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Expectations of people with high and low intelligence differ considerably. High intelligence is associated with several desirable social outcomes, while low intelligence is associated with low social status and poverty. We assumed that attributing high intelligence to a person could lead to a more positive evaluation of them and, as a result, less negative attitudes toward them. In the experimental study ($N = 781$) we investigated how levels of perceived intelligence impact the long-term stigmatization of dirty workers. The results show that perceived high intelligence of dirty workers decreases long-term stigmatization towards them, but these findings relate only to people performing moral dirty work. Implicit theories about intelligence were controlled as a covariate and had no significant effect. Results are discussed in terms of the positive effect of perceived high intelligence on everyday perception. Limitations and future directions are also discussed.

JEL Classification: Z

Keywords: intelligence, implicit theories, dirty work, stigmatization

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Introduction

Intelligence remains a very popular topic for researchers, the number of papers on the subject increasing from year to year (Pesta, 2018). However, there is still little known about how levels of intelligence relate to perceptions of people in everyday interactions where others often do not have information about a person's intelligence and where expectations of people with high and low intelligence could differ.

High intelligence is traditionally perceived as a positive and socially desirable trait. Gottfredson (1997) argued that high intelligence leads to success in educational institutions and work, and provides more opportunities for achievements and success in life. Strenze (2007) found in meta-analysis that high intelligence is associated with socioeconomic success, high social status and prestigious work. In general, people agree that individuals with high intelligence enjoy social privileges, for example in the field of education (Savani, Rattan, & Dweck, 2017). The fact that high intelligence is connected with several desirable social outcomes can lead to the emergence of a positive halo effect, whereby people expect that those with high intelligence may be 'better' than others and, as a result, evaluate them more positively.

In contrast, low intelligence is considered as a negative stigmatizing trait that is often included in stereotypes of groups with low social status (e.g., LGBT (Weber, Collins, Robinson-Wood, Zeko-Underwood, & Poindexter, 2018) or racial (Aronson, Fried, & Good, 2002)) groups. The researchers showed that low intelligence is associated with poverty, low social status and 'dirty work', a type of job that degrades human dignity (Bosmans et al., 2016; Hughes, 1962). According to Ashforth and Kreiner (1999), there are three types of dirty work: physical (related to direct contact with garbage and waste, such as being a cleaner), moral (related to jobs considered sinful, dubious or defying norms, such as stripping), and social (associated with contact with stigmatized people, for example prison guards). People often believe that workers choose their occupation and that this choice says a lot about their personality; in particular, people performing dirty work are often perceived as 'dirty people' (Bergman & Chalkley, 2007). This leads to 'stickiness' of dirty work and the long-term stigmatization of dirty workers. As a result, they often have problems joining other groups and finding new jobs (Bosmans et al., 2016).

Despite the association between low intelligence and dirty work, in modern society individuals with high intelligence often voluntarily perform dirty work. For example, they may downshift and choose work that is non-prestigious but which they prefer, such as a handicraft or social work. How will they be perceived, given that dirty work is associated with low intelligence?

We hypothesize that high intelligence as a socially desirable trait will decrease long-term stigmatization of dirty workers (Hypothesis 1).

As we showed above, high and low intelligence are perceived differently, and these differences can be more pronounced depending on the implicit beliefs about intelligence that individuals hold. Previous studies showed that some people believe intelligence is a fixed characteristic that cannot be changed (entity theory), while others believe it can be developed over time (incremental theory) (Dweck, 1999). Levy, Stroessner, and Dweck (1998) maintain that people who believe human attributes are fixed demonstrate higher levels of stereotyping of ethnic and occupational groups than those who believe in a malleable nature of human attributes. Rattan and Dweck (2010) concluded that the entity theory of personality predicts a lower degree of confront to prejudice. As a result, we assumed that the relationship between the level of intelligence and long-term stigmatization of dirty workers will be different depending on the implicit theories of intelligence (Hypothesis 2).

Method

***A priori* power analysis**

We conducted an *a priori* power analysis by the G*Power 3.1 program (Faul, Erdfelder, Buchner, & Lang, 2009) to compute the required sample size with sufficient power ($1-\beta > 0.80$). Based on Richard, Bond, and Stokes-Zoota's (2003) results ('Intelligent people are popular' $r = .10$), the total sample size was estimated at 720 participants, with around 120 participants in each experimental condition.

Participants and design

Some 781 Russians (592 women (68.8%), $M_{age} = 19.35$, $SD = 2.78$), were randomly allocated to one of the six conditions: these were based on two levels of intelligence (high and low) each paired with one of three types of dirty work (physical, moral and social) in a between-group design³.

Procedure

The experiment was conducted as a voluntary online study. The link for the survey was published in students' communities on the most popular Russian social network, Vkontakte (the Russian equivalent of Facebook). To begin with, participants were informed about the aims and

³Data available on request from first author

procedures of the experiment, following which they responded to questions about demographics (gender, age, and education), and the implicit theories of intelligence. Next, participants were randomly divided into six experimental conditions. After this, participants answered a manipulation check question and the question about long-term stigmatization. Finally, they were thanked and debriefed.

Measures

Independent variable

The level of intelligence was varied by experimental manipulation. In the ‘high intelligence’ condition, participants read the following description:

‘Olga is 25 years old. At school she studied very well and always demonstrated a high level of intelligence. After school, she entered university, but did not finish her studies. For the last three years she has worked as a stripper in one of Moscow’s nightclubs. It is her main job’.

In the ‘low intelligence’ condition, Olga was described as a person who *‘studied very badly at school and demonstrated a low level of intelligence’*. The type of dirty work also was manipulated. In the ‘moral dirty work’ condition, Olga was described as a stripper (as in the example above). In the ‘physical dirty work’ condition, she was a cleaner in the nightclub, and in the ‘social dirty work’ condition she worked with the homeless and people with AIDS.

Manipulation check

The effectiveness of the intelligence level manipulation was assessed by the item ‘How smart is Olga?’. Respondents rated the item on the 7-point Likert scale (1 = *extremely low*, 7 = *extremely high*).

Dependent variable

Stigmatization. To evaluate long-term stigmatization, we used a question about Olga’s future: ‘What will Olga be doing in five years?’. Participants chose one of three answers: 1) She will replace the work with something even more non-prestigious; 2) She will remain in the same job or change to a similar job; 3) She will replace the work with a more prestigious job. Higher scores indicated lower long-term stigmatization.

Covariate

To measure the *Implicit theories about intelligence* we used the item ‘You have a certain amount of intelligence and you really can’t do much to change it’, which was scored on a 7-point scale

from 1 (*absolutely disagree*) to 7 (*absolutely agree*) ($M = 4.32$, $SD = 1.33$) (Dweck, Chiu, & Hong, 1995). Higher scores indicated stronger belief in an innate and fixed nature of intelligence (entity beliefs), while lower scores indicated stronger belief in intelligence being malleable and something that could be acquired (incremental beliefs).

Results

Manipulation check

A manipulation check confirmed that participants in the ‘high intelligence’ condition evaluated Olga’s intelligence more highly ($M = 4.48$, $SD = 1.55$) than did participants in the ‘low intelligence’ condition ($M = 3.95$, $SD = 1.45$), $t(779) = 4.911$, $p < .000$, Cohen $d = .35$.

Long-term stigmatization

The 2 (high vs. low intelligence) \times 3 (physical vs. moral vs. social dirty work) variance analysis (ANCOVA) was conducted with implicit theories about intelligence as a covariate and long-term stigmatization as a dependent variable. Since young women were predominant in our sample, we also included age and gender as covariates.

Results illustrated that, as expected, perceived intelligence $F(1, 780) = 13.42$; $p < .000$; $\eta_p^2 = .016$ and the type of dirty work $F(2, 779) = 26.6$; $p < .000$; $\eta_p^2 = .062$ had a significant main effect on long-term stigmatization. In particular, participants stigmatized dirty workers with high intelligence ($M = 2.55$, $SD = .83$) less than they did those with low intelligence ($M = 2.34$, $SD = .81$). Post-hoc comparisons by the Tukey HSD test demonstrated that the moral dirty worker (stripper) was stigmatized less ($M = 2.68$, $SD = .90$) than the physical dirty worker (cleaner) ($M = 2.50$, $SD = .92$), and the social dirty worker was the most strongly stigmatized ($M = 2.17$, $SD = .52$).

The interaction between the type of dirty work and intelligence was not significant ($F(2, 779) = 1.57$; $p = .209$; $\eta_p^2 = .004$). The perceived level of intelligence had no impact on the long-term stigmatization of people who perform physical dirty work ($F(1, 259) = 2.033$, $p = .155$, $\eta_p^2 = .008$) or social dirty work ($F(1, 263) = 3.168$, $p = .076$, $\eta_p^2 = .012$). In contrast, perceived intelligence was significant for perceptions of moral dirty work ($F(1, 256) = 9.857$, $p = .002$, $\eta_p^2 = .037$) (see Figure 1).

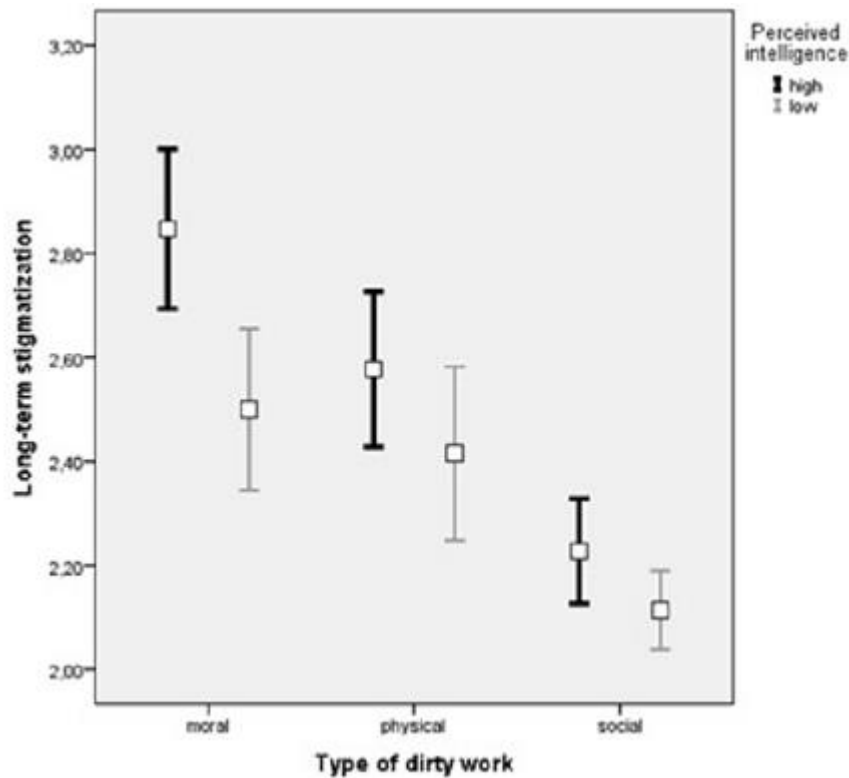


Fig1. Means and 95 % confidence intervals for long-term stigmatization by conditions

The effect of the implicit theory of intelligence as a covariate was not significant ($F(1, 780) = .040; p = .842; \eta_p^2 = .000$). Gender ($F(1, 780) = .053, p = .371, \eta_p^2 = .001$) and age ($F(1, 780) = .026, p = .840, \eta_p^2 = .000$) also had no effect.

Discussion

The aim of the present research was to examine whether perceived levels of intelligence affect the long-term stigmatization of dirty workers. Specifically, we examined the role of high intelligence in reducing stigmatization. The tendency to attribute additional positive traits, intentions and more to somebody who already has a particular socially desired trait is widely described in psychology (e.g., the ‘beautiful-is-good’ effect (Eagly, Ashmore, Makhijani, & Longo, 1991)). In this study, we assumed that perceived high intelligence in people could have a positive halo effect and change attitudes towards them. In summary, we found support for the hypothesis that perceived high intelligence can decrease long-term stigmatization, but these findings related only to moral dirty work. In the cases of physical and social dirty work, participants did not demonstrate any differences in long-term stigmatization between individuals with high and low perceived intelligence. According to Ashforth and Kreiner (2014), physical and social dirty work impose much greater stigma on a person than moral dirty work, because they are associated with dirt. Rozin, Haidt and McCauley (2010) claimed that disgust is an innate

and universal response to the perception of physical dirt that motivates the avoidance of ‘dirty’ people. Moreover, it has been assumed that people whose work is associated with dirt are dehumanized to a greater extent because of an association with animals, and are perceived as people who have lost characteristics that make humans unique (Volpato, Andrighetto, & Baldissarri, 2017). As a result, this strong dehumanization could impact the perception of physical dirty workers and reduce the positive effects from perceived high intelligence, in contrast to moral dirty work which is associated with more ‘human’ characteristics.

We have not found evidence that the relationship between high and low intelligence and stigmatization is perceived in different ways depending on the implicit theory of intelligence (incremental versus entity). It seems that if a person has high intelligence now, it is not important whether they were born with it or it was achieved through the learning process, because this does not change the positive effect of high intelligence. This result does not allow us to accept our hypothesis, but it is consistent with the fact that intelligence can associate in different ways with how a person is perceived, depending on what beliefs about their intelligence people hold. So, Rattan, Savani, Naidu and Dweck (2012) described additional beliefs about intelligence that relate to the potential to become highly intelligent: the universal theory (everyone can achieve high intelligence) and the non-universal theory (only a few people can achieve high intelligence). The fact that we did not evaluate these theories is a limitation in our study because it can be assumed that belief in the uniqueness of high intelligence could increase its positive effect. This assumption requires additional empirical verification in future studies.

In conclusion, the present study is a step to understanding how perceived high intelligence can impact everyday perceptions of and behavior towards different people. We demonstrated that perceived high intelligence might have a positive effect on the perception of members of a stigmatized group (dirty workers), but more research is needed to achieve deeper understanding of the role of perceived intelligence in everyday perception.

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