have a similar level of education to my own" (see Appendix A). The eight statements were derived from Leach et al. (2008) and had a Cronbach alpha of $\alpha=.772$.

Parental Education and Class

Finally, participants were asked about their father's and mother's highest levels of education. This was done with the same questions stated before asking about participants' level and field of education. The education level was grouped into higher educated father or mother (bachelor's degree or higher) and lower educated father or mother (no university degree). Furthermore, participants were asked about the social class they would categorize themselves in. The question was derived from ISSP (2021).

Results

We conducted a one-way ANOVA, using ratings on outgroup attitudes, meritocracy beliefs, and degree of willingness to redistribute resources as a function of the participants' attitudes towards lower educated people.

Before beginning with the main analysis, the three conditions were compared to check if there was a significant difference between the participants regarding their meritocracy beliefs before being exposed to their condition. There was no significant difference between the groups control condition and the manipulation conditions concerning their meritocracy beliefs ($F(2,194) = .448, p = .64, \eta^2=.005$) before being confronted with the manipulation or control condition. Furthermore, we looked at how much participants identified with their own ingroup on average. Most participants slightly identified with their ingroup neither identified nor did not identify with their ingroup (Figure 1).

To check for normality of the data distribution for meritocracy beliefs, a Kolmogorov-Smirnov test was conducted. The test result was significant, $K(193)=.128, p<.001$. This implies that the data is not normally distributed. When observing the QQ-plots (Figure 2), the data can still be described as reasonably normal. Since one-way ANOVA is relatively robust against violations of the assumption of normality, we continued the data analysis in the planned manner.

Figure 1

Frequencies of Identification scores

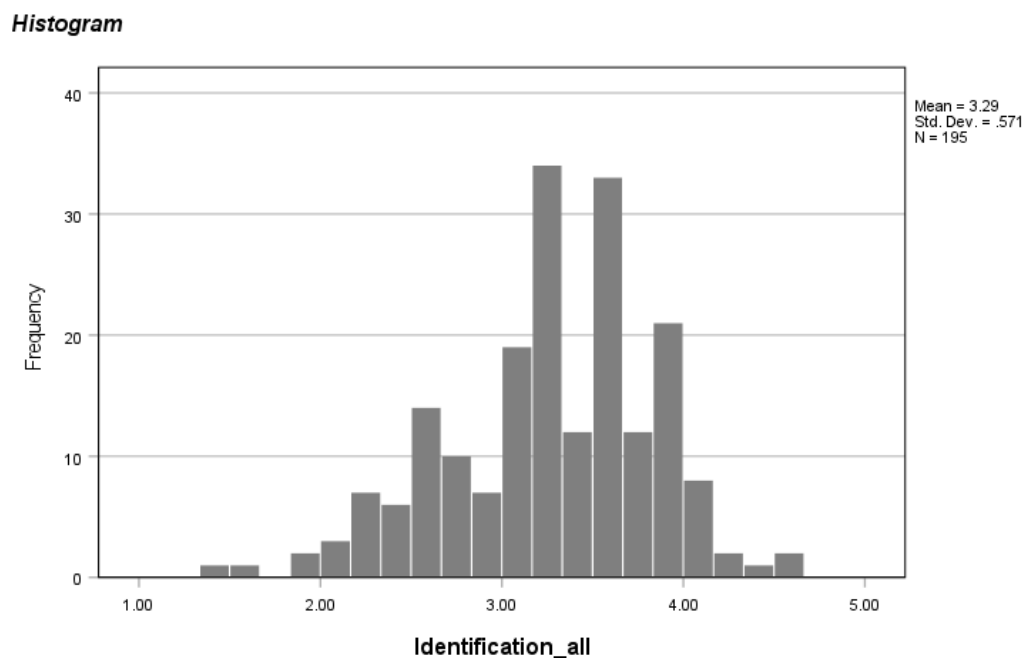
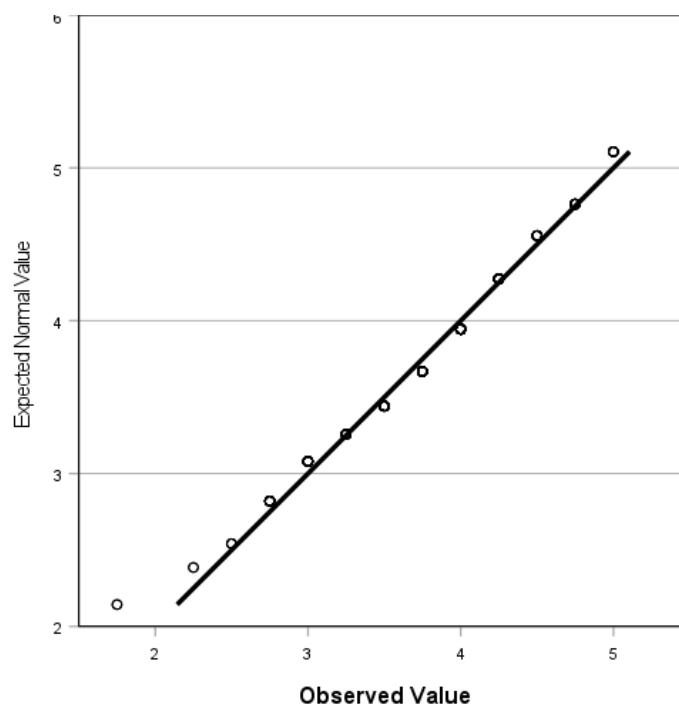


Figure 2

Normality of Meritocracy



Doubting of Hard Work And Perseverance

A one-way between-groups ANOVA was used to compare the effects of attitudes towards lower educated people in two different conditions, the manipulation (hard work and perseverance) ($M=2.49$, $SD=1.04$) and the control group ($M=2.88$, $SD=.93$). There was a significant positive effect at $p\text{-value} < .05$ between these two conditions [$F(1,124)=4.936$, $p=.028$, $\eta^2=.038$], indicating that participants in manipulation group one had higher outgroup attitudes than participants in the control group. Additionally, a one-way between-groups ANOVA was used to compare the effect of willingness to redistribute resources in the manipulation condition ($M=3.37$, $SD=.82$) and the control condition ($M=3.01$, $SD=.8$). There was a significant positive effect at a $p\text{-value} < .05$ between these conditions [$F(1,124)=6.159$, $p=.014$, $\eta^2=.047$]. Therefore, the willingness to redistribute resources differed in the two conditions. This data shows that participants' outgroup attitudes towards lower educated and their willingness to redistribute resources were slightly more positive than of the control condition.

Doubting of The Importance of Talent

Following this analysis, we explored the differences between the control condition and the condition, doubting talent's importance.

A one-way between-groups ANOVA was used to compare the effect of attitudes towards lower educated in two different conditions, the manipulation (doubting the relevance of talent) ($M=2.57$, $SD=1.08$) and the control group ($M=2.88$, $SD=.93$). There was no significant effect at a p -value $< .05$ [$F(1,128) = 3.109$, $p = .08$, $\eta^2 = .024$]. This means that there is no significant difference in outgroup attitudes in the two conditions. We also conducted a one-way between-groups ANOVA to compare the effects of willingness to redistribute resources in the manipulation ($M = 3.05$, $SD = .95$) and control conditions ($M = 3.01$, $SD = .8$). There was no significant effect at a p -value $< .05$ between these conditions [$F(1,128) = .049$, $p = .825$, $\eta^2 = .0$].

Comparing The Two Manipulations

The two manipulation groups (doubting the relevance of hard work and perseverance and doubting the importance of talent) were compared in further analysis.

A one-way between-groups ANOVA was used to compare the effect of attitudes towards lower educated people in the conditions 'doubting the importance of hard work' ($M=2.49$, $SD=1.04$) and 'doubting the importance of talent' ($M=2.57$, $SD=1.08$). There was no significant effect at a p -value $< .05$ [$F(1,130) = .18$, $p = .672$, $\eta^2 = .001$]. An additional one-way between-groups ANOVA analysis was conducted, comparing the willingness to redistribute resources in the two manipulation conditions.

The analysis comparing the effect of the 'doubting importance of hard work' manipulation ($M=3.37$, $SD=.81$) and the 'doubting importance of talent' manipulation ($M=3.05$, $SD=.95$) on willingness to redistribute resources yielded a statistically significant effect [$F(1,130) = 4.343$, $p = .039$, $\eta^2 = .032$].

Educational Background: Doubting Hard Work And Perseverance

A two-way ANOVA was used to investigate differences in outgroup attitudes due to the participant's educational background. As an indicator of participants' educational background, the fathers' education was divided into lower educated (no university degree) and higher educated (university degree). The interaction effect of the condition participants were in, and their parental education background on outgroup attitudes was the main focus of this analysis. The test statistic did not show a significant interaction between the participant's condition and parental education background ($F(2,185) = .237, p = .789, \eta^2 = .003$) on outgroup attitudes at a p -value $< .05$. Another two-way ANOVA was conducted to investigate the interaction effect of the group level and parental education background on willingness to redistribute resources. This analysis did not yield a significant interaction effect [$F(2,185) = .164, p = .848, \eta^2 = .002$] at a p -value $< .05$.

Discussion

The purpose of this study was to investigate if outgroup attitudes of higher educated people towards lower educated people after being exposed to information doubting the existence of meritocracy were different from the attitudes and views of participants in the control group. The two dependent variables of this analysis were outgroup attitudes towards lower educated people and willingness to redistribute resources. Two different manipulations were used. Manipulation 1 was realized through an article that doubted the importance of hard work and perseverance to be educationally successful. Manipulation 2 was applied with an article questioning the importance of talent and natural ability. A difference was found between control and manipulation conditions 1 for outgroup attitudes and willingness to redistribute resources, respectively. These results align with our hypothesis, stating that there is a difference in attitudes depending on the information one is exposed to. Participants in the control condition had slightly more positive outgroup attitudes and a higher willingness to

redistribute resources than participants in the manipulation condition 1. This aligns with hypothesis 2.

The same analysis was used for exploring the differences in attitudes between the control condition and manipulation group 2. Contrary to our hypotheses 1 and 2, this analysis did not show any significant differences in outgroup attitudes or willingness to redistribute resources between these groups. The explorative hypothesis of this research aimed at exploring a possible interaction effect of being exposed to one of the three groups and parental education background on outgroup attitudes and willingness to redistribute resources. Contrary to the hypothesis, data suggests no significant difference in outgroup attitudes of the different groups when taking their father's education into account.

Limitations

One limitation of this study is how higher educated people were defined. For the sake of this study, higher educated people were defined as people who were enrolled in a university or who had a university degree. Due to another limitation concerning the sampling method, which will be explained consequently, many participants were university students who might not identify themselves strongly with higher educated people. This might be due to them still being in the process of achieving a higher education and instead identifying with other in-groups.

Another limitation concerned the sampling of participants. We mainly used the snowball method, meaning that we distributed the survey to acquaintances and asked them to send it to other acquaintances. The results show that 35% of participants come from the educational field of social science, which makes up the biggest part of the sample. Due to the researchers and many of their acquaintances being psychology students, many participants may have also studied psychology. This could lead to a part of participants having more

extensive knowledge about the research topics implicating that the sample might not represent the population.

As we did find significant results for the comparison between the control group and manipulation group one, it has to be investigated why these effects were not regarding the comparison of the control group and the second manipulation group. The second manipulation group used talent and natural ability as a defining concept of meritocracy, which leads to the questioning of using this concept. Possibly, talent may not be seen as much of a salient concept for describing meritocracy as hard work and perseverance are yet.

As the survey only asked about the attitudes and willingness to change behavior to help lower educated people have the same access to education as them, it might be insightful for future research to take a more practical approach in exploring these phenomena. This could show if people only indicate that they feel positive about lower educated people due to social desirability or show these attitudes and acts in person.

Concerning the explorative hypothesis, one limitation is that the sample of this analysis was relatively small. Especially when observing the share of participants with parents from a lower educational background, it can be said that the sample was exceptionally small, leading to low statistical power. Most participants identified as belonging to the middle or higher middle class (see Appendix C)

Implications

Differences in attitudes of higher educated people towards lower and higher educated people have been investigated already (Kuppens et al., 2018). Still, this study has a distinct focus on the attitudes towards the lower educated. The findings regarding this focus might give space for inspiration to consider further factors that influence outgroup attitudes.

An additional theoretical implication that can be derived from this is that information about factors that influence the level of education an individual can achieve might serve as an

instrument to change outgroup attitudes and the willingness to help others in that said individual. Presenting individuals with information about a group influences their impression making. A recent study on impression forming has found that less intelligent people are also less likely to be presented with cooperation from others (De Bruin & Van Lange, 1999). The results of our study are an essential addition to this as they showed a higher willingness to cooperate with less educated people when certain information is provided first.

We first speculated that higher educated people being confronted with information that doubts the importance of meritocracy would feel threatened by that and that this could be perceived through their attitudes towards lower educated people. Looking at the results of this study, it can be said that the opposite is the case. Apparently, higher educated people do not feel threatened enough by this to feel the need to create a distance between their ingroup and the outgroup. It rather seems like higher educated people feel more positively about lower educated people after being exposed to reasons for their lower education that are not related to meritocracy.

This might implicate that informing lower educated people of the reasons for this lack of information could lead to them being more open to implementing societal changes that would increase the accessibility of education to everyone. In the UK, 90% of the members of parliament in 2010 attended university (The Educational Backgrounds of Members of Parliament in 2010, 2010) and therefore belonged to the higher educated part of society. Similar numbers can be found for other countries' government members as well (Vexcash, 2017). Since most people who make decisions about processes as the accessibility to education are higher educated, it is an essential finding that informing them about the reasons makes a slight positive difference in their outgroup attitudes and their willingness to help. The results also show that people primed with information that doubts the importance of meritocracy are slightly more likely to be willing to redistribute the resources made available

to them. This should be explored further in future research. It might indicate that individuals are more likely to refrain from some resources themselves to enable others to have more access to these resources if they are informed about the reasons for others not achieving the same things as them. This might be a step in the direction of greater inclusiveness in society.

Conclusion

The difference in individuals' education levels in different domains of society leaves us living in an environment where various parts of our population are not equally represented, especially in high-rank positions. The findings of this study can serve as an inspiration on ways in which, in the future, lower educated individuals might find themselves being represented in a higher proportion in those said positions. Thereby, these findings might serve as a steppingstone for fighting educational differences in that regard. Lowering the outgroup attitudes of higher educated people towards lower educated people might encourage those in positions of higher executional power to create a more inclusive society.

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Appendix A

Questionnaire

Q4 How old are you?

- Younger than 18 (4)
- 18-30 (5)
- Older than 30 (6)

Q5

In this section, we would like to know more about your educational background.

Which of the following options best describe the highest educational level you are pursuing or have pursued?

- No qualifications (1)
- Less than an upper secondary diploma (2)
- Upper-secondary diploma or equivalent, general or vocational (e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO, MBO 2-3-4, matricular examination, ammattikoulu) (3)
- Short-cycle or vocational tertiary education (e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule, Abendgymnasium, specialist

Vocational Qualification, merkonomi, Higher national certificate/diploma, or equivalent) (9)

- Bachelor's degree or equivalent (University, Applied Sciences, Fachhochschule (FH), WO, HBO) (6)
- Master's degree or equivalent (7)
- Doctoral degree or equivalent (8)
- Other (please specify) (10)

Q6 Which of the following best describes the education you are pursuing or have pursued?

- General/no specific field (1)
- Art, fine/applied (2)
- Humanities (3)
- Technical and Engineering (4)
- Agriculture, Forestry (5)
- Teacher training, education (6)
- Science, Mathematics, Computing, etc. (7)
- Medical, Health Services, Nursing, etc. (8)
- Economics, Commerce, Business Administration (9)
- Social Studies, Administration, Media, Culture (10)
- Law and Legal Services (11)
- Personal Care Services (12)
- Public Order and Safety (13)
- Transport and Telecommunications (14)
- Don't know (15)

Q7 In the following section, we want to learn more about your definition of success.

To what extent do you agree with the following statements?

- Uncontrollable factors often limit one's success, despite a person's best efforts. (1)
- All people have equal opportunity to succeed. (2)
- Hard work does not always pay off. (3)
- People's success depends primarily on their ability and skill. (4)

Q11

We would like to get your feelings toward the social groups below.

Ratings between 50 degrees and 100 degrees mean that you feel favorable and warm toward the group.

Ratings between 0 degrees and 50 degrees mean that you don't feel favorable toward the group and that you don't care too much for that group.

You would rate the group at the 50 degree mark if you don't feel particularly warm or cold toward the group.

- Less educated people
- Working class people
- Ethnic minority members
- Higher educated people
- Upper class people
- Non-ethnic minority members

Q12

In this section, we would like to learn more about your views on your social surrounding.

To what degree do you agree with the following statements?

- Many of the problems that we have to deal with in this country are due to the influence of the less educated. (1)
- People who are less educated are meddling too often in affairs that they have no knowledge about. (2)
- If less educated people had more influence, we would have even more problems in our society. (3)

Q13

Now, we would like to investigate your attitudes towards the societal topic of education.

To what extent do you agree with the following statements?

- My university should prioritize people with a lower educational background over people with a higher educational background in admissions. (1)
- I am willing to pay more taxes to enable equal pay for people of all levels of education. (2)
- Those in jobs often carried out by those with a lower educational level should receive more pay. (6)
- We should provide (more) financial support to individuals with a lower educational level. (7)

Q14 How important do you think the factors below are for achieving success in education on a scale from 0-100?

- Intelligence
- Perseverance
- Ambition
- Luck
- Hard work
- Born in a rich family

- Having well-educated parents
- Gender
- Ethnicity

Q15 To what extent do you agree with the following statements?

- I feel a bond with people who have a similar level of education to my own.
- I feel committed to people who have a similar level of education to my own.
- I think that people with a similar level of education to my own have a lot to be proud of.
- It is pleasant to have the level of education that I have.
- The level of education I have is an important part of my identity.
- The level of education I have is an important part of how I see myself.
- Please select 'Somewhat disagree'.
- I have a lot in common with the average person who has a similar education to my own.
- I am similar to the average person who has a similar level of education to my own.

Q21 Would you describe yourself as being a member of a group that is discriminated against in your country?

- Yes (1)
- No (2)
- Not sure (3)

Q22 On what grounds is your group discriminated against?

- Race or ethnicity (1)
- Nationality (2)
- Religion (3)
- Age (4)
- Gender (5)
- Sexuality (6)
- Disability (7)
- Education (8)

Q23 In the last section, we would like to ask you a few questions about yourself.

What is your gender?

- Male (1)
- Female (2)
- Other (4)

Q24 What is your nationality?

- Dutch (1)
- German (2)
- Other, namely: (3)

Q25 What is your father's highest level of education?

- No qualifications (1)
- Less than an upper secondary diploma (2)
- Upper-secondary diploma or equivalent, general or vocational (e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO, MBO 2-3-4, matricular examination, ammattikoulu) (3)
- Short-cycle or vocational tertiary education (e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule, Abendgymnasium, specialist

Vocational Qualification, merkonomi, Higher national certificate/diploma, or equivalent) (9)

- Bachelor's degree or equivalent (University, Applied Sciences, Fachhochschule (FH), WO, HBO) (6)
- Master's degree or equivalent (7)
- Doctoral degree or equivalent (8)
- Other (please specify) (10)

Q26

What is your mother's highest level of education?

- No qualifications (1)
- Less than an upper secondary diploma. (2)
- Upper-secondary diploma or equivalent, general or vocational (e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO, MBO 2-3-4, matricular examination, ammattikoulu) (3)
- Short-cycle or vocational tertiary education (e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule, Abendgymnasium, specialist Vocational Qualification, merkonomi, Higher national certificate/diploma, or equivalent) (9)
- Bachelor's degree or equivalent (University, Applied Sciences, Fachhochschule (FH), WO, HBO). (6)
- Master's degree or equivalent. (7)
- Doctoral degree or equivalent. (8)
- Other (please specify) (10)

Q27 Most people see themselves as belonging to a particular class. Please indicate which social class you would say you belong to?

- Lower class (1)
- Working class (2)
- Lower middle class (3)
- Middle class (4)
- Upper middle class (5)
- Upper class (6)
- Prefer not to answer (7)

Q16

The following section aims to learn more about your political attitudes.

In politics, people sometimes talk of "left" and "right". Using the following scale, where would you place yourself, where 0 means the left and 10 means the right?

Q17 Using the scales below, please say to what extent you agree or disagree with each of the following statements.

- The government should take measures to reduce differences in income levels. (1)
- The government should provide a decent standard of living for the unemployed. (2)
- Gay men and lesbian women should be free to live their own life as they wish. (3)

Q18 Would you say it is generally bad or good for your country's economy that people come to live here from other countries?

- Bad for the economy (1)
- Rather bad than good (2)
- Neither good, nor bad (3)
- Rather good than bad (4)
- Good for the economy (5)

Q19 Would you say that your country's cultural life is generally undermined or enriched by people coming to live here from other countries?

- Undermined (1)
- Rather undermined than enriched (2)
- Neither undermined, nor enriched (3)
- Rather enriched than undermined (4)
- Enriched (5)

Q20

How important do you think the following factors are for getting ahead in life?

- It is important to come from a wealthy family. (1)
- It is important to have well-educated parents. (2)
- It is important to have a good education yourself. (3)

Appendix B

Information Sheet, Informed Consent and Debriefing

Thank you for your interest in our study. This study is part of a bachelor thesis of Anna Henneke, Bente Postema, Esra Çoban, Loic Dupas, Manon Hut and Sem Stegehuis, supervised by Jochem van Noord, at the University of Groningen.

Participation in this study is fully voluntary. You do not need to participate. You can stop at any time and leave questions blank that you do not wish to answer without negative consequences.

The study is about what is important to you, the kind of person you are, your education, and your opinion towards others in society. Participation in this survey study will take about 10 minutes. There are no direct benefits from participation, but there are also no negative consequences.

We will process your sona ID to be able to give you sona credits for participation. We will remove the sona ID from the data as soon as all participants have been compensated at the end of the study. Afterwards, the data will be anonymous and you will no longer be able to ask for access to your data, or to withdraw your data from the study.

Within a week after we collect your data, we will remove all personal identifiers. After that, no personal identifiers will be accessed by any of the researchers. Anonymous data will be stored indefinitely and might be shared with other researchers.

Do you have questions/concerns about your rights as a research participant or about the conduct of the research? You may also contact the Ethics Committee of the Faculty of Behavioural and Social Sciences of the University of Groningen: ec-bss@rug.nl.

Do you have questions or concerns regarding the handling of your personal data? You may also contact the University of Groningen Data Protection Officer: privacy@rug.nl.

Q2 I have read the information above and I consent to participate in this study.

- Yes (1)
- No (2)

Q3 I consent to the processing of my personal information.

- Yes (1)
- No (2)

Debriefing:

Thank you for participating in our study about attitudes of the higher educated toward the less educated when putting doubt on the existence of meritocracy. Meritocracy is the belief that success is bound to hard work and talent rather than external factors like family background, wealth, and class.

We wanted to investigate whether the attitude of the highly educated towards the less educated would change if things such as background, age, and race did play a role in achieving a certain status. Additionally, we wanted to test if the results depend on political affiliation or background, and levels of identification with education status.

All answers given will be treated confidentially. In this matter, two of three conditions in our research were presented with fictional scientific articles (versus the control group). The articles had the aim to make you believe that current research supports the existence of a meritocracy in educational success.

If you know somebody that is going to participate in this study too, we request that you do not discuss this study with them until they have the opportunity to participate. Prior knowledge about the questions can influence the results of this study.

If you have any questions regarding this study feel free to contact us via:
b.s.postema@student.rug.nl.

Please proceed to the next screen to end the survey and record your response.

Appendix C

Demographics and Identification

Age

	N	%
Younger than 18	1	0.5%
18-30	184	94.4%
Older than 30	10	5.1%

Educational level

	N	%
Upper-secondary diploma or equivalent, general or vocational (e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO)	49	25.1%
Bachelor's degree or equivalent (University, Applied Sciences, Fachhochschule (FH), WO, HBO)	104	53.3%
Master's degree or equivalent	35	17.9%
Doctoral degree or equivalent	5	2.6%
Short-cycle or vocational tertiary education (e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule)	1	0.5%
Other (please specify)	1	0.5%

Gender

	N	%
Male	61	31.3%
Female	127	65.1%
Other	4	2.1%
Missing System	3	1.5%

Nationality

	N	%
Dutch	92	47.2%
German	73	37.4%
Other, namely:	27	13.8%
Missing System	3	1.5%

Fathers's education

	N	%
No qualifications	5	2.6%
Less than an upper secondary diploma	10	5.1%
Upper-secondary diploma or equivalent, general or vocational (e.g., A-level, BTEC, Abitur/ Fachhochschulreife, HAVO, VWO	24	12.3%
Bachelor's degree or equivalent (University, Applied Sciences, Fachhochschule (FH), WO, HBO)	45	23.1%
Master's degree or equivalent	51	26.2%
Doctoral degree or equivalent	19	9.7%
Short-cycle or vocational tertiary education (e.g., MBO-4 specialist, HBO Associate degree, Ausbildung, Berufsoberschule	33	16.9%
Other (please specify)	5	2.6%

Missing	System	3	1.5%
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Level of identification

