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THE HIGHER EDUCATED TOWARDS THE LOWER EDUCATED WHEN THE
EXISTENCE OF A MERITOCRACY IS DOUBTED

**The effect of status threat on outgroup attitudes of the higher educated towards the lower
educated when the existence of a meritocracy is doubted**

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Author's note

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A thesis is an aptitude test for students. The approval of the thesis is proof that the student has sufficient research and reporting skills to graduate, but does not guarantee the quality of the research and the results of the research as such, and the thesis is therefore not necessarily suitable to be used as an academic source to refer to. If you would like to know more about the research discussed in this thesis and any publications based on it, to which you could refer, please contact the supervisor mentioned.

Abstract

Education produces and reproduces status. Though educational success underlies structural factors like family background and wealth, educational institutions in modern Western societies function by means of meritocracy, consisting of hard work and talent attributions. Dominant individuals have an interest in upholding their high-status position and participate in legitimization and reinforcement processes that uphold unequal power and resource distribution in the face of threat. The present research investigates whether threatening the status of the higher educated affects outgroup attitudes towards the less educated when doubt is put on meritocracy. A sample of 192 higher educated people was allocated into the three conditions control, hard work, and talent. The hard work condition was confronted with a delegitimization of the perseverance domain of meritocracy, while the talent condition received a delegitimization of talent in the importance of educational success. Our analyses revealed that 1) hard work is the more – and in some cases, only – salient structure in meritocracy beliefs, 2) discriminatory outgroup behaviors decrease substantially when the influence of hard work on educational success is doubted, 3) paternalistic behaviors decrease as meritocracy is delegitimized, and 4) higher educational identification increases negative attitudes towards the less educated.

Keywords: Meritocracy, Education-based discrimination, Educationism, Social Identity Theory, Status threat

Does Threatening the Status of Higher Educated by Putting Doubt on the Existence of a Meritocracy Affect Outgroup Attitudes Towards the Less Educated?

As an instrument of status production, education drastically affects the dynamics of social inequality. Western societies celebrate and practice meritocracy as an ideal that can provide unlimited access to academic, and therefore life success. This meritocratic ideal assumes that success originates from talent and hard work rather than structural factors like family background and wealth (Kim & Choi, 2017; Warikoo & Fuhr, 2014). In reality, the idea of meritocracy is inapplicable to modern societies as social mobility is minimal and structural inequality dominates objective life outcomes (Jin & Ball, 2020). This leads to a fixation of social groups that reinforces unequal distribution of resources and status and therefore (re)produces social disparities. Despite these processes, educational success is nowadays made a function of meritocratic standards through various legitimization processes working on intergroup dynamics between higher and lower educated people. By tackling these exact means of legitimization, the present research adds clarity to the study of social inequality that tends to underrepresent the magnitude of education-based discrimination while focusing on other, potentially more visible forms of societal imbalance, such as gender and race (van Noord et al., 2018). Additionally, we seek to fill a gap in current research that focuses mainly on the influence of meritocratic ideas in objective life outcomes rather than their psychological influence on intergroup attitudes. We target these omissions by investigating whether altering the legitimacy of meritocracy beliefs affects intergroup conflict upheld with the negative outgroup attitudes that higher educated people carry towards the lower educated as an instrument of status preservation. Playing with the legitimacy of the

ideology through manipulation can thus stress both its practical impact on intergroup discrepancies and explain the mechanism of status threat on outgroup bias.

The legitimacy of meritocracy and status production

Education-based discrimination has an unusual position in modern society. While differences in educational backgrounds create some of the most significant gaps in societal groups, education is constantly conventionalized as one of the greatest chances for equality (Jin & Ball, 2020; Kuppens et al., 2018). The meritocratic argument's heart is the assumption of unrestricted social mobility and accessibility that ensures fair competition for social resources (Jin & Ball, 2020). In fact, rather than a personal accomplishment, merit is the gross product of an individual's social self, comprised of family and class background and the corresponding social capital (Jin & Ball, 2020). The goods that dominant groups can accumulate – monetary capital and cultural and social knowledge – are the gateway to easier access to education (Jin & Ball, 2020). Warikoo and Fuhr (2014) argue that although this “cultural capital” is expected and even necessary for actual academic achievement, it is available almost exclusively via family upbringing. This includes certain behaviors and attitudes that higher-class families can bring on to their children, but lower-class families have collected no sharable experience with (Warikoo & Fuhr, 2014). Conclusively, education equally produces and reproduces status and status gaps (van Noord et al., 2019).

Both dominant groups and institutions profiting from inequality are concerned about upholding meritocratic systems (Warikoo & Fuhr, 2014). Educational institutions, the more elitist (and thus, the more exclusive or inaccessible) they are, the more they create elevated social meaning around academic milestones that maintain and advance the status of both the institution and their graduates (Warikoo & Fuhr, 2014). As another significant part of the legitimization process, there is usually general public acceptance of the meritocratic nature of

a system (Madeira et al., 2019). In line with this, assigning and discrediting people in social categories based on their educational status is an unreservedly practiced bias, especially in contrast to the increasing public sensibility for other socially marginalized groups (van Noord et al., 2019). This observation well illustrates the meritocratic irony: Though education clearly functions as a motor of societal division, the interest in uncovering its structural and destructive power in high-class profiteers is limited, if not absent.

Education-based discrimination and paternalism

Meritocratic ideals often align with paternalistic ideologies. Paternalism is a construct in which dominant social groups have warm feelings towards subordinate groups but simultaneously legitimize, encourage, and reinforce policy measures that lead to further discrimination (Jackman, 1994). In this way, dominant group members can preserve their status with positive feelings, both to continue to profit from their dominant position while abstaining from the experience of guilt and to prevent an open conflict for status that the subordinate group may initiate (Jackman, 1994). In 2014, Warikoo and Fuhr examined this phenomenon in an educational context for elite-status university students. In this study, most Oxford students were able to accurately describe the meritocratic and inaccessible nature of the admissions system – that is a burden, especially to lower-class students – but continued to explain their success within this system as a result of their innate intelligence (Warikoo & Fuhr, 2014). This apparent concern that dominant groups feel for their subordinates can help them to elude accountability for the systemic inequalities they profit from (Jackman, 1994). By acknowledging the structural issues leading to inequality, superior group members avoid individual responsibility and force accountability upon institutions and their decisions. In this way, they can concurrently eliminate potential conflict for status. In line with this, Oxford students were shown to strongly disagree with compensatory measures

that could be taken to increase access for disadvantaged groups though being aware of structural disadvantages and tended to make statements denying the relevance of class and race backgrounds (Warikoo & Fuhr, 2014).

Previous research on education-based intergroup bias and threat

The framework of Social Identity Theory (SIT) offers an explanation for the development of intergroup dynamics from both a systemic and psychological perspective. According to SIT, in the process of “social categorization”, individuals tend to be arranged in groups that provide useful categorization to create meaning around their social surroundings in order to achieve positive social identity (Ellemers, 1993). The resulting generalization of ingroup and outgroup characteristics respectively leads to a simplified evaluation of perceived similarities and differences (Ellemers, 1993). In an educational context, such groups are formed through similar status properties in the educational institution. The degree of identification with a social group enables individuals to process their social standing in an intergroup context and act in accordance with their perceived value within these dynamics (Ellemers, 1993). This “social identification” process can lead to more unified group performance and preferential evaluation of ingroup members that can turn into biases and lead to prejudicial behaviors towards outgroup (Ellemers, 1993). Kuppens et al. (2018) found that higher educated people tended to identify more with their educational group than the lower educated. This could, in turn, imply that ingroup favoritism and outgroup biases are greater for higher educated people. The latter process is not always a consequence of the former and is rather provoked by different processes through which ingroup members constitute positive group membership (Brewer, 1999). Ingroup members feel “moral superiority” for ingroup values, usually expressed through a heightened sense of warmth, credibility, and other attitudes that enhance positive intergroup differentiation (Brewer,

1999). Furthermore, conflict can arise from the perceived threat of competition for status initiated by subordinate groups (Brewer, 1999). Finally, shared group goals and values lead to preferential treatment for ingroup members and may provoke discriminatory behaviors (Brewer, 1999).

In fact, higher educated people show more significant signs of intergroup bias based on education than the lower educated (Kuppens et al., 2018). When shown otherwise identical profiles, people with a higher educational background were more likely than people with a lower educational background to positively evaluate a profile description if they were labeled as higher educated (Kuppens et al., 2018). Less educated people did not show this intergroup bias reversely, even if their degree of identification was high with the profile described as less educated (Kuppens et al., 2018). “Social comparison” is the process in SIT in which the evaluation of specific characteristics creates status around group membership (Ellemers, 1993). If group members feel that their group differentiates positively from other similar groups, their social group’s status is positively inflated (Ellemers, 1993). The importance of the specificity of group comparison is highlighted in the following example: Compared to other socially marginalized groups (poor and working-class people), people with a higher-educated background saw those with a lower-educated background in more negative terms (Kuppens et al., 2018). This means that as outgroup comparisons become more tailored and positive, group status increases, which simultaneously implies that there must be competition for this specific resource of status (Ellemers, 1993). As an underlying mechanism, intergroup conflict is fueled by the subjective feeling of threat: If one group compares positively to another, this group’s high-status position is legitimized and upheld (Ellemers, 1993). If not, the other group may step forward and claim status. Defending the own group’s high status is therefore the main motor for upholding the social order from

which dominant groups profit. Regarding education-based intergroup biases, this status maintenance mechanism interacts strongly with the accessibility to high-status properties exclusive to the higher educated.

While previous research has successfully proved the societal magnitude of meritocracy, we identify a lack of focus on its implications on intergroup attitudes concerning the legitimization of social inequality and conflict. The current research will consequently aim to test higher educated people's intergroup attitudes when confronted with a delegitimization of meritocratic beliefs. The research question examines whether threatening the status of the higher educated by putting doubt on the existence of a meritocracy affects outgroup relations towards the less educated. A particular interest will be drawn on whether the degree of identification with the educational level will alter these attitudes.

Three experimental groups, control, hard work or perseverance, and talent, will receive fictional scientific articles. In the control condition, the importance of both hard work and talent, as well as family background, is highlighted for academic success. In the hard work and talent conditions, the groups independently receive a fictional text doubting the impact of hard work and talent on educational success respectively. After manipulation, participants undergo a questionnaire that inquires different attitudes towards their social surroundings and most importantly, measures outgroup attitudes they carry towards the lower educated.

After manipulation, we hypothesize that the hard work and talent conditions show significantly more negative attitudes towards lower educated people than the control. In line with the theoretical framework surrounding the existence and reproduction of meritocracy, we expect this effect due to the interruption of the meritocracy legitimization process.

Participants should feel a threat to their high-status position and are likely to act out discriminatory attitudes to preserve it.

We also hypothesize that after manipulation, the hard work and talent conditions will disagree with redistribution measures to increase intergroup equality (e.g., more accessibility in college applications) to a greater extent than the control. We hence expect significant differences between these groups in the statistical analysis of this scale. This outcome can be expected due to SIT's framework proposing that dominant group members display status competition behavior when their high status is being threatened. Disagreement to redistribution attitudes can hereby be interpreted as a measure testing socially desirable answers if outgroup attitudes are otherwise positive. We propose that this effect is so strong statistically that it outperforms that of group differences in outgroup attitudes.

Lastly, we hypothesize that the more people identify with their high educational status, the more they will exhibit negative outgroup attitudes towards the less educated after manipulation. This should yield a strong positive correlation between identification and negativity of outgroup attitudes. In SIT, the "social identification" domain would explain this in terms of a more cohesive and integrated group membership perception that people who identify more strongly feel. The influence of group type on negative attitudes expectedly interacts with the degree of educational identification. High identifiers should show more outgroup bias than low identifiers since their self-concept is more sturdily connected to their educational high-status position according to SIT.

Method

Design

The present research is an experimental design that uses survey research via Qualtrics. The design is a between-group experiment in which participants are grouped and

exposed to different manipulations. Participants were allocated equally into three different research conditions via random assignment which each received a fictional scientific article.

The first group, the control group, received a neutral article, emphasizing both the role of meritocratic factors and the role of external factors for success in education. The second group, the hard work or perseverance condition, was presented with a fictional article that doubted the relevance of hard work in educational success. Finally, participants in the third experimental group, the talent condition, were given a fictional scientific article about research findings that doubted the relevance of talent in educational success. These manipulations intended to initiate doubt on the meritocratic nature of an educational system by isolating and questioning its two sub-parts, hard work or perseverance and talent.

Participants

The present study made use of convenience and voluntary samples. With the program G*Power 3.1 by Faul et al. (2007), we conducted a power analysis to estimate the desired sample size for adequate power of 80 percent ($\beta = 0.2$) at an alpha level of 0.05. The analysis yielded a sample size estimation of $n = 180$ at an effect size of $d = 0.25$; a relatively small effect size for Cohen's d . For the study, we selected people who belong to the group of “the higher educated”, marked by an ongoing or completed Bachelor’s study at a (non-vocational) university. Those who selected a lower educational level were automatically redirected to the end of the survey and not included in the data. One underage participant was excluded from the analysis, and in total, 34 participants did not sufficiently complete the questionnaire – meaning they did not reach the manipulation part and responded to less than 50 percent of the questionnaire – so their data was removed too. After excluding the data mentioned above, the total sample size concludes to $n = 194$. More than half (60%) of the sample was female, 38 percent was male, and 2 percent indicated their gender as “other”. Age

primarily ranged from 18 to 30 years (95%), while 5 percent were 30 years or older. Of all participants, half (48%) had a Dutch nationality, 38 percent had a German nationality, and 14 percent had a nationality other than that. The distribution of educational identification levels grouped by experimental conditions can be found in Table 1.

Table 1 *Distribution of identification levels grouped by experimental condition.*

Experimental condition	Identification level with high educational status (low or high)		Total
	Low	High	
Control	26	36	62
Hard work	25	39	64
Perseverance			
Talent	31	37	68
Total	82	112	194

Note: Identification was measured on a five-point scale, grouped as low (< 3.33) and high (≥ 3.33).

Thesis students recruited participants by contacting them via their social networks (e.g., WhatsApp, Instagram, and Facebook). Furthermore, the SONA student pool was used for participant recruitment, consisting of first-year Psychology students at the University of Groningen. SONA participant samples are considered a voluntary sample as their participation in the study is unlinked to researchers and occurs voluntarily. Students received compensation of 0.3 study credits for their participation in the study.

Materials

The utilized questionnaire includes 19 items. Most of these items have been tested in previous research and are therefore classified as reliable. More information on sources and an overview of all scales can be found in Appendix A. Answers were measured in multiple-

choice, five-point Likert (ordinal), and thermometer scales (scores ranging from 0-100). Item formats ranged from lists to matrices and sliders in Qualtrics.

The questionnaire included informed consent and demographic background questions (e.g., age, educational background). Moreover, initial meritocracy attitudes were measured before allocation to one of three experimental conditions. These three groups were later turned into a categorical “experimental condition” variable in SPSS. A general questionnaire then assessed multiple scales, including meritocracy attitudes and thermometer ratings, attitudes towards the lower educated and redistribution, educational identification levels, and general and political attitudes. The main scales of interest for the analyses of the hypotheses in this paper are summarized below.

Outgroup attitudes. Outgroup attitudes towards lower educated people were measured on a five-point scale with three items, e.g., “Many of the problems that we have to deal with in this country are due to the influence of the less educated.”. High scores on this scale indicate stronger negative outgroup attitudes. Cronbach’s alpha of this scale lies at $\alpha = 0.79$, implying acceptable scale reliability. Items were constructed specifically for the study.

Attitudes towards redistribution. Participants’ attitudes towards re-distributional measures were measured on a five-point scale that included four items such as “My university should prioritize people with a lower educational background over people with a higher education.”. High scores indicate greater agreement with redistribution interventions. Reliability analysis yielded $\alpha = 0.73$, which is again acceptable consistency. This scale was too created specifically for this study.

Identification. Identification with the educational status was measured on a five-point scale with eight items, e.g., “I feel a bond with people who have a similar level of education to my own.”. High scores on this scale imply high levels of identification with the

participant's educational group. Identification was later classified as "low" or "high" with the median-cut algorithm ($\tilde{x} = 3.33$). Cronbach's alpha for the identification scale is at $\alpha = 0.77$, indicating acceptable internal consistency. Items were previously used in a study by Leach et al. (2008).

Procedure

Ethical approval for this study was given by the Ethics Committee of the Faculty of Behavioral and Social Sciences at the University of Groningen. The assessment took place online via the Qualtrics platform, hosted by the University of Groningen.

Participants completed an informed consent procedure that included information about the study purpose, assessment procedure, and data retention methods. Data was guaranteed to be treated confidentially and made anonymous within one week of data collection. After giving demographic information, participants completed the general questionnaire. The questionnaire included a manipulation paragraph grouping participants into one of three research conditions of the experiment. The subsequent questions were not tied to the level of manipulation and were administered to everyone in the same manner.

After completion, all participants were debriefed regarding the deceptive nature of the manipulation. They were informed about the study purpose and background. The debriefing included reasons for why the deception had to occur and provided researchers' contact information in case of open questions. Data was then pseudo-anonymized by the supervising researcher Dr. van Noord and prepared for analysis in SPSS.

Results

No influential outliers (low leverage points) could be found, and therefore no additional data points were removed. A check of normality was conducted with a Kolmogorov-Smirnov test of normality. Though the result was significant with $K(193) =$

0.128, $p < 0.001$ and hints at a non-normal distribution of data, in QQ-plots, data can be described to behave moderately normally. ANOVA tests are reasonably robust to violations of normality and were therefore used for the majority of analyses. Comparisons between experimental conditions for the main scales are listed in Table 2.

Table 2 Scores of main scales grouped by experimental condition (mean \pm SD)

	Negative outgroup attitudes	Redistribution attitudes	Identification
Control	2.90 \pm 0.12	3.01 \pm 0.10	3.35 \pm 0.07
Hard work Perseverance	2.49 \pm 0.13	3.37 \pm 0.10	3.35 \pm 0.06
Talent	2.57 \pm 0.13	3.05 \pm 0.12	3.20 \pm 0.08

Note: Scores were measured from 1 (strongly disagree) to 5 (strongly agree).

To test our manipulation, we wanted to see whether there are significant differences between groups in a post-manipulation meritocracy scale that asks participants for ratings of perceived importance for educational success on different items, such as intelligence, talent, hard work, ethnicity, and others. In a one-way ANOVA, we found that there are indeed significant differences for both the intelligence, $F(2, 191) = 4.97$, $p = 0.008$, and perseverance, $F(2, 190) = 7.04$, $p = 0.001$, items. In a post-hoc Tukey HSD test, we found that this result is significant only between the control and talent condition for intelligence, with a mean difference score of $I-J = 9.19$ ($SD = 2.97$), $p = 0.006$. We also found that for perseverance, means were significantly different between the control and hard work condition with a mean difference score of $I-J = 9.86$ ($SD = 3.09$), $p = 0.005$, and the talent and hard work condition with a mean difference of $I-J = 10.00$ ($SD = 3.03$), $p = 0.003$. The remaining comparisons were non-significant with all $p > 0.05$, including those items that asked for external factors such as ethnicity, wealth, and gender. These results indicate that our

manipulation was successful as it yielded significantly lower attributions of items for success in the specific conditions they worked upon.

First hypothesis

The first hypothesis stated that participants in the hard work and talent groups would exhibit more negative attitudes towards lower educated people than the control group after manipulation.

On the outgroup attitudes scale, participants indeed differed in the negativity of attitudes depending on their manipulation group. For the analysis, cases were selected in SPSS to compare all experimental groups individually. We found a significant effect between the control and the hard work condition in a one-way ANOVA with $F(1, 123) = 5.26$, $p = 0.02$. However, other than predicted, the hard work condition had significantly fewer negative attitudes. These results are in harsh contrast to the hypothesis. No significant effects were found between the control and talent condition, with $F(1, 128) = 3.37$, $p = 0.07$, and between the hard work and talent condition, with $F(1, 130) = 0.18$, $p = 0.67$. We can therefore conclude that the hard work condition is the only group the effect worked upon. The fact that no significance was found between hard work and talent can be connected to the fact that the significance level of 0.05 was only missed by a small margin and means that the difference between both conditions was minimal but statistically evident.

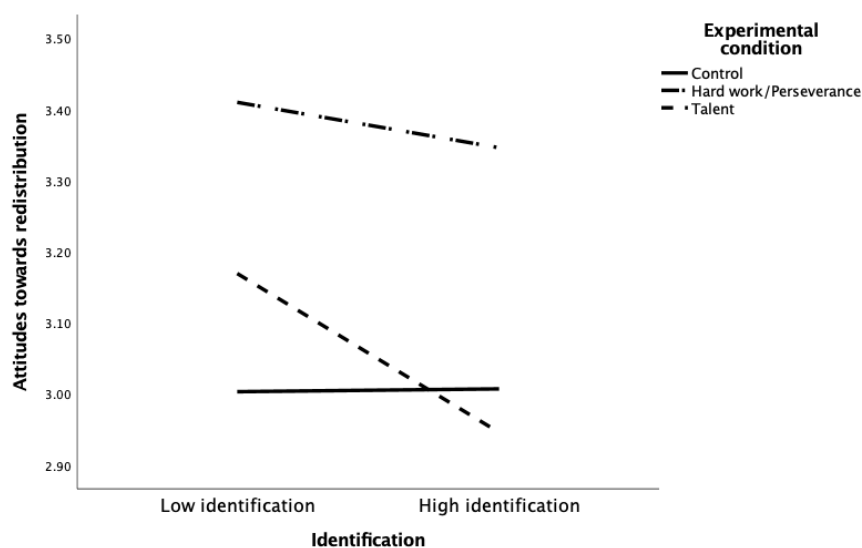
Second hypothesis

The second hypothesis estimated that there would be significant differences between the control and hard work and control and talent groups in the agreement of redistribution measures. We found significant differences for redistribution attitudes between groups in an ANOVA with $F(2,190) = 3.41$, $p = 0.035$. Groups were again selected by cases in SPSS for individual comparison in a one-way ANOVA analysis. Significant differences were found

between the the control and hard work condition with $F(1, 123) = 6.35$, $p = 0.01$, and between the hard work and talent condition with $F(1,130) = 4.34$, $p = 0.04$ after manipulation. Contrary to the expected direction, both the hard work and talent condition showed significantly more agreement to these measures than the control. There was no significant difference between the control and talent conditions with $F(1,127) = 0.07$, $p = 0.79$. Overall, these results do not align with our expectations.

Though working in a direction different to the proposed effect, the effects of group differences for redistribution attitudes were indeed substantially larger, or more significant, than those for outgroup attitudes as expected. As the focus of the present paper lies on the effect of identification, we conducted a univariate analysis of variance to test for possible interactions for the redistribution scale. Though insignificant at $F(2,193) = 0.29$, $p = 0.748$, we found an observable interaction between identification and group as can be seen in Figure 1. The control showed overall low levels of disagreement, somehow independent of their identification level. Agreement was slightly higher for high identifiers. The hard work

Figure 1 *Non-significant interaction effect between the degree of identification and experimental group membership on agreement to redistribution measures.*



Note: Redistribution attitudes were measured on a 5-point scale ranging from 1 (strongly disagree) to 5 (strongly agree). Identification was measured as low (< 3.33) and high (≥ 3.33).

condition showed exceptionally high levels of agreement, with slightly less agreement for high identifiers. In the talent condition, agreement to redistribution measures behaved in the same manner, though with a steep slope between high identifiers and low identifiers, even outperforming the low agreement that the control has for high identifiers.

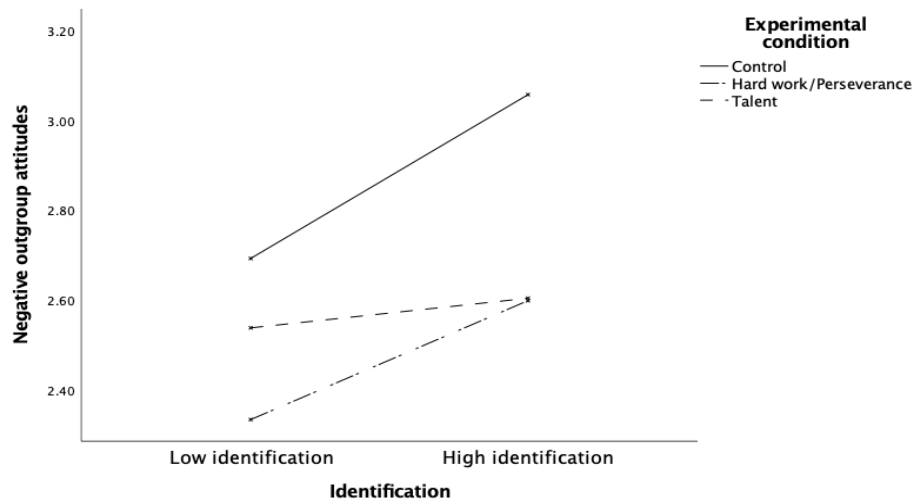
Third hypothesis

The third research hypothesis predicted more negative attitudes towards the lower educated with an increasing degree of identification. Additionally, we proposed this effect to yield an interaction between group type and educational identification.

Identification was indeed found to be significantly positively related to negative outgroup attitudes towards lower educated people with $r(191) = 0.19$, $p = 0.007$ at a significance level of 0.01. This result supports our hypothesis. A univariate analysis of variance was carried out to identify possible interaction effects that the level of identification and group level could have. We did not find a significant effect for group level with $F(2,193) = 2.73$, $p = 0.08$, as well as identification level with $F(1,193) = 2.40$, $p = 0.12$, and their interaction $F(2, 193) = 0.35$, $p = 0.70$. Nevertheless, as can be seen in Figure 2 below, we still found visible interactions between the level of identification and the manipulation type on outgroup attitudes. Though they might not be significant, these interactions support the hypothesis that (the way of) delegitimizing meritocracy beliefs leads to changes in the identification level's effect on negative outgroup attitudes. In the talent condition, low and high identifiers almost had identical outgroup attitudes, with minimally more negative attitudes expressed from high identifiers. In the control, attitudes became visibly more negative with higher identification. The same effect can be seen in the hard work condition, though here, attitudes were generally the least negative between all conditions. Its slope

between attitudes for low and high identifiers was slightly less steep than that of the control condition, with the highest negative score crossing that of the talent condition.

Figure 2 *Non-significant interaction effect between the degree of identification and experimental group membership on negative outgroup attitudes towards the lower educated.*



Note: Negative outgroup attitudes were measured on a 5-point scale ranging from 0 (strongly disagree) to 4 (strongly agree). Identification was measured as low (< 3.33) and high (≥ 3.33).

Discussion

The present study aimed to investigate whether threatening the status of higher educated people can lead to differences in outgroup attitudes when the existence of a meritocracy is doubted. We hypothesized that after delegitimizing different parts of the meritocratic structure, 1) hard work and talent would have more negative outgroup attitudes towards the less educated than control, 2) agreement to redistribution measures would be significantly lower for hard work and talent compared to the control, and 3) higher educational identification would generally lead to more negative outgroup attitudes towards the less educated and that this effect would show an interaction between manipulation and identification.

First hypothesis

We first expected that outgroup attitudes towards the lower educated would be more negative in the hard work and talent conditions than in the control. This was not confirmed in our analysis. While we found that the hard work condition showed significantly different outgroup attitudes than the control, other than anticipated, these attitudes were indeed less negative. Though this significance does not replicate for members of the talent condition, we can still observe slightly lower scores in a comparison of means between the control and talent conditions.

Analyses of outgroup attitudes towards lower-educated people show two interesting patterns. Firstly, we can conclude that outgroup attitudes seem to change for the better when participants' high-status position is threatened by the devaluation of the importance of hard work. Though the manipulation introduced threat, the hard work condition showed a decrease in negative outgroup attitudes towards the lower educated. This could either mean that the manipulation prompted participants to re-think the legitimacy of their status, or that the manipulation did not in fact trigger a status threat feeling. In SIT, this mechanism is usually explained by means of "social identification" behaviors that motivate people to view their ingroup's characteristics in a more positive light to justify their status position (Ellemers, 1993). The fact that we observed a positive difference supports Brewer's (1999) point that ingroup love does not necessarily cause outgroup hate. For the hard work condition, it seems as if the manipulation prompted them to rethink the legitimacy of their high status and adjust their attitudes towards the lower educated accordingly.

Secondly, that only hard work participants seemed to carry significantly less negative outgroup attitudes towards their counter group when doubt was put on the hard work aspect

has important implications on the function of meritocracy. Hard work seems to be both a ruling factor in people's legitimization processes of their high-status position and one that can be weakened more easily. It is known that people justify their high status in terms of felt individual responsibility for their achievements (Kuppens et al., 2018). Our results imply that hard work or perseverance attributions of success have more explanatory value for success and status than talent does. This could be due to the overall more proactive undertone that hard work carries over talent. The feeling of individual responsibility could rely more heavily on the assumption that an individual's hard work has led them to their educational level rather than their inherent talent, with the latter conveying a more passive notion. If higher educated people are then presented with a seemingly credible and scientific source proving them the opposite of this narrative, they seem to put down their pride in favor of the outgroup and think of them more positively.

Second hypothesis

Next, we predicted that participants in the hard work and talent groups would disagree to redistribution measures more than the control would. Our main interest was to see whether we can observe paternalism-typical behaviors after manipulating the legitimacy of meritocracy.

After manipulation, we found significant differences between the control and hard work condition, and between the hard work and talent conditions for redistribution attitudes. Both groups showed greater agreement to redistribution measures than the control. This contrasts our hypothesis. As the introduction of a policy in favor of the subordinate group inevitably implies sacrifices for the dominant group, we expected to see far-reaching disagreement in the hard work and talent conditions compared to the control.

Connecting these results with the former discussion again shows that hard work is especially prominent in the meritocracy construct. Delegitimizing the importance of hard work led to a less discriminatory approach to the lower educated and more willingness to forgo privileges.

According to SIT, dominant group members show increased identification responses and greater ingroup cohesion in the face of a threat to their group status (Ellemers, 1993). This exaggerated focus on ingroup qualities can then lead to discriminatory treatment of the outgroup (Brewers, 1999). We could observe this effect for both the talent and hard work condition as both groups showed less disagreement when they were high identifiers. We thus propose that high (versus low) identification plays a major role in the status preservation mechanisms that higher educated people exhibit when being confronted with a status threat.

The manipulation triggered more defensive mechanisms in the talent condition, again showing that the hard work condition is both more salient and more susceptible to change. In general, results show that paternalistic patterns seem to be more present for people in the talent condition than for hard work. Felt individual accountability for the structural mechanisms underlying intergroup inequality seemed to increase with both hard work and talent, at least for low identifiers. Individuals potentially felt more need to act within their own possibilities to change this status quo. This again aligns with the more personal and inherent connotation that talent has over hard work in explaining success. Though we found significant differences in the evaluation of items relevant for educational success, this was only limited to the two manipulation domains hard work and talent. Increased awareness towards structural factors underlying educational inequality could not be observed in a statistically relevant scope.

Third hypothesis

Lastly, we anticipated an increase in negative attitudes towards the lower educated with an increasing degree of identification, especially observable for control participants and weaker but also evident for both manipulation groups. These expectations were confirmed in a positive significant correlation between outgroup attitudes and identification. Independent of their experimental group membership, participants evaluated lower educated people more negatively when they identified more with their educational status. SIT argues that the more individuals identify with their group, the more they will be motivated to uphold their group's status position (Ellemers, 1993). In this process of "social identification", those who see their group membership as more integral to their selves thus have greater motivation to exhibit discriminatory behaviors to obtain a positive social identity (Kuppens et al., 2018; Tajfel & Turner, 1979).

In line with this, though insignificant, we additionally found an interaction effect between high or low identification and experimental condition on outgroup attitudes. For the control condition, differences were largest between low and high identifiers, while they became less extreme for the hard work condition and almost unrecognizable for the talent condition. Generally, attitudes were least negative for the hard work condition but least steep for the talent condition. In connection with results on the redistribution scale, this observation endorses the notion that the talent condition is generally more protective of their high status than the hard work condition and therefore more prominently shows paternalistic behaviors.

Limitations

Limitations of the present research will be outlined in the following. Participants in our sample were either recruited through researchers' social networks or through a platform offering compensation for participation, so the sample primarily consisted of middle-European social science students. This means that the sample cannot generalize to more heterogeneous and less socially biased groups of the higher educated. Additionally, a major part of the sample is currently still enrolled in a program of higher secondary education. For research feasibility reasons, we included an uncompleted degree in our sample of higher educated people. This can mean that results do not generalize to a greater, more extensive population of higher educated people. Additionally, the way of inquiring redistribution attitudes is susceptible to socially desirable answers. Future research might explore this scale in a more practical setting to test the willingness to redistribute more accurately

Final conclusion and Future Directions

In the present research, we come to the conclusion that threatening the status of higher educated people indeed affects outgroup attitudes towards lower educated people when meritocracy is manipulated. Effects were most substantial and consistent for the hard work condition, implying that hard work is the more salient, but also less robust domain in meritocracies. Generally, we found that the status threat did not lead to more negative, but rather less negative outgroup attitudes. We think that this is due to the way of information presentation. If higher educated people are "threatened" by a seemingly academic article coming from their ingroup, they potentially have greater trust and motivation to dismantle their erroneous belief systems.

Paternalistic behaviors were reduced especially for members of the hard work condition, suggesting that the manipulation of meritocracy had such a sturdy effect that it lowered the incentive for outgroup discrimination to uphold status. Interestingly, in the talent condition, the effect of identification was almost removed. We attribute the talent group's general patterns of more negativity in outgroup attitudes to the personal and inherent connotation that talent has. Hard work as a concept is more connected to individual responsibility and a capability to change.

Generally, we found that stronger integration of educational status into the self powerfully predicted negative outgroup attitudes. Outgroup attitudes were significantly less negative for participants in the hard work condition. For talent, both low and high identification led to the same amount of unwillingness to redistribute. Our study only compared after-manipulation identification, so we are unaware of how pre-manipulation identification influences this effect. Since we now know the profound influence that identification has on both meritocracy and outgroup attitudes towards the less educated, future research should explore further this in a more generalizable and controlled setting.

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Appendix

Questionnaire and scale validation summary

Questionnaire item(s)	Validated?
Demographics: Age, gender, nationality, educational background	--
Pre-manipulation meritocracy attitudes e.g., “Uncontrollable factors often limit one’s success, despite a person’s best efforts.”	No
Manipulation e.g.: Hard work or perseverance manipulation “Recent research on the academic performance of students has focused on how personal features of students, such as intelligence and effort, affect educational achievement. Contrary to what people tend to believe, these studies raise doubts on the importance of effort or perseverance. A systematic review of 29 different studies concluded that grit, or perseverance, was only weakly related to educational outcomes [1]. Perseverance or effort was also not found to affect the academic performance of pharmacy students, as they “did not detect a significant association between Grit-S score and measures of academic or professional achievement” [2]. A 2007 study by one of the leading scholars on the role of effort in educational outcomes, noted that having ‘grit’ accounted for only an average of 4% of the variation in success outcomes [3]. Importantly, these studies noted that the difference in effort between weaker and stronger students was negligible, and therefore did not explain why some students performed better than others. These studies also found that other factors such as intelligence, parental income or parental educational level are more important explanations of differences in educational achievement. To sum up, it appears that perseverance and effort are much less important for academic achievement than previously thought.” [1] Christopoulou, M., Lakioti, A., Pezirkianidis, C., Karakasidou, E., & Stalikas, A. (2018). The Role of Grit in Education: A Systematic Review. <i>Psychology</i> , 9(15), 2951-2971. [2] Gruenberg, K., Brock, T., & MacDougall, C. (2019). Longitudinal Associations Between Grit, Academic Outcomes, and Residency Match Rates Among Pharmacy Students. <i>American journal of pharmaceutical education</i> , 83(6). [3] Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: perseverance and passion for long-term goals. <i>Journal of personality and social psychology</i> , 92(6), 1087.	No
Thermometer ratings	Yes, Kuppens et al., 2018

e.g., Less educated people, higher educated people	
Outgroup attitudes towards the less educated e.g., “If less educated people had more influence, we would have even more problems in our society.”	No
Redistribution attitudes e.g., “I am willing to pay more taxes to enable equal pay for people of all levels of education.”	No
Post-manipulation meritocracy attitudes “How important do you think the factors below are for achieving success in education?” e.g., Intelligence, Perseverance, Ambition, Luck, Having well-educated parents, Ethnicity, etc.	No
Educational identification scale e.g., “I feel a bond with people who have a similar level of education to my own.”	Yes, Leach et al., 2008
Political attitudes (general political positioning, attitudes on government interventions) e.g., “The government should provide a decent standard of living for the unemployed.”	Yes, ESS and ISSP
Evaluation of structural factors on general life success e.g., “It is important to have well-educated parents.”	No
Discrimination experience and perceived social class e.g., “Would you describe yourself as being a member of a group that is discriminated against in your country?”	No