Social Status and Motivated Beliefs*

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Abstract

This paper shows that social status determines economic achievement by means of a psychological mechanism. Specifically, social status influences the way individuals form beliefs about their abilities and these beliefs are crucial for achievement. A theoretical framework formalizes the proposed mechanism and generates a set of testable predictions. Data from a cohort study and from two controlled experiments corroborate the validity of the theoretical predictions and, thus, of the proposed mechanism. This study highlights the role of social status in creating constraints that are internal to the individual and that have the potential to impair economic success.

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1. Introduction

How does social status affect economic success? This question has received considerable attention from economists, who have established that pecuniary aspects of social status in early stages of life are important for explaining economic outcomes at adulthood.[1] This study proposes a novel mechanism linking social status to economic achievement. Specifically, I propose that the initial position of individuals in society determines how they form beliefs about their own abilities, and these beliefs have a considerable influence on achievement.

Typically, the influence of social status on economic success has been attributed to financial advantages inherent to the social position that is held. For instance, higher social status at birth, associated with higher parental income, allows for the provision of higher-quality education, higher quality-healthcare, and grants easier access to credit, all of which increase the chances of economic success (Okten and Osili, 2004, Deaton, 2003, Uzzi, 1999, Fershtman and Murphy, 1996). These approaches focus on the role of constraints, or the lack of them, generated by social status that are *external* to individuals. In other words, they assume that regardless of preferences, beliefs, or behavioral biases, that individuals face limited access to certain markets of goods and services due to their position in society suffices to impair their economic success. In contrast, this study proposes and identifies a mechanism whereby social status confers advantages or disadvantages via constraints that are *internal* to individuals. Specifically, I show that social status, above and beyond the material advantages and disadvantages that it entails, induces beliefs that can constrain or encourage individual achievement.[2]

Central to my proposal is the notion that individuals' beliefs about their abilities and performance on productive activities are positively related (See Dalton et al. (2016), Koszegi (2006), Compte and Postlewaite (2004), and Benabou and Tirole (2002) for some evidence on this influence of beliefs). This relationship implies that economic achievement is not only determined by individual abilities, but it can be reinforced or undermined by individual beliefs about those abilities. Moreover, individuals are sophisticated inasmuch as they understand how beliefs and performance are related. However, when advantageous, they can use their position in society to hold favorable but potentially incorrect beliefs. Thus, individuals belonging to a high status can form high beliefs about their abilities even though those abilities could in fact be low. These deluded beliefs are justified by attributing their social

[1] For example, parents' income and education (Plug and Vijverberg, 2005, 2003, Sacerdote, 2002), pre-natal and neo-natal care and conditions (Field et al., 2009, Bharadwaj et al., 2013), and neighborhood during childhood (Chetty and Hendren, 2018, Chetty et al., 2015, Borjas, 1995), among others.

[2] An extended definition and an informative discussion of internal and external constraints can be found in Ghatak (2015).

standing to their ability using the prevalent conceptions of meritocracy in the society, or by envisioning successful role models that share similar backgrounds. The possibility that profitable self-serving beliefs can be formed in such way creates a considerable disadvantage for low status individuals, who cannot form and maintain high beliefs in a similar vein as high status individuals can. This disadvantage leads them to achieve economic outcomes below their potential.

To establish the existence of the proposed mechanism, I examine through theoretical reasoning and empirical methods whether individuals with similar abilities exhibit beliefs and achievement differences when belonging to different social status. Thus, the theoretical and empirical frameworks considered in this paper either assume or are constructed in a way that ensure that final economic outcomes can be exclusively achieved by means of ability and motivation. This feature is advantageous for the purpose of this study inasmuch as a potential influence of external constraints can be ruled out. Additionally, confining myself to such setup allows me to provide simple theoretical conditions guaranteeing the existence of the proposed mechanism as well as the possibility to create clean corroborative evidence. Nevertheless, these advantages come at the cost of generalizability, and the present study should be regarded as a proof of concept of the suggested influence of social status.[3]

Throughout this paper I adhere to Ridgeway and Walker (1995)'s definition of social status, who characterize it as the *"rank between individuals associated with prestige"*. According to their definition, social status is a standing in the society that involves a degree of social recognition, but it does not necessarily entail pecuniary advantages and is not necessarily earned. Standard economic theory predicts that these *mere* social ranks do not influence achievement in the considered framework. However, the main result presented in this paper goes against this prediction. I show theoretically and empirically that social ranks, even when they do not yield material advantages and do not entail valuable information about individual ability, influence achievement by means of the different beliefs, i.e. the internal constraints, that they engender.

A theoretical model formalizes the proposed mechanism and provides testable predictions. The model demonstrates that social status influences beliefs about ability and performance on a productive task. This result emerges despite stringent assumptions being imposed. Specifically, it is assumed that individuals are fully informed about their ability on the task, they know that social status and ability can be correlated, and are informed about

[3] A more complete modeling framework should determine whether the proposed mechanism emerges in a setting where individuals have access to relevant markets of goods and services. The most prominent difficulties of using those setups are that it is theoretically difficult to determine which markets to include in the model and it is empirically involving to distinguish the influence of internal or external constraints on economic achievement in such context.

the exact degree of correlation between these two variables. In such a setting, social status cannot influence performance due to individuals being misinformed. However, individuals can incorrectly, but deliberately, incorporate an assigned social status in their belief system as long as such inaccuracy is profitable. When sufficiently large, the benefits of forming these self-serving beliefs can make up for the costs of being inaccurate. In such case, social status will affect beliefs and, thus, performance on the task. In contrast, when the costs of being inaccurate are too steep *or* when utility is standard, in that it exclusively depends on the monetary rewards offered by the task, beliefs and performance are not be influenced by social status. These two opposing results develop into the main testable predictions of the model.

Data from the British cohort study provide survey evidence that is consistent with the proposed mechanism. These data comprise information of all individuals born in Britain during a week of 1970 over most of their lifespan. With these data I investigate whether the individuals' beliefs and hopes about their future educational achievement, measured at adolescence, are determined by their social status at birth, and whether this influence transcends in their life affecting economic achievement at adulthood. That aspirations are influenced by initial social status, and that they determine achievement is in line with my proposal. I indeed find that individuals born in high socio-economic status households exhibit a higher likelihood of aspiring to high education levels as compared to individuals born in low socio-economic status households. The data also suggest that this positive relationship between educational aspirations and socio-economic status at birth has a considerable impact on the individuals' achieved socio-economic status. Importantly, these results are robust to controlling for factors that are well-known to affect achievement such as cognitive ability (Cunha et al., 2010), non-cognitive traits such as personality and locus of control (Heckman et al., 2006, Bowles et al., 2001), parents' expectations (Besley, 2016, Jensen, 2010), and neighborhood characteristics (Chetty and Hendren, 2018, Chetty et al., 2015).

While the cohort study data presents the important conclusion that beliefs are determinant to the economic outcomes in the life of individuals, these data are unable to conclusively show that such influence is due to the motivated beliefs that social status confers. Hence, to complement these results I run two controlled laboratory experiments. In the experiments, subjects are assigned to one of two treatments: high status or low status. Belonging to high status entailed receiving social recognition from other participants in the experiment and a positional good, a medal, with low market value. These treatment properties were included to be consistent with the chosen definition of social status. Moreover, a cognitively challenging task, for which performance is more likely to depend on subjects' ability rather than on their motivation, is implemented before and after the status assignment took place. The first implementation serves to classify participants according to their initial ability on the task. The second implementation measures performance after social status is assigned and in a setup in which the accurate completion of the task is rewarded with monetary incentives. Throughout the experiments subjects are given feedback on the task as well as the opportunity to access a rank that informs them about how well they perform the task in comparison to others in the same session. In addition, the beliefs of subjects about how well they perform the task were elicited on multiple occasions throughout a session.

In the first experiment, subjects were *randomly* assigned high or low status. The main finding of this experiment is that low ability subjects assigned to low status display low performance levels while subjects with similar ability who were assigned to high status display high performance. The same qualitative dependence with respect to social status emerges in the subjects' beliefs data. Altogether, these results corroborate the proposed mechanism: individuals with the capacity to reach high outcomes become internally constrained when assigned to low status, causing them to form low beliefs which are followed by low performance levels. The second experiment is different in that the assignment to high status was *meritocratic*. Hence, subjects who exhibited higher ability on the task in the first implementation of the task were assigned to high status. The data from this experiment show that subjects with low ability display low performance as well as low beliefs. The results of the second experiment corroborate the conclusion that social status assignment was the sole driving force behind the differences in performance and beliefs found in the first experiment.

Finally, data on the subjects' decision to acquire information about their performance on the task relative to that of others conclusively shows that social status, when favorable, is used by subjects to form and maintain motivated beliefs. Specifically, subjects who benefited the most from the high status assignment—those who exhibit higher performance and beliefs when assigned to this treatment—are less likely to acquire the relative performance information. This result suggests that these subjects successfully boosted their motivation on the task by deliberately misinterpreting the social status assignment and avoided acquiring information that could contradict those self-serving beliefs.

Contribution to existing literature

This paper contributes to multiple strands of literature. First, it contributes to the literature on confidence maintenance and motivated beliefs (Benabou, 2015, Mobius et al., 2014, Compte and Postlewaite, 2004, Benabou and Tirole, 2002). While the theoretical framework is an adaptation of Benabou (2015) and Benabou and Tirole (2002), my results add novel interpretations and attributes to these models. For instance, I show that another mechanism to induce motivated beliefs, next to imperfect recall, is the deliberate misinterpretation of social status and social signals. Also, I show that in the presence of two dimensions of types, i.e. ability and social status, and the possibility that these two dimensions are correlated, the intrapersonal equilibria depicted in Benabou (2015) emerges and is sustained under fairly similar conditions.

Moreover, the experimental data display clean evidence of subjects engaging in motivated beliefs contingent on their assigned social status. In particular, subjects suppress relevant information about their ability, e.g. frequent and different feedback on the task, and instead behave according to their assigned social status when such assignment is favorable. These data also suggest that, when given the chance, subjects acquire less information about their relative performance on the task when this information can contradict a favorable status assignment and, as a consequence, can be detrimental to maintaining a high self-confidence on the task. Altogether, these findings support the results of Eil and Rao (2011) and Mobius et al. (2014) in a context whereby favorable or unfavorable news are determined by the assigned social status.

Second, the present paper adds to the theoretical literature that investigates the influence of social status on economic outcomes. The literature on this topic shows that the inclusion of preferences for social status — that is, that individuals intrinsically prefer to outrank others — could explain relevant economic phenomena. For instance, individual preferences for social status create consumption and saving behaviors that create and perpetuate inequality (Ray and Robson, 2012, Hopkins and Kornienko, 2010, 2004, Robson, 1992). Also, these preferences allow a principal achieve higher worker performance by implementing contests within the organization (Besley and Ghatak, 2008, Auriol and Renault, 2008, Moldovanu et al., 2007). I contribute to this literature by demonstrating that social status has the potential to generate unequal outcomes in the absence of preferences for social status, as well as in the absence of environments where there is competition for social status.

Finally, this paper contributes to the recent literature in economics that studies the influence of psychological factors such as aspirations, beliefs, and self-esteem on economic achievement (Genicot and Ray, 2017, Dalton et al., 2016, Bogliacino and Ortoleva, 2015, Blanden et al., 2007, Bowles et al., 2001). My contribution to this strand of literature consists in formalizing and empirically corroborating a novel mechanism that explains how individuals who belong to a low social status can exhibit low achievement as a consequence of having low aspirations, low expectations, or low beliefs about their own capabilities. There are multiple differences with respect to previous literature. On the theoretical side, individuals in my model internalize the positive relationship between performance and beliefs, which is the main difference with respect to Dalton et al. (2016). Moreover, in comparison to Genicot and Ray (2017), Bogliacino and Ortoleva (2015), and Dalton et al. (2016), I do not assume that individuals' preferences exhibit non-convexities which can capture the notion that excessively high beliefs — aspirations in their setup —, lead to frustration and consequently yield low outcomes. In my model, an interaction within the individual, used to model self-deception, captures this property. In particular, the model states that excessively favorable beliefs about ability are deemed not credible, and thus lead to low achievement. On the empirical side, the experimental data provide clean and conclusive evidence of subjects exhibiting motivated beliefs as a consequence of receiving a high status assignment. The cohort data shows that this phenomenon emerges in the life of individuals and is not restricted to occur in the lab.

2. Theoretical framework

The aim of this section is twofold. First, it formalizes the proposed mechanism. Second, it provides a set of testable predictions. The main merit of the model is that it demonstrates that social status influences beliefs and performance under stringent conditions. The model is an adaptation of the theory of motivated beliefs developed by Benabou and Tirole (2002) and Benabou (2015). However, the results presented in this section add novel insights to their models. Readers interested in more elaborated theoretical frameworks of motivated beliefs should refer to those papers.

The benchmark

Consider a risk-neutral individual facing a time horizon of three periods $t = 0, 1, 2$. The individual's problem consists of exerting effort on a productive task at $t = 1$ given some set of information received at $t = 0$, to enjoy the monetary benefits derived from production on the task at $t = 2$.

In particular, at $t = 0$ the individual receives accurate information about his ability. Receiving this information can be interpreted as the individual receiving reliable feedback about his past performance on this or similar tasks. For simplicity, I consider two ability levels on the task: high and low. Formally, let ability be the variable $\theta_i \in \{\theta_H, \theta_L\}$ where $\theta_H > \theta_L$. Moreover, I assume that the distribution of ability is known: if an individual were to be drawn at random from the population he would be of high ability with probability $q \in [0, 1]$.

At $t = 0$ the individual also receives a status class that endows him with a social standing. There are two status classes in the society: high and low. I represent social status with the variable $\sigma_j \in \{\sigma_H, \sigma_L\}$. It is known that if an individual were drawn at random from the population he would belong to the high status with probability $r \in (0,1)$.[4] [5]

Moreover, it is assumed that ability and status can be non-negatively correlated. This assumption captures the idea that there could be different degrees of meritocracy in the society: when this correlation is zero status and ability are independent of each other, but when this correlation is large the society is very meritocratic. Formally, let

$$\begin{aligned} \text{prob}(\theta_H, \sigma_H) &= \text{prob}(\theta_H)\text{prob}(\sigma_H) + \text{corr}(\theta_H, \sigma_H) \\ &= qr + \epsilon, \end{aligned} \tag{1}$$

where the parameter $\epsilon \in [0, \overline{e}(q,r)]$ captures the correlation between having a high social position and having high ability.[6] The degree of correlation between low status and low ability is also captured by ϵ. Hence, the relationship between social status and ability is symmetric.[7] I assume that the individual not only knows that status and ability are correlated in a symmetric way, but also knows the precise magnitude of ϵ.

After receiving information, the individual decides at $t = 1$ on the amount of effort to exert in the productive task. Let effort be a binary variable $e \in \{e_H, e_L\}$, with $e_H > e_L \geq 0$. Additionally, assume for simplicity that $\Delta e := e_H - e_L = 1$. The agent faces the following trade-off. On one hand, choosing high effort, e_H, generates disutility. I represent such cost of exerting high effort through the function $c(e)$, which is assumed to have the following functional form:

Assumption 1. $c(e) = \begin{cases} c & \textit{if } e_H, \\ 0 & \textit{if } e_L. \end{cases}$ *Where* $c > 0$.

On the other hand, exerting high effort implies receiving larger monetary rewards at $t = 2$, as long as effort and production on the task relate positively. Indeed, it is assumed that effort raises output in a deterministic way. The following assumption presents the production function used throughout the present analysis:

Assumption 2. $f(e, \theta_i) = \theta_i e$.

[4] The fact that $r \in (0,1)$ entails that not all individuals in the society can belong to the high status, maintaining the desirability of high social status.

[5] This way of modeling status is adequate in settings whereby status is assigned or exogenously given, but it is not in settings whereby status can be earned as it is the case in contests for status. The work by Auriol and Renault (2008) and Moldovanu et al. (2007) provide complete theoretical frameworks for contests for social status.

[6] The upper bound of ϵ is defined by standard probability rules: $0 \leq prob(\theta_H, \sigma_H) \leq 1$. Hence, $\overline{e}(q,r)$ is either $\overline{e}(q,r) = (1-q)r$ if $q \geq r$ or $\overline{e}(q,r) = (1-r)q$ if $r > q$. Note that for both cases $\overline{e}(q,r) < 1$.

[7] Symmetry emerges as a necessary condition required to respect the assumed marginal probabilities under the representation $prob(\theta_H, \sigma_H) = prob(\theta_H)prob(\sigma_H) + corr(\theta_H, \sigma_H) = qr + \epsilon$. In other words, note that $prob(\theta_H, \sigma_H) + prob(\theta_H, \sigma_L) = q = prob(\theta_H)$ and also $prob(\theta_L, \sigma_H) + prob(\theta_L, \sigma_L) = 1 - q = prob(\theta_L)$ only if symmetry is assumed.

Finally, I assume that the individual can experience psychological utility. This component of utility captures the idea that maintaining high confidence about ability can generate utility gains when the individual works on the task.[8] I model psychological utility by incorporating the individual's belief about his own performance in the utility function:

Assumption 3. $\psi(e, \theta_i) = \mathbb{E}_1(\theta_i e)$.

All in all, the utility of the individual at $t = 1$ can be written as:[9]

$$U_1(e) = af(e, \theta_i) + s\psi(e, \theta_i) - c(e), \tag{2}$$

where $a > 0$ represents a monetary amount that symbolizes the rewards that the agent receives in exchange of producing some level of output y, and $s \geq 0$ weights the impact of psychological utility on the agent's utility. Since in this setting the individual is fully informed about his ability, then psychological utility reduces to $\mathbb{E}_1(\theta_i e) = \theta_i e$, and equation (2) becomes:

$$U_1(e) = (a + s)\theta_i e - c(e). \tag{3}$$

From equation (3) it can be established that the individual chooses e_H if such choice is profitable. That is whenever $U_1(e_H) \geq U_1(e_L) \Leftrightarrow (a+s)\theta_i \geq c$. Instead, if the cost of effort is such that $c > (a + s)\theta_i$, low effort is chosen. In what is left of the theoretical model, I focus on the interval $c \in \Big((a + s)\theta_L, (a + s)\theta_H\Big]$. The reason is that this interval encompasses the relevant case in which, absent self-deception, only high ability individuals choose to exert high effort.

Note that the model, as it is, predicts that the individual's decision to exert high effort is not affected by his social status. That is because σ_j has no economic or psychological value to him and does not yield any advantage to perform the task. Therefore, in this environment, where individuals achieve outcomes by means of their own ability and effort, the status of an individual does not affect his outcomes.

Motivated beliefs from self-deception

I depart from the benchmark by introducing self-deception in the model. That is, I let the individual deliberately hold erroneous beliefs about his own ability. However, instead

[8]An alternative explanation is given by (Benabou, 2015) were psychological utility is due to the emotions and psychosomatic reactions that the agent experiences from anticipating the future welfare levels that he will attain. Similarly, Compte and Postlewaite (2004) shows that keeping optimistic views about oneself, based on past experiences, could enhance future performance, and thus welfare.

[9]An implicit assumption made at this point is that the individual discounts utility using an exponential discount function, $D(t) = \sum_0^T \delta^t$ and that, without loss of generality, he is infinitely patient, $\delta = 1$.

of letting the individual freely manipulate his beliefs, I model self-deception as a strategic interaction within the individual. Thus, in this framework incorrect beliefs about ability are deliberate and emerge as an equilibrium outcome.

Assume that there are two selves within the individual. An informed self or *Self 0* who is informed about ability and social status, and an uninformed self, *Self 1*, who has the task of choosing effort without knowing θ_i nor σ_j. The interaction between these two selves consists on the transmission of relevant information: Self 0 uses the available information to send an ability signal to Self 1. Let this signal be the variable $\tilde{\theta}_k \in \{\tilde{\theta}_H, \tilde{\theta}_L\}$. In particular, $\tilde{\theta}_k$ may be truthful, accurately mapping the agent's ability $k = i$, or may be distorted, $k = j$ with $i \neq j$. Importantly, I assume that if Self 0 distorts the truth, he may do so as long as his endowed social status supports the signal that is sent to Self 1. In other words, lies need to be supported by social status and cannot be fabricated out of nothing.

The information asymmetry between the selves generates a strategic interaction. To derive higher monetary rewards, generate higher psychological utility from holding high beliefs, or to save on effort costs, Self 0 can send signals that induce inaccurate beliefs. At the same time, these inaccurate beliefs can affect Self 1's choice of effort.[10]

Self 1 is not naive, since to optimally choose effort he makes inference about the veracity of the signal $\tilde{\theta}_k$. Specifically, he discounts the received signal using Bayes' rule: when $\tilde{\theta}_k$ is received, he acknowledges that with probability $\lambda_k \in [0, 1]$ Self 0 is telling the truth and he is of ability θ_k, but also that with probability $1 - \lambda_k$ Self 0 is lying and he is instead of ability θ_{-k}, the ability level corresponding to the signal *that was not sent* by Self 0. Figure 1 illustrates Self 1's updating process. Importantly, note that $\lambda_k \in [0, 1]$ is an endogenous probability, implying that Self 0 can engage in mixed strategies and that Self 1 can respond to such a strategy accordingly.

In particular, Self 1's posterior probability that a signal $\tilde{\theta}_H$ reflects his ability is:

$$p_H(\lambda_H, \lambda_L) = \frac{qr + \lambda_H q(1-r) + \epsilon(1-\lambda_H)}{qr + \lambda_H q(1-r) + \epsilon(1-\lambda_H) + \chi\left(r(1-q) - \epsilon\right)(1-\lambda_L)}. \tag{4}$$

Similarly, Self 1's posterior probability that a signal $\tilde{\theta}_L$ reflects his ability is:

$$p_L(\lambda_H, \lambda_L) = \frac{(1-q)(1-r) + \lambda_L(1-q)r + \epsilon(1-\lambda_L)}{(1-q)(1-r) + \lambda_L(1-q)r + \epsilon(1-\lambda_L) + \chi\left(q(1-r) - \epsilon\right)(1-\lambda_H)}. \tag{5}$$

[10] To build intuition about the incentives that Self 0 faces, consider an scenario in which an agent received at $t = 0$ a low ability and high status tuple: $\{\theta_L, \sigma_H\}$. In such case, Self 0 could either send $\tilde{\theta}_L$, a signal reflecting his true ability, or $\tilde{\theta}_H$, a distorted signal. Note that the psychological component $\mathbb{E}_1(\theta_i e)$ becomes higher when Self 1 believes that his ability are high. However, these beliefs also lead to steeper costs of effort if those higher beliefs lead Self 1 to choose e_H. Thus, depending on how costly is to choose the high level of effort, Self 0 could be better off distorting information.

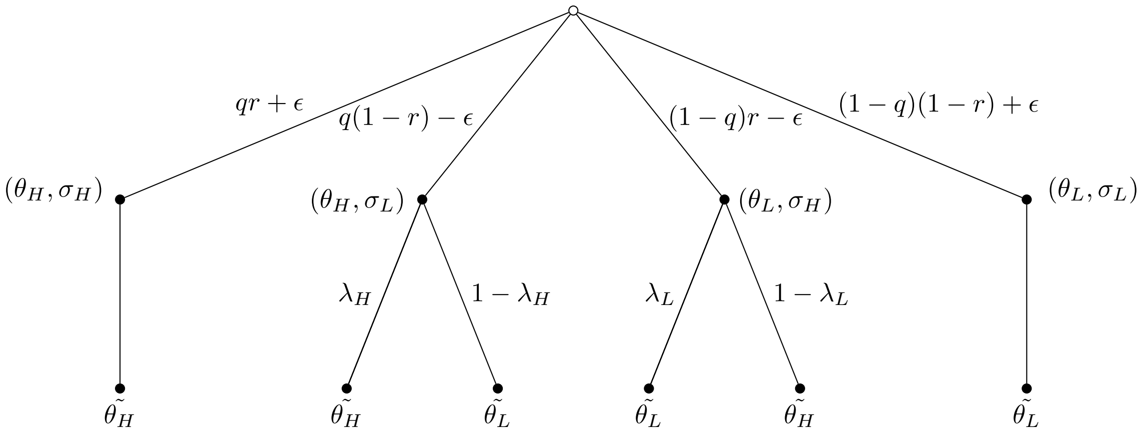

Figure 1: Self 1's reaction to signals

The equations above feature a crucial intuition of this model. Equation (4) shows that the posterior probability $p_H(\lambda_H, \lambda_L)$ depends on λ_L, the probability that low ability types tell the truth. Specifically, if Self 0 with low ability *never* engages in self-deception, a favorable signal, $\tilde{\theta_H}$, is credible and is always regarded as truthful, implying that the posterior becomes $p_H(\lambda_H, 1) = 1$. In contrast, if Self 0 with low ability *always* engages in self-deception, a favorable signal is not credible and Self 1 assesses the probability of having high ability according to his prior probability of having a high ability.[11] Similarly, using equation (5) it can be established that $p_L(\lambda_H, \lambda_L)$ decreases with higher values of λ_H, the probability that high ability types tell the truth.[12] [13]

We are now in a position to describe the way in which Self 1 forms beliefs upon receiving $\tilde{\theta_k}$. Equations (4) and (5) imply that Self 1's beliefs about his ability are given by:

$$\mathbb{E}_1\Big(\theta_k|\tilde{\theta}_k\Big) = p_k(\lambda_H, \lambda_L)\theta_k + \Big(1 - p_k(\lambda_H, \lambda_L)\Big)\theta_{-k}. \tag{6}$$

Given these beliefs, Self 1's program is:

$$\max_{e \in \{e_H, e_L\}} \quad (a+s)\mathbb{E}_1\Big(\theta_k|\tilde{\theta}_k\Big)e - c(e) \tag{7}$$

The intuition of equations (4) and (5) entails that the solution to Self 1's program depends

[11]The specific value of the posterior when $\lambda_L = 0$ is $p_H(\lambda_H, 0) = \frac{qr+\lambda_H q(1-r))+\epsilon(1-\lambda_H)}{qr+\lambda_H q(1-r))+\epsilon(1-\lambda_H)+\chi(r(1-q)-\epsilon)}$, which corresponds to his prior when the received signal is not informative.

[12]Specifically, if $\lambda_H = 1$ an unfavorable signal, $\tilde{\theta_L}$, is always regarded as truthful and $p_L(1, \lambda_L) = 1$, while if $\lambda_H = 0$ an unfavorable signal is regarded as non-credible and Self 1 assesses the probability that he is a low type using his prior probability for some value of λ_L.

[13]The parameter $\chi \in (0, 1]$ included in equations (4) and (5), captures how Bayesian the individual is. As $\chi \to 0$ Self 1 becomes increasingly naive and is more likely to believe a received signal. Instead when $\chi = 1$, signals are discounted strictly according to Bayes' rule.

on λ_H and λ_L. When the received signal is favorable and lying is not profitable for the low type, so that $\lambda_L = 1$, the received signal is informative and high effort is exerted. Instead, when lying is profitable for the low type and a favorable signal is received, such signal is disregarded and low effort is exerted. Hence, since we are allowing for mixed strategies, there must exist a probability of telling the truth $\hat{\lambda}_L \in (0, 1)$ that makes Self 1 indifferent between exerting high effort or not, implying that values above (below) this probability make favorable signals (not) credible and thus non-informative. A similar intuition underlies the case in which an unfavorable signal was received. Lemma 1 formalizes the above intuition and proves that the solution for Self 1's program indeed depends on the magnitude of endogenous probabilities λ_H and λ_L. The proofs of the main theoretical results are relegated to Appendix A.

Lemma 1. *Under Assumptions 1, 2, and 3, the optimal effort chosen by Self 1 after receiving a signal $\tilde{\theta}_k$ is given by the function:*

$$e(\tilde{\theta}_k) = \begin{cases} e_H & \text{if } \tilde{\theta}_H \text{ and } \lambda_L \in [\hat{\lambda}_L, 1], \\ e_H & \text{if } \tilde{\theta}_L \text{ and } \lambda_H \in [0, \hat{\lambda}_H]. \end{cases}$$

Where $\hat{\lambda}_L$ and $\hat{\lambda}_H$ are threshold probabilities satisfying:

$$\hat{\lambda}_L = 1 - \frac{(\theta_H(a+s) - c)\left(qr + \lambda_H q(1-r) + \epsilon(1-\lambda_H)\right)}{\left(c - \theta_L(a+s)\right)\chi\left((1-q)r - \epsilon\right)},$$

and

$$\hat{\lambda}_H = 1 - \frac{(\theta_H(a+s) - c)\Big((1-q)(1-r) + \lambda_L(1-q)r + \epsilon(1-\lambda_L)\Big)}{\left(c - \theta_L(a+s)\right)\chi(q(1-r) - \epsilon)}.$$

From a game-theoretic perspective, Lemma 1 is the reaction function of Self 1, which depends on the signal chosen by Self 0. The merit of this lemma consists in proving the existence of a threshold probability $\hat{\lambda}_{-k}$ that makes Self 1 indifferent between choosing e_H or e_L upon receiving a signal $\tilde{\theta}_k$, where $k = i$ or $k = j$ and $i \neq j$. In particular, high effort is exerted when this threshold probability is either surpassed, for the case in which Self 0 sends an favorable signal, or when this threshold probability is higher, for the case in which Self 0 sends an unfavorable signal.

Before proceeding to analyze Self 0's optimal choice, it is assumed that Self 0 faces a cost $m(\lambda)$ when engaging in self-deception. The intuition behind this assumption is that forgetting or suppressing relevant information is cognitively costly. Specifically, the following cost schedule is assumed:

Assumption 4. $m(\lambda) = \begin{cases} m \text{ if } \lambda_i < 1, \\ 0 \text{ if } \lambda_i = 1. \end{cases}$ *With $m > 0$ and $\lambda_i = \{\lambda_L, \lambda_H\}$.*

All in all, Self 0's program can be written as:

$$\max_{\lambda_i \in [0,1]} \quad (a+s)\mathbb{E}_0\Big(U(e,\lambda_i)\Big) - m(\lambda) \tag{8}$$

The programs of Self 0 and Self 1 illustrate the strategic interaction between them. As mentioned before, this strategic interaction is caused by an information asymmetry, which can lead the selves to hold different beliefs. For instance, when receiving a favorable signal, Self 1's beliefs about his ability are equal to $\mathbb{E}_1(\theta_i) = \Big((\theta_H - \theta_L)p_H(\lambda_H, \lambda_L) + \theta_H\Big)$ and Self 0's beliefs about Self 1's beliefs are equal to $\mathbb{E}_0(\mathbb{E}_1(\theta_i)) = \lambda_i\theta_i + (1-\lambda_i)\Big((\theta_H - \theta_L)p_H(\lambda_H, \lambda_L) + \theta_H\Big)$. These two beliefs are different unless $\lambda_i = 0$. Since in this model beliefs enter the utility function instrumentally, that the selves hold different beliefs implies that they can maximize different objective functions.

The game between the two selves is solved using subgame perfect nash equilibrium. The relevant equilibria of the game are defined in Definition 1 and Definition 2, and their existence is guaranteed by Proposition 1 and Proposition 2. Other equilibria of the game and their proofs are relegated to Appendix B. I start by defining and proving the existence of an equilibrium in which social status determines the effort choice and beliefs of low ability individuals.

Definition 1. *A semi-pooling equilibrium of the status and self-deception game is characterized by the tuple $(\lambda_p^{**}, e_p^{**})$, where:*

$$e_p^{**} = \begin{cases} e_L & \text{if } (\theta_L, \sigma_L), \\ e_H & \text{if } (\theta_L, \sigma_H) \text{ or } \theta_H, \end{cases}$$

and

$$\lambda_p^{**} = \begin{cases} 1 & \text{if } (\theta_L, \sigma_L) \text{ and } \theta_H, \\ \hat{\lambda}_L & \text{if } (\theta_L, \sigma_H). \end{cases}$$

Proposition 1. *Under Assumptions 1, 2, 3, and 4, a semi-pooling equilibrium is sustained if $s > 0$, $c \leq \bar{c}$, and $m \leq \bar{m}$, where $\bar{c} := (a+s)\left(\frac{se_H q\theta_H + \chi((1-q)r-\epsilon)(m-(a+s)\theta_L)}{se_H q + (a+s)\chi((1-q)r-\epsilon)}\right)$ and $\bar{m} := \frac{se_H q(\theta_H - \theta_L)}{q + \chi(r(1-q)-\epsilon)}$.*

The equilibrium proved by Proposition 1 features a low ability individual who exerts high effort if he belongs to the high status, but exerts low effort otherwise. Such difference in effort choice stems from the higher beliefs that a low ability individual can form when endowed the high status. While such ability beliefs are obviously inaccurate, they generate utility gains from psychological utility which, in conjunction with a sufficiently low cost of effort and a sufficiently low cost of self-deception, make it affordable for the individual to choose e_H. This equilibrium entails a disadvantage for the low status individual who performs below his capabilities.

This equilibrium emerges and is sustained in the following way. Self 0 with $\{\theta_L, \sigma_H\}$ engages in a mixed strategy that maintains the informativeness of favorable signals while at the same time incentivizing e_H. In particular, he sends favorable signals at the rate $1 - \hat{\lambda}_L$, which, according to Lemma 1, makes Self 1 indifferent between choosing high and low effort. Self 1 responds to this indifference by choosing high effort. Given this equilibrium behavior of low ability individuals with high status, high ability individuals of any status conceive that their best-strategy is to be truthful inasmuch as favorable signals are still credible and this strategy is more profitable than engaging in self-deception. These behavior of high ability individuals reinforces the tendency of low ability individuals to engage in self-deception using a mixed strategy.

As it was already mentioned, that such semi-pooling equilibrium is a solution to the game requires that the costs of self-deception, m, and the costs of high effort, c are moderate. Otherwise, the psychological benefits that low ability individuals derive from holding higher beliefs cannot make up for the consequences of such inaccuracy. These conditions are comparable to the conditions that sustain the "intra-personal equilibria" in Benabou (2015) and Benabou and Tirole (2002). In addition, the existence of the equilibrium in Proposition 1 requires $s > 0$, otherwise an individual with low ability would not experience psychological benefits from engaging in a strategy of self-deception.

Next, I examine how changes in the degree of correlation between status and ability, captured by the parameter ϵ, affect the requirements to sustain the emergence of the semi-pooling equilibrium. Corollary 1 demonstrates that a higher correlation between ability and status, ϵ, weakens the conditions guaranteeing the existence of the semi-pooling equilibrium.

Corollary 1. *The thresholds $\overline{c}$ and $\overline{m}$, defined in Proposition 1, increase in ϵ, the correlation level between status and ability.*

The intuition behind the above comparative static is simple: while a larger value of ϵ entails that individuals receive more often a social status that matches their ability, those that can still engage in self-deception can afford higher costs of effort and/or higher costs of self-deception since they can more easily convince themselves of an inaccurate belief. An alternative interpretation for this result relaxes the assumption that the parameter ϵ is known.

In such setting, individuals can more easily form high beliefs after receiving the high status when they overestimate the correlation between status and ability, due to, for example, social conceptions about meritocracy. The latter interpretation of the Corollary is very appealing, it states that self-serving beliefs arising from social status are more likely to emerge when the relationship between ability and status is overestimated and/or overweighted.[14]

Alternatively, when the costs associated to the self-deception strategy are high, individuals are better off self-signaling their true ability. Proposition 2 presents the conditions sustaining this *separating equilibrium*.

Definition 2. *A separating equilibrium of the status and self-deception game is characterized by the tuple* $(\lambda_s^{**}, e_s^{**})$*, where*

$$e_s^{**} = \begin{cases} e_L & \textit{if } \theta_L, \\ e_H & \textit{if } \theta_H, \end{cases}$$

as well as

$$\lambda_s^{**} = \lambda_L^{**} = \lambda_H^{**} = 1$$

Proposition 2. *Under Assumptions 1, 2, 3, and 4, there exists a separating equilibrium that is sustained if* $s > 0$ *and* $m > \bar{m}$*, where* $\bar{m} := \frac{s e_H q(\theta_H - \theta_L)}{q + \chi(r(1-q) - \epsilon)}$.

The equilibrium proved by Proposition 2 entails that social status has no economic consequences. That is because self-deception is not profitable, and also because social status, as defined in this model, confers no advantages to perform the task. This equilibrium is sustained as follows. Low ability individuals face costs that cannot be outweighed by the potential benefits of self-deception, which persuades them to be truthful. Anticipating this equilibrium behavior of low ability individuals, high ability individuals opt for being truthful since favorable signals remain credible and such strategy is more profitable than self-deception. Self 1, knowing that being truthful is best strategy for both types, exerts low and high effort in reaction to unfavorable and favorable signals, respectively.[15]

To summarize, the present model generates two competing results. Proposition 1 demonstrates that social status generates beliefs and performance differences among similarly skilled individuals through motivated beliefs. This equilibrium is in line with my proposal. In contrast, Proposition 2 and the benchmark of the model show that social status, as defined

[14] Other interesting comparative statics that will not be tested empirically, and thus become less relevant to the paper, are that the thresholds $\overline{c}$ and $\overline{m}$, defined in Proposition 1, increase in q and decrease in r and χ.

[15] The conditions ensuring the existence of this separating equilibrium become more stringent as $r \to 0$, $q \to 1$, and $\chi \to 1$. These comparative statics of the parameters of the model show that the equilibria of Proposition 1 and Proposition 2 cannot coexist and are more likely to be sustained when the other equilibrium is less likely to be sustained.

in this paper, is not powerful enough to yield relevant economic consequences. The question of whether one or the other equilibrium governs behavior will be empirically investigated using survey data as well as two controlled laboratory experiments.

3. Survey evidence

In this section I present empirical evidence that is consistent with the proposed mechanism. In particular, I use data from a cohort study to show that the participants' socio-economic status at an adult age is determined by their social status at birth, and that this effect is explained by the influence that status at birth has on the educational beliefs and hopes that they hold at adolescence. Moreover, I show that this mechanism is robust to accounting for factors that have been previously shown to be determinant to economic achievement.

I analyze data from the British cohort study, which follows all individuals born in the United Kingdom in the third week of April 1970. The waves or follow-ups of the study correspond to the years 1975, 1980, 1986, 1996, 2000, 2004, and 2008. Different information and methods were used in each wave. For instance, in the first wave the midwife present at birth completed a questionnaire, while in the 1975 wave the individual and his/her parents were asked questions and were administered tests. To investigate the validity of the theoretical results presented in Section 2, I use the data gathered in the waves corresponding to the years 1970, 1975, 1980, 1986, and 2008, from which I obtain, among others, the individuals' socio-economic status at birth as measured by their parents' occupation, cognitive abilities at an early age, math and reading abilities measured at late childhood, non-cognitive traits, personality scores, educational aspirations measured at adolescence, and achieved status during adulthood as measured by the individual's main occupation at age 37. Appendix C provide complete descriptions and descriptive statistics of the variables used in the analysis.

Table 1 presents the descriptive statistics of the most relevant variables. *"Status Parents"* is an ordinal variable that captures the parents' occupation when the individual was born, *"Status Adult"* is an ordinal variable that captures the occupation of an individual at age 37, and *"Aspirations"* is an ordinal variable that captures the educational aspirations of the individual at age 16. That these variables attain high values indicates either that the followed individuals or their parents have occupations with higher expected income, or that the individuals aspired to higher education levels. In addition, these variables are constructed in a way that they share the same scale. That is, the variables' categories coincide in that occupations with the highest (lowest) expected income require a degree of education reflected by the highest (lowest) aspiration.[16]

Table 1: Descriptive statistics of variables

Variable	Mean	St. Dev.	Median	Max.	Min.
Aspirations	3.386	1.283	3	5	1
Status Parents	2.931	0.873	3	5	1
Status Adult	3.323	0.831	3	5	1

Note: This table presents the averages, standard deviations, medians, the maximum value and the minimum value of the main variables used in the survey analysis.

The present analysis focuses on the educational aspirations of participants at age 16. Since socio-economic status is defined in the survey according to the type of occupation held by an individual or his/her parents, the aspirations of participants reflects, to a large extent, the socio-economic status that they believe and hope to achieve during adolescence. First, I examine whether socio-economic status at birth influences educational aspirations above and beyond the influence that other relevant factors might have on this variable, such as for example cognitive skills. To that end, I first regress Aspirations on Status Birth while controlling for an extensive set of variables. The estimates of ordered logistic regressions are presented in columns 1,2, and 3 of Table 2. I find that the average individual in the sample aspires to the highest education level, a career that requires a university degree, with 28% chance. Moreover, the estimates suggest that being born in a household belonging to the highest socio-economic status is associated with a 9.7% higher probability that the individual aspires to the highest education level as compared to a household with the lowest socio-economic status, and this difference is significant at the 1% significance level in all considered specifications.

Next, I investigate whether socio-economic status at birth influences the achieved socio-economic status of the individual at an adult age either directly, that is due to socio-economic inertia in the society, or through the proposed effect of initial social status on educational aspirations. I regress the socio-economic status of individuals at the age of 37 on educational aspirations, socio-economic status at birth, the interaction between these two variables, and relevant controls. Columns 4, 5, and 6 in Table 2 present the estimates of ordered logistic regressions. Note that the coefficient corresponding to the interaction between status at

[16] To make a closer link to the theoretical model, I also use discrete versions of these variables. The variables *"High Status Parents"*, *"High Aspirations"*, and *"High Status"*, indicate either occupations that require non-vocational tertiary education levels such as university, or the aspiration to achieve these education levels. In the interest of space, I relegate the analysis using the binary version of the relevant variables to Appendix E.1.

Table 2: Determinants of aspirations and achieved social status

	(1) Aspirations	(2) Aspirations	(3) Aspirations	(4) Status Adult	(5) Status Adult	(6) Status Adult
Aspirations*Status Parents				0.112***	0.103**	0.103**
				(0.040)	(0.048)	(0.049)
Aspirations				0.204	0.080	-0.012
				(0.133)	(0.162)	(0.163)
Status Parents	0.462***	0.200***	0.148***	-0.043	-0.197	-0.229
	(0.043)	(0.052)	(0.053)	(0.150)	(0.184)	(0.185)
Mother's age at birth	0.005	-0.003	-0.001	0.005	0.002	0.004
	(0.004)	(0.005)	(0.004)	(0.005)	(0.005)	(0.006)
Female	0.317***	0.211**	0.122	-0.499***	-0.408***	-0.470***
	(0.076)	(0.090)	(0.100)	(0.087)	(0.108)	(0.121)
Family income 1980		-0.114***	-0.096***		-0.077***	-0.082***
		(0.025)	(0.025)		(0.028)	(0.028)
Constant	0.631**	0.809	-0.160	-2.599***	-1.991*	-1.773
	(0.272)	(0.660)	(0.768)	(0.583)	(1.040)	(1.160)
Cognitive skills	NO	YES	YES	NO	YES	YES
Non-cognitive traits	NO	YES	YES	NO	YES	YES
Self-reported skills	NO	NO	YES	NO	NO	YES
Neighborhood	NO	NO	YES	NO	NO	YES
Expectations	NO	NO	YES	NO	NO	YES
Attitudes toward school	NO	NO	YES	NO	NO	YES
Health	NO	NO	YES	NO	NO	YES
Country Fixed effects	YES	YES	YES	YES	YES	YES
Region Fixed effects	YES	YES	YES	YES	YES	YES
Log-Likelihood	-3640.820	-2770.929	-2649.116	-2338.892	-1812.992	-1769.918
N	2661	2178	2178	2,090	1,719	1719

Note: Columns 1, 2, and 3 presents the estimates of the ordered logistic regression of the model $Aspirations_i = \beta_0 + \beta_1 StatusParents_i + Controls'\Gamma + \epsilon_i$ with $\epsilon_i \sim logistic$. Columns 4, 5, and 6 presents the estimates of the ordered logistic regression of the model $StatusAdult_i = \beta_0 + \beta_1 StatusParents * Aspirations + \beta_2 Aspirations + \beta_3 StatusParents_i + Controls'\Gamma + \epsilon_i$ with $\epsilon_i \sim logistic$. "Status Adult" is an ordinal variable that represents the individual's occupation at the age of 37. "Aspirations" is an ordinal variable that captures the educational aspirations of the individual at adolescence. "Status Parents" is an ordinal variable that represents the parents' occupation at birth. The description of the control variables is presented in Appendix C. Clustered standard errors at the individual level in parentheses. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

birth and aspirations is statistically significant at the 5% level for all specifications. This result suggests that higher social status at birth and higher aspirations are associated with higher social status at adulthood. This finding is consistent with the proposed mechanism. Furthermore, the coefficient of social status at birth and the coefficient of the individuals' aspirations suggest, for all specifications, that higher aspirations and higher social status at birth, on their own, do not correlate with higher achieved status. Therefore, the proposed mechanism, rather than social inertia or aspirations alone, is relevant to explain economic achievement.

To exemplify the implications of the proposed mechanism in the life of this individuals, I use the estimates presented in columns 4, 5, and 6 of Table 2 to evaluate how changes in initial social status, or changes in aspirations affect achievement, ceteris paribus. I find that the highest aspirations level is 9.4% more likely to yield the highest status at adulthood when an individual with average characteristics is born in a household belonging to the highest socio-economics status as compared to a household in the lowest status. Moreover, the highest socio-economic status is 12.77% more likely to yield the highest social status at adulthood when an individual with average characteristics sets the highest, rather than the lowest, aspiration level. Appendix E.1 shows that the estimates of regressions using the discrete versions of the relevant variables yield similar conclusions.

While these findings are consistent with the proposed mechanism, they do not constitute conclusive evidence of the model presented in Section 2. There are two reasons to consider these results suggestive rather than corroborative. First, the merit of the present analysis is to show, using observational data, that beliefs and hopes are determinant to economic achievement, and that these beliefs and hopes are shaped by the individual's initial social standing. These relationships are in line with my proposal. However, these data is silent about the precise psychological mechanism behind these relationships, and is, thus, insufficient to demonstrate that social status is used to form motivated beliefs.This implies that other theoretical frameworks might as well explain these results. For example, the framework proposed by Dalton et al. (2016) which demonstrates that poor individuals, who also fail to internalize the positive relationship between achievement and aspirations, can be further locked in poverty by setting low aspirations.[17] Generally, observational data that allows the researcher among these detailed psychological mechanisms cannot be obtained.

Second, there are rather stringent econometric assumptions required to i) interpret the obtained estimates in a way that the predictions of the theoretical model are validated and

[17]Another model able to explain the data is due to Genicot and Ray (2017), who show that aspirations can be socially determined. Thus, in their model low status individuals can, under certain conditions, be in a steady state trajectory where low aspirations are chosen and, as a consequence, low outcomes are achieved.

ii) guarantee that these point estimates are unbiased. Regarding i), the estimates presented above can be considered marginal effects under the assumption of *predeterminedness*, that is that social status at birth affects aspirations but not the other way around. A simple intergenerational bequest argument can dispute this assumption; namely that parents achieve a high social status to endow children with the possibility of having high aspirations. Thus, the estimates presented in this section, at worst, demonstrate that there is a positive and significant correlation between educational aspirations at a young age and social status at birth with achieved social status. On ii), it is likely that there are unobserved factors that affect achievement and aspirations and that are not being taken into account in the analysis, yielding biased estimates due to omitted variable bias.

To complement these findings, the remainder of the paper is devoted to investigate the validity of the theoretical conjectures from Section 2 in a controlled setting. A set of laboratory experiments allows me to avoid the aforementioned problems by randomizing the assignment to social status to overcome the problem of omitted variable bias, eliciting performance on a task and individual beliefs about performance before *and* after social status is assigned to be able to interpret any resulting differences as causal, and investigating the degree to which individuals assigned to different social status actively acquire relevant information about their performance relative to that of others. The latter feature of the experiment allows me to cleanly establish whether social status is used by individuals to hold motivated beliefs. Section 4 presents the designs and procedures of the experiments and Section 5 presents the results of these experiments.

4. Experimental design and procedures

4.1. Experiment 1

The experiment was conducted at Tilburg University's CentERLAB. The participants were students at the university and were recruited through an online system. The data consist of 8 sessions with a total of 136 subjects. On average a session lasted approximately 60 minutes. Between 13 and 24 participants took part in a session. The currency used in the experiment was euros. I used Z-Tree (Fischbacher, 2007) to implement and run the experiment. Subjects earned on average 11.55 euros. The instructions of the experiment are presented in Appendix D.

The experiment consisted of two parts: Part 1 and Part 2. Upon arrival subjects were explicitly informed about this composition of the experiment. In both parts, subjects were expected to complete different versions of the Raven's Matrices test. Accurate completion of this task demands cognitive resources from participants (Raven, 1989). Therefore, it was more difficult for motivated but unskilled subjects to improve their performance on the task as compared to another task that only demanded effort or attention from participants. In terms of the theoretical model presented in Section 2, exerting high effort in this task entailed high costs of effort, c, and since it demanded cognitive resources from subjects, it made the cost of self-deception m, steeper. Hence, the Raven's matrices task was chosen to constitute an stringent test of the proposed mechanism.

In Part 1 of the experiment, Set I of the Advanced Progressive Matrices test (APM) was implemented. This set was a "quick version" of the Raven's test and consisted of 12 matrices with a level of difficulty that is representative of the complete version of the Raven's test. Subjects had five minutes to complete these matrices, as is recommended by Raven (1989). Although subjects did not face monetary incentives in this part of the experiment, they were encouraged to do their best. The aim of this part of the experiment was to measure subjects' ability on the task. Once the specified time for this part of the experiment was over, feedback about performance, i.e. the number of correctly solved matrices, was given in private to each subject.

After the first part of the experiment was completed, I introduced status differences between subjects participating in the same session. To that end, I implemented the protocol developed by Eckel and Ball (1996) and also used by Ball and Eckel (1998) and Ball et al. (2001). Specifically, subjects were randomly assigned to one of two treatments: the *"High Status"* treatment, in which they received a symbolic award and social recognition from their peers, or the *"Low Status"* treatment, where they did not receive the award nor social recognition.[18] The assignment to the high status treatment was done at random, to allow for performance comparisons between subjects with similar ability but assigned to different treatments. Although participants were not informed about the assignment rule, they were also not deceived. This is a crucial difference with respect to Eckel and Ball (1996)'s protocol. The exact wording of the message given and read to subjects was: "The following participants were assigned to the GOLD group. Please come up to the front as we call your ID number and receive your medal". The experimenter reports that no subject questioned the reason for the assignment to the treatments during the experiment.[19]

[18]The rationale behind inducing an artificial status rank rather than using a naturally occurring status rank was to minimize the possibility of disagreements that may arise from using the latter type of status. For instance, subjects may disagree about the rank of an status allocation based on academic performance (what kind of courses are considered for this rank?), gender (which characteristics make one gender rank higher than the other?), or socio-economic status (I am right now having similar status than someone else of my age that is working, but I am investing in education at the moment). See Ball et al. (2001) for a more comprehensive discussion about the rationale of this status differential, as well as a more detailed discussion of its implementation.

[19]I favor this design instead of one in which subjects are explicitly told that the treatment assignment is

In Part 2 of the experiment, I implemented Set II of the APM. This set is the complete version of the Raven's test and consisted of 36 matrices. Additionally, the most difficult 24 matrices of the Standard Progressive test (SPM) were also included.[20] In total, subjects had 20 minutes to solve as many matrices as they could and faced a monetary incentive of 0.5 euros for each correctly solved matrix. The pre-specified time given to subjects to complete matrices, also recommended by Raven (1989), was divided in five rounds of four minutes each. Dividing the time that subjects had to perform the task into rounds had multiple purposes. First, it allowed me to provide individual feedback on the task, i.e. the number of correctly solved matrices in the previous rounds. Providing frequent feedback on the task had the purpose of enhancing the subjects' learning about their ability on the task. Second, it allowed me to elicit subjects' beliefs about the number of matrices they thought they would be able to complete in the next round. These beliefs were elicited immediately after feedback in the task was given. Third, it provided subjects with rest to minimize depletion. Note that by explicitly telling subjects that the experiment consisted only of two parts and by giving full instructions at the beginning of each part, I eradicate the possibility of subjects expecting status to be reassigned on the basis of their performance on the task in Part 2.

As mentioned above, subjects' beliefs about the number of matrices they expect to correctly solve in a round were elicited before the beginning of that round and their accuracy was not incentivized. According to the theoretical model, a high social status assignment facilitates the formation of motivated beliefs, which can boost performance. Therefore, this belief elicitation had the aim of validating the proposed theory by comparing performance beliefs among subjects with similar ability on the task, but who were assigned to different treatments. Whether potential belief differences translate into performance differences will be also tested using the subjects' performance on the Ravens' test.

There were multiple reasons for not providing incentives in exchange of accurate beliefs. First, previous studies report that implementing incentive compatible mechanisms to elicit beliefs can lead to distractions from the task of interest and can alter the response of subjects (Blanco et al., 2010, Cabrales et al., 2010, Haruvy et al., 2007). Thus, I avoid using complicated payment rules to ensure that subjects focused on performing the Raven's task

random. First, because this is seldom the case: one's social position can be determined by luck or one's ability and it is hard to disentangle the exact contribution to each of these factors, which provides room for interpretation and self-serving belief formation. Second, because this experiment seeks to provide a first proof of concept that social status *can* trigger internal constraints. Not making the random assignment explicit eases the emergence of motivated beliefs because it gives subjects some leeway to interpret their received social status. However, note that this design still requires subject to engage in a considerable degree of self-deception, since they need required to suppress or avoid relevant feedback in order to form and maintain the desired beliefs.

[20]The SPM is also a Raven's matrices test but with a lower average difficulty as compared to the APM. Using the most difficult matrices kept the degree of difficulty of the task constant

and also to minimize distractions from the treatment assignment. Second, Trautmann and van de Kuilen (2015) show that some desirable properties of incentive compatible methods can be achieved through non-incentivized belief elicitations. Third, I am interested in belief differences across treatments rather than in the accuracy of the elicited beliefs. Hence, noise stemming from subjects' overconfidence, subjects' social desirability, or subjects wanting to influence the results in the direction they believe to be the goal of the experiment, must be equally distributed across treatments and ability levels due to randomization. This is indeed what the data presented in Section 5 suggest. Fourth, to more closely relate to the survey evidence presented in Section 3, I ask subjects to state a belief about their own future achievement on the task and, as in the survey, such belief does not carry monetary consequences when (in)accurate.

Finally, for exactly half of the sessions, chosen at random, subjects had the possibility of accessing a ranked list showing their performance on the task relative to that of the rest of participants in the same session. This feature was only available in Part 2 of the experiment. The ranking was determined by the subjects' performance on Part 2 at the exact moment when it was accessed. To access the ranking, subjects had to click a button located at the right-bottom part of their screen. Looking at this ranking was costless and the program ensured that it could be quickly done.

This attribute was included in the design of the experiment to investigate whether the treatment assignment and/or ability on the task affected the subjects' decision to acquire additional information about their ability. If being exposed to more information about ability impedes the formation of motivated beliefs, then we should observe less access to this ranking among subjects who benefit the most from forming such beliefs. Also, this feature of the experiment is useful to study if potential treatment effects emerge because subjects interpret the treatment assignment as an informative signal about their ability, or in contrast, and as predicted by the theory, treatment effects can be robust to subjects having more exposure to information about their ability.

4.2. Experiment 2

The experiment was conducted at Tilburg University's CentERLAB. This experiment was conducted during the same weeks, but not in the same sessions, as Experiment 1. Participants were all students at the university and were recruited through an online system. The data consist of 8 sessions with a total of 138 subjects. On average a session lasted approximately 60 minutes. Between 11 and 23 participants took part in a session. The currency used in the experiment was euros. I used Z-Tree (Fischbacher, 2007) to implement and run the experiment. Subjects earned on average 11.8 euros. The instructions of the experiment are presented in Appendix D.

The experimental design of this experiment had only one difference with respect to Experiment 1, namely that the assignment to the high status was not random and was instead determined by the subjects' performance in Part 1 of the experiment. In particular, subjects with higher performance than at least half of the subjects in the same session, were given the high status. The other half of subjects were assigned Low Status.

There were several reasons behind implementing this experiment. First, it allows me to evaluate the robustness of any potential results to be found in Experiment 1. If treatment effects are found in the data of Experiment 1 and they are in the direction predicted by the theory, then I should also find that low ability subjects in Experiment 2 exhibit low performance and have low beliefs as compared to high ability subjects. That is because according to the theory, low ability subjects can exhibit motivated beliefs and, as a consequence, attain high performance levels only if assigned to High Status. Second, subjects participating in this experiment serve as an additional and more numerous control group. Hence, the conclusions drawn from Experiment 1 can be further validated by comparing the performance and beliefs levels of the treated groups in Experiment 1 to subjects with similar ability in Experiment 2. Third, if confusion among the subjects arises due to the random assignment to the treatments in Experiment 1 and this confusion manifests in the subjects' beliefs and performance, then the behavior of subjects in this experiment serve as benchmark to determine whether and how subjects behave differently due to such confusion.

4.3. Predictions

This subsection presents a set of predictions about the subjects' performance, beliefs, and rank-access behavior in Experiment 1. These predictions are based on the theoretical model presented in Section 2. The first two predictions are derived from Proposition 1, which predicts that subjects with low ability exert greater effort and exhibit higher performance beliefs if assigned to High Status. Also, Proposition 1 predicts that high ability subjects exhibit high performance as well as high beliefs regardless of their treatment assignment. The resulting ranks of performance and beliefs across subjects with different ability and treatment assignment are presented next:

Prediction 1. *Performance is highest for high ability subjects and low ability subjects assigned to the high status, and lowest for low types in the low status.*

Prediction 2. *Beliefs are highest for high ability subjects and low ability subjects assigned to the high status, and lowest for low types in the low status.*

Empirical validation of Prediction 1 and Prediction 2, would contradict the results presented in Proposition 2 and the benchmark of the model, which predict that the experimental treatments do not affect subjects' performance nor their beliefs.

The remaining predictions regard the subjects' access behavior to the relative performance rank. The third prediction stems from the nature of the semi-pooling equilibrium proved by Proposition 1. If subjects engage in self-deception to form motivated beliefs, then rank access behavior should be lower among subjects who benefit the most from these beliefs. There are at least two reasons, grounded in the theoretical model, supporting this conjecture. First, accessing the rank provides these subjects with more precise, and thus unfavorable, information about their ability which restricts the formation of motivated beliefs. Second, accessing the rank reveals information about the magnitude of the correlation parameter ϵ, which in Experiment 1 is equal to zero. According to Corollary 1, that subjects learn that $\epsilon = 0$ would constrain the formation of motivated beliefs as compared to the case in which they believe that this correlation is positive. The resulting prediction is presented next:

Prediction 3. *Rank-access is lowest for low ability subjects assigned to high status, and highest for low ability subjects assigned low status and high ability subjects.*

The last prediction regards the robustness of the proposed mechanism. If the mechanism whereby social status generates differences in performance are the motivated beliefs that are made available by social status and not, for example, confusion about ability in the task stemming from the treatment assignment, the empirical validity of Prediction 1 and Prediction 2 must be robust to subjects being exposed to additional feedback. Hence, the predicted differences should emerge, although at a lesser extent inasmuch as it demands a higher degree of self-deception, among subjects who, despite the potential negative consequences of such action, happened to access the rank as well as among subjects who do not access it.

Prediction 4. *The beliefs and performance differences specified in Prediction 1 and Prediction 2 occur regardless of whether subjects access or not the relative performance ranking.*

The validity of these predictions will be evaluated in light of the experimental data in the next sections.

5. Experimental results

5.1. Performance

The purpose of the experiments is to evaluate the effect of social status on performance and beliefs. The identification strategy consists in making performance and beliefs comparisons among subjects with similar ability in the task but who were assigned to different treatments. Therefore, I focus on Experiment 1, which allows me to make such comparisons, and where necessary I refer to the most relevant results of Experiment 2. The complete analysis of the data of Experiment 2 is presented in Appendix F.

To link the results of Experiment 1 to the theoretical model, I classify subjects into two ability categories: high ability and low ability. A subject is classified to have high ability if he correctly completes more matrices in Part 1 of the experiment than at least half of the subjects in the same session. An individual that fails to classify as high ability is classified as low ability. Note that participants are not aware of this classification during the experiment. The data suggest that this classification entails significant performance differences in Part 1 of the experiment. Specifically, high ability subjects outperformed low ability subjects by 2.21 standard deviations (Hedge's g, $p < 0.001$).

Moreover, a successful treatment randomization in Experiment 1 must guarantee that subjects' ability is comparable across treatments. Indeed, I find no difference in average performance in Part 1 of the experiment between low ability subjects assigned to the different treatments ($U = 0.028, p = 0.977$). However, I find that high ability subjects assigned to low status exhibit higher performance in Part 1 than high ability subjects assigned high status ($U = 1.992, p = 0.041$). This difference is taken into account in what remains of the analysis and it posses no threat to the validity of the main results of the paper.

We are now in a position to evaluate the subjects' performance in Part 2 of the experiment. Table 3 presents the descriptive statistics of subjects' performance by treatment and by ability. The main finding of the experiment is that low ability subjects exhibit higher performance when assigned the high status ($U = 2.020, p = 0.029$).[21] The effect size of this difference is 0.53 standard deviations (Hedge's g, $p = 0.01$, with 1000 bootstrap replications).[22] The average performance level achieved by low ability subjects assigned to High Status is comparable to that achieved by high ability subjects assigned to the same treatment ($U = 0.658, p = 0.510$). Additionally, low ability subjects assigned to the low status treatment are outperformed by high ability subjects who belong to the same treatment ($U = 2.378, p < 0.01$). Finally, I find no empirical evidence of a difference between high ability subjects assigned to the different treatments ($U = 0.913, p = 0.36$).[23]

To account for factors other than the treatment assignment that might influence subjects'

[21]Unless specified, I use the Wilcoxon Mann-Whitney test for pairwise comparisons and report the standardized U statistic and the respective p-value.

[22]The statistical power of this test is $1 - \beta = 0.73$ at the 5 % significance level.

[23]Since high ability subjects assigned to the different treatments exhibited differences in performance in Set I, the latter finding could be interpreted as evidence suggesting that high ability subjects display higher performance when assigned to High Status. Further analyses of the data will show that high ability subjects assigned to different treatments exhibit similar average performance.

Table 3: Descriptive statistics of performance in Part 2 of Experiment 1

Type/Treatment	High Status	Low Status	Total
High Ability	22.285	24.658	23.695
	(7.215)	(8.676)	(8.144)
Low Ability	24.771	19.621	22.437
	(11.476)	(6.630)	(9.863)
Total	23.68	22.65	23.139
	(9.744)	(8.224)	(8.952)

Note: This table presents the averages and standard deviations of the performance in the second part of Experiment 1 by experimental treatment and subject ability. Standard deviations are presented in parentheses.

performance, I perform regression analyses that seek to evaluate the treatment effects while controlling for a set of relevant variables.[24] Columns 1 and 2 in Table 4 present the estimates of negative binomial regressions of performance in Part 2 on subjects' ability, a treatment dummy, the interaction between these two variables, and control variables.[25]

The regression estimates confirm the aforementioned results. Specifically, among low ability subjects, those assigned high status attain higher average performance ($\chi^2(1) = 9.20, p = 0.002$). Moreover, the estimate associated to "High Status" shows that the treatments did not generate differences in average performance among high ability subjects. In addition, the estimate associated to "Low ability" corroborates that subjects with low ability assigned to the low status exhibit lower average performance than high ability subjects assigned to the same treatment. Finally, and in contrast to the analysis of the data based on pairwise testing, I find that high ability subjects assigned to "High Status" were outperformed by low ability subjects assigned to the same treatment ($\chi^2(1) = 5.20, p = 0.022$).

In Appendix E.2, I show that substituting the binary classification of ability by a continuous measure, i.e. performance in Part 1 of the experiment, leads to regression estimates that are consistent with the findings presented above. Moreover, Appendix F shows that in Experiment 2, low ability subjects exhibit a significantly lower average performance than high ability subjects. This finding suggests that the treatment assignment, and not other confounding factors, generated the treatment differences among subjects with low ability in

[24] The matrix of control variables included in the regression contains the variables gender, number of participants in a given session, score in the locus of control questionnaire, subjects' beliefs about performance in Part 1 of the experiment, subjects' perception about the fairness of the treatment assignment, and whether subjects performed the task in the past.

[25] The performance data exhibits a variance, 69.30, that is larger than its mean, 23.434 A standard count regression model does not account for a data process with these characteristics. To account for this over-dispersion, I use a negative binomial model.

Table 4: Treatment Effects in Experiment 1

	(1) Performance	(2) Performance	(3) Beliefs	(4) Beliefs
Low Ability	-5.095***	-6.123***	-4.702*	-5.353**
	(1.862)	(1.984)	(2.502)	(2.358)
High Status	-2.198	-2.260	-0.438	-0.221
	(1.809)	(1.784)	(2.089)	(1.873)
Low Ability*High Status	6.930**	7.146**	3.257	3.248
	(2.817)	(2.787)	(3.287)	(3.086)
Session size		-0.601*		0.040
		(0.354)		(0.429)
Belief practice round		-0.018		0.335
		(0.195)		(0.271)
Assignment fair		-2.605		-2.546
		(1.690)		(1.739)
Locus of Control		0.725*		0.274
		(0.420)		(0.525)
Female		3.594**		-0.630
		(1.644)		(1.970)
Task performed before		6.632***		6.258**
		(2.032)		(2.781)
ln(δ)	0.658***	0.4190***	0.568***	0.424***
	(0.265)	(0.297)	(0.205)	(0.232)
N	133	133	133	133
Log-likelihood	-463.927	-454.243	-480.819	-475.162

Note: This table presents marginal effects of negative binomial regressions of the model $y_i = \beta_0 + \beta_1 LowAbility + \beta_2 HighStatus + \beta_3 LowAbility * HighStatus + Controls'\Gamma + \epsilon_i$, with $\epsilon \sim poisson(\lambda)$. y_i is "Performance" in column (1) and column (2) and "Beliefs" in column (3) and column (4). "Performance" is the number of correctly solved matrices in the second part of Experiment 1, "Beliefs' is the number of correctly solved matrices the participant believed could achieve in Part 2 of Experiment 1, "High Status" is a dummy variable that captures whether the subject was assigned to the high status treatment "Low Ability" is a dummy variable that captures whether the subject was classified as having low ability on the task. $ln(\delta)$ is the estimated dispersion from the mean. Standard errors presented in parentheses. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

Experiment 1. Additionally, the aforementioned findings are robust to group comparisons across experiments.[26] Hence, the performance data from the two experiments conclusively corroborate Prediction 1.

5.2. Beliefs

Next, I analyze the influence of the treatments on the subjects' beliefs. This analysis focuses on the *sum* of the subjects' beliefs over all rounds in Part 2 of the experiment. Table 5 presents the descriptive statistics of beliefs by treatment and by ability in Experiment 1. While high ability subjects exhibit similar average beliefs across treatments ($U = 0.177, p = 0.859$), low ability subjects exhibit higher average beliefs when assigned to High Status ($U = 2.071, p = 0.038$). In fact, the average belief level exhibited by low ability subjects with the high status is comparable to that of high ability subjects assigned the same treatment ($U = 0.672, p = 0.501$). Hence, the assignment to High Status induced higher beliefs among low ability subjects.

Table 5: Performance beliefs in Part 2 of Experiment 1

Ability / Treatment	High Status	Low Status	Total
High Ability	31.285	31.804	31.594
	(8.944)	(8.721)	(8.793)
Low Ability	29.8	27.620	28.81
	(8.442)	(9.484)	(10.458)
Total	32.161	29.559	31.691
	(9.240)	(9.113)	(9.249)

Note: This table presents the averages and standard deviations of aggregated beliefs in the second part of Experiment 1 by experimental treatment, and subject ability. Standard deviations are presented in parentheses.

To control for factors other than the treatment assignment that might drive these results, I perform regressions to evaluate the significance of the treatment effects while controlling for relevant variables.[27] Columns 3 and 4 in Table 4 present the estimates of negative binomial regressions. The resulting estimates confirm the aforementioned findings. First, low ability

[26]Specifically, low ability subjects assigned to High Status in Experiment 1 exhibit higher average performance than low ability subjects in Low Status in Experiment 1 and Experiment 2 ($U = 1.894, p = 0.028$). Also, I find no significant differences in performance between high ability subjects assigned to low status in Experiment 1 and high ability subjects in High Status in both experiments ($U = 0.466p = 0.6411$).

[27]As in the previous subsection, the matrix of control variables contains the variables gender, number of participants in a given session, score in the locus of control questionnaire, subjects' beliefs about performance in Part 1 of the experiment, subjects' perception about the fairness of the treatment assignment, and whether subjects performed the task in the past.

subjects exhibit lower average beliefs than high ability subjects when both groups are assigned to Low Status ($p = 0.025$). Second, average beliefs do not differ among subjects of low and high ability when both groups are assigned to the High Status treatment ($\chi^2(1)$=0.60, p=0.437). Third, and more importantly, subjects with a low status treatment exhibit higher average beliefs when assigned to High Status ($\chi^2(1)$=3.04, p= 0.04). Finally, I find no empirical evidence of a difference in beliefs between high ability subjects assigned to different treatments ($p = 0.906$).

Appendix E.2 shows that the above results are robust to replacing the binary classification of social status by a continuous measure of ability, namely performance in Part 1. Appendix F presents the results of Experiment 2. The data of that experiment suggest that low ability subjects exhibit lower average beliefs as compared to high ability subjects. These results suggest that the belief differences among low ability subjects in Experiment 1 are entirely driven by the treatment assignment.[28] Appendix E.3 presents an alternative analysis of the data that focuses on the subjects' beliefs *in a given round*. Such analysis demonstrates that the treatment assignment generates beliefs differences between low ability subjects assigned to the different treatments as of the second round. Thus, the aforementioned result of treatment effects in beliefs is not due to misinformation or incorrect priors that subjects might hold about their ability in the beginning of the experiment, and instead emerges after subjects were exposed to frequent performance feedback and after they performed the task repeatedly.

All in all, the experimental data show that social status has an influence on subjects' beliefs. As predicted by the theory, the strength of this effect depends on the subjects' ability. Specifically, subjects with low ability on the task exhibit higher beliefs when assigned to the high rather than to the low status. On the other hand, subjects with high ability on the task do not exhibit significant belief differences due to the treatment assignment. These results are in line with Prediction 2.

A common critique to Ball et al. (2001)'s experimental procedure is that it triggers experimenter demand effects. If justified, this criticism entails that the higher beliefs and performance generated by the high status treatment is due to subjects correctly inferring the objective of the experiment and reacting to the treatments accordingly. In a recent paper, De Quidt et al. (2018) show that these effects are generally modest. In their most similar experimental task, an incentivized real-effort task, they found experimenter demand effects to have a magnitude of 0.07 standard deviations on average. Thus, even if the treatment

[28] Additionally, the results of Experiment 1 can be corroborated when the sum of average beliefs are compared across the experiments. Specifically, low ability subjects assigned High Status in Experiment 1 exhibit higher average beliefs than low ability subjects with Low Status in both experiments ($U = 1.308, p = 0.09$). In contrast, I find no empirical evidence of a difference among high ability subjects assigned to the different treatments in both experiments ($U = 1.036, p = 0.15$).

assignment triggered experimenter demand effects, the significance of the treatment differences documented in this and the next subsection are robust to these effects.[29]

Finally, I investigate how beliefs relate to performance. To that end, I study the empirical properties of the difference between subjects' beliefs and performance. The data show that there is a generalized tendency of subjects to be overconfident. In particular, subjects stated average beliefs that were 7.09 matrices higher than their performance level. Such behavior was likely to be generated by subjects underestimating the difficulty of the task, along with the absence of incentives rewarding belief accuracy. These inaccurate beliefs do not posse a threat to the validity of the results presented in this section since the analysis builds upon belief comparisons across treatments and across ability. Thus, as long as this imprecision is similar across treatments and across ability, indicating that randomization guaranteed similar degrees of overconfidence, the beliefs differences presented above can be attributed to the treatments.

Indeed, I find no evidence of a significant difference in the gap performance-beliefs across treatments and across ability. For instance, low ability subjects, who exhibited beliefs differences across treatments, exhibit an average gap of -8 if assigned Low Status and an average gap of -5.02 if assigned High Status and these averages are statistically indistinguishable ($U = -1.109, p = 0.271$).[30]

5.3. Access to relative performance feedback

The experiment allowed some participants to access a ranking containing information about their performance on the task relative to the performance of other subjects in the same session. Accessing the ranking was costless and it provided subjects the possibility of acquiring additional information about their ability on the task. The data on subjects' access behavior to the ranking allows me to investigate the validity of Prediction 3 and Prediction 4.

I begin the data analysis by investigating the frequency at which subjects accessed the rank and whether being assigned to High Status influenced this decision. Table 6 presents descriptive statistics of rank-access frequency measured at different points in the experiment. Panel A presents the descriptive statistics of rank-access frequency after the first round in Part 2 was over, Panel B presents the descriptive statistics of rank-access frequency after the first three rounds of Part 2 were over and Panel C presents the descriptive statistics of

[29] The average performance between the treatments accounting for potential demand effects is of 0.46 standard deviations with bootstrapped confidence interval [0.88, 0.06]

[30] Among high ability subjects the average gap is -9 for subjects in High Status and -7.146 for subjects in Low Status, a non-significant difference ($U = 0.514, p = 0.607$). Among subjects assigned the high status treatment, I find no significant difference between high and low ability subjects ($U = 1.066, p = 0.286$). The same conclusion is reached when the performance-beliefs gap of subjects with different ability but assigned to the low status treatment is compared ($U = 0.036, p = 0.9714$).

rank-access frequency at the end of the experiment.

Table 6 shows that subjects who had the chance to access the ranking did so 2.66 times on average during Part 2 of the experiment. A comparison across panels evidences that the frequency at which the rank was accessed increased over rounds. Specifically, subjects accessed the rank 0.36 times on average after the first round, and this number surged to 1.055 after the third round. Such increase in rank-access over rounds is explained by a higher proportion of subjects accessing the rank at least once. In particular, the data show that after round 1 approximately to 18% of subjects who had access to the rank accessed it at least once. This proportion of subjects increased to 38% at the end of round 3, and further increased to 63% at the end of the experiment.

I do not find differences in rank access behavior between subjects assigned to the different treatments ($U = 0.758, p = 0.448$), or between subjects with different ability ($U = 0.774, p = 0.439$). These conclusions are robust to using the different rank-access variables included in Table 6. To evaluate whether subjects with similar ability but who were assigned to different treatments exhibit significant differences in rank-access behavior, I perform regressions of rank-access frequency on a treatment dummy, an ability dummy, interactions between these variables, and, for some specifications, control variables. The main rationale for using regressions rather than performing pairwise tests is that the latter tests can be under-powered due to the low number of subjects that were assigned to a treatment, were of high or low ability in the task, *and* had access to the ranking.

Table 7 presents the regression estimates. I find statistical evidence of different rank access behavior among low ability subjects. Specifically, low ability subjects assigned to High Status display lower average access to the ranking after the first and third rounds.[31] The rank access behavior of subjects with low ability in the high status treatment is also lower than that displayed by high ability subjects ($\chi^2(1) = 4.95, p = 0.026$). Therefore, these subjects acquire substantially less additional information about their ability. Such behavior is in line with the notion that social status, whenever favorable, is used by subjects to form and maintain motivated beliefs that boost their motivation on the task, and information that might contradict these beliefs is actively avoided. This result validates Prediction 3. Appendix F provides further robustness to this conclusion by showing that low ability and high ability subjects exhibit similar rank-access frequency when assigned to the Low Status and High Status treatment, respectively.

Table 7 also shows that when rank-access behavior in all rounds is examined, the aforementioned differences dissipate and rank-access behavior is statistically indistinguishable

[31] The joint tests supporting these conclusions yield ($\chi^2(1) = 5.61, p = 0.017$) for the estimates presented in column 2 of Table 7 and ($\chi^2(1) = 4.67, p = 0.030$) for the estimates column 4 of Table 7.

Table 6: Rank-access in Experiment 1 by treatment and by ability

Ability/Treatment	High Status	Low Status	Total
Panel A: First round			
High Ability	0.727	0.181	0.363
	(7.215)	(1.272)	(1.025)
Low Ability	0.2	0.312	0.25
	(0.523)	(0.602)	(0.554)
Total	0.387	0.236	.304
	(0.882)	(0.751)	(0.809)
Panel B: First three rounds			
High Ability	1.727	0.636	1
	(3.289)	(1.705)	(2.358)
Low Ability	0.95	1.187	1.055
	(1.959)	(1.558)	(1.771)
Total	1.225	0.868	1.028
	(2.486)	(1.646)	(2.057)
Panel C: All rounds			
High Ability	3.363	2.227	2.606
	(4.884)	(3.624)	(4.046)
Low Ability	3	2.375	2.722
	(3.128)	(2.446)	(2.824)
Total	3.129	2.289	2.66
	(3.766)	(9.113)	(3.437)

Note: This table presents the averages and standard deviations of rank-access in the second part of Experiment 1 by experimental treatment, and subject ability. Standard deviations are presented in parentheses.

among low ability subjects.[32] This finding, along with the result that there is a significantly higher proportion of subjects accessing the rank in the last rounds of the experiment, suggest an end-of-the-game effect. That is, in the last rounds, when there is little time left and there is small margin to significantly increase earnings, the majority of subjects access the ranking to check how well they did in the experiment as compared to others. Unfortunately, the emergence of such end-of-the-game effect confines the empirical validity of Prediction 3 to the behavior of subjects during most of Part 2 except for the last couple of rounds.

We are now in a position to investigate the validity of Prediction 4. Table 8 presents the estimates of the statistical models presented in Table 4 with the difference that "Times Rank", which captures rank access behavior, is included in the model and is interacted with the treatment dummy as well as with the ability dummy. The main conclusion of this analysis is given by the estimates presented in column (3) and column (4). These estimates show that low ability subjects, regardless of whether they access or not the rank, exhibit treatment effects, that is they exhibit significantly higher performance and higher beliefs when assigned to High Status as compared to similarly skilled subjects in Low Status. This result validates Prediction 4.

Moreover, the estimates presented in Table 8 exhibit a number of properties that are worth discussion. First, the estimates in column (3) and column (4) show that the treatment effects are larger among low ability subjects who did not access the rank ($\chi^2(1) = 5.61, p = 0.017$). This finding corroborates the notion that the information presented by the rank was disadvantageous for the formation and maintenance of motivated beliefs for low ability subjects. This result also explains why most low ability subjects assigned High Status avoided to look at the rank at great extent and during most Part 2. Second, the estimates in all specifications in Table 8 demonstrate that low ability subjects who do not access the rank exhibit treatment effects irrespective of which variable of rank-access is used. However, these treatment effects are larger when "Times Rank" captures rank-access behavior in the first round and in the first three rounds. Third, the significance of the treatment effects among subjects who accessed the rank varies with the variable used to capture rank-access behavior. In particular, low ability subjects who accessed the rank exhibit treatment effects when rank access behavior is measured after the third round and for all rounds. Given that only 18% of subjects who could access the rank did so after the first round, my interpretation of this finding is that treatment effects among these subjects can only be precisely estimated after enough subjects accessed the rank.

[32] Low ability subjects assigned high status exhibit similar average rank-access as compared to low ability subjects assigned the low status ($\chi^2(1) = 0.05, p = 0.8171$). Also, low ability subjects with low status exhibit similar average rank-access behavior as compared to high ability subjects assigned to the high status ($\chi^2(1) = 0.42, p = 0.516$).

Table 7: Determinants of rank-access in Experiment 1

	(1) Times Rank Round 1	(2) Times Rank Round 1	(3) Times Rank Round 1-3	(4) Times Rank Round 1-3	(5) Times Rank All rounds	(6) Times Rank All rounds
Low Ability	0.506	0.796*	0.746	1.226*	0.351	1.348
	(0.322)	(0.382)	(0.478)	(0.655)	(1.008)	(1.204)
High Status	0.676*	0.647**	0.651	0.601	0.278	0.168
	(0.364)	(0.312)	(0.636)	(0.690)	(1.397)	(1.784)
Low Ability* High Status	-0.834*	-0.945***	-1.452*	-1.551*	0.095	-0.057
	(0.434)	(0.346)	(0.890)	(0.900)	(1.737)	(1.966)
Group Size		0.002		-0.035		-0.127
		(0.037)		(0.096)		(0.210)
Fair Medal		0.220		0.120		-0.328
		(0.254)		(0.485)		(0.979)
Locus of Control		-0.166***		-0.360*		-0.122
		(0.059)		(0.189)		(0.351)
Female		-0.425**		-0.879*		-2.149**
		(0.205)		(0.533)		(1.016)
Belief practice round		-0.036*		-0.042		-0.065
		(0.021)		(0.115)		(0.237)
Task performed before		0.087		-0.405		-0.461
		(0.225)		(0.723)		(1.797)
$ln(\delta)$	0.221	-0.104	1.116***	0.995***	1.405***	1.246***
	(0.564)	(0.730)	(0.375)	(1.140)	(0.286)	(0.344)
Observations	69	69	69	69	69	69
Log Likelihood	-43.297	-39.236	-89.620	-86.691	-146.453	-142.691

Note: This table presents marginal effects of negative binomial regressions of the model $TimesRank_i = \beta_0 + \beta_1 LowAbility + \beta_2 HighStatus + \beta_3 LowAbility * HighStatus + Controls'\Gamma + \epsilon_i$, with $\epsilon \sim poisson(\lambda)$. "Times Rank" is the frequency of rank-access by a subject in the second part of Experiment 1,"High Status" is a dummy variable that captures whether the subject was assigned to the high status treatment "Low Ability" is a dummy variable that captures whether the subject was classified as having low ability on the task. $ln(\delta)$ is the estimated dispersion from the mean. Standard errors presented in parentheses. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

Table 8: Treatment effects and rank-access in Experiment 1

	(1) Performance	(2) Beliefs	(3) Performance	(4) Beliefs	(5) Performance	(6) Beliefs
Low Ability	-5.873***	-4.820*	-4.787**	-3.701**	-3.899*	-2.038
	(2.104)	(2.484)	(2.160)	(1.568)	(2.159)	(2.494)
High Status	-1.770	0.459	-1.682	-0.594	-1.138	0.765
	(1.820)	(1.935)	(1.886)	(1.412)	(1.967)	(2.013)
Low Ability * High Status	7.132**	1.674	6.139**	3.388	4.111	-2.268
	(2.926)	(3.187)	(2.938)	(2.096)	(2.864)	(3.279)
Low Ability * Times Rank	-0.474	-2.076	-2.082**	-2.097**	-1.581***	-2.609**
	(2.207)	(4.107)	(1.059)	(0.897)	(0.589)	(1.124)
High Status* Times Rank	-2.754	-0.884	-1.124	-0.689	-0.799	-0.445
	(2.342)	(1.326)	(0.750)	(0.440)	(0.499)	(0.506)
High Status* Low Ability Times Rank	-1.517	6.185	1.607	2.635***	2.206**	3.819***
	(3.359)	(4.312)	(1.059)	(0.897)	(0.882)	(1.212)
Times Rank	2.106***	-1.893**	1.054**	0.073	0.628***	-0.004
	(0.789)	(0.953)	(0.419)	(0.394)	(0.182)	(0.446)
Group Size	-0.569	-0.023	-0.601*	0.098	-0.605*	0.049
	(0.359)	(0.432)	(0.354)	(0.309)	(0.347)	(0.416)
Fair Medal	-1.988	-2.205	-2.075	-0.668	-2.164	-2.266
	(1.801)	(1.856)	(1.854)	(1.205)	(1.878)	(1.717)
Locus of Control	0.650	0.252	0.742*	0.351	0.659	0.497
	(0.439)	(0.547)	(0.434)	(0.369)	(0.423)	(0.494)
Female	3.031*	-0.340	3.091*	-0.694	3.323*	-0.883
	(1.662)	(2.075)	(1.720)	(1.348)	(1.901)	(1.876)
Belief practice round	-0.049	0.358	-0.018	1.442**	-0.020	0.459*
	(0.197)	(0.273)	(0.197)	(0.139)	(0.199)	(0.260)
Task Performed before	5.914***	7.574**	5.718***	5.556***	5.637***	6.238**
	(2.132)	(3.024)	(2.108)	(1.715)	(1.941)	(2.934)
$ln(\delta)$	0.387	0.368	0.387	0.264	0.295	0.264
	(0.308)	(0.249)	(0.314)	(0.249)	(0.287)	(0.227)
Times Rank in	Round 1	Round 1	Round 1-3	Round 1-3	All rounds	All rounds
Observations	133	133	133	133	133	133
Log Likelihood	-452.900	-473.220	-452.872	-470.468	-451.194	-468.945

Note: This table presents marginal effects of negative binomial regressions of the model $Performance_i = \beta_0 + \beta_1 LowAbility + \beta_2 HighStatus + \beta_3 LowAbility * HighStatus + \beta_4 LowAbility * TimesRank + \beta_5 HighStatus * TimesRank + \beta_6 LowAbility * HighStatus * TimesRank + Controls'\Gamma + \epsilon_i$, with $\epsilon \sim poisson(\lambda)$. "Performance" is the number of correctly solved matrices in the second stage of Experiment 1,"Times Rank" is the occurrence of rank-access by a subject in the second part of Experiment 1,"High Status" is a dummy variable that captures whether the subject was assigned to the high status treatment "Low Ability" is a dummy variable that captures whether the subject was classified as having low ability on the task. $ln(\delta)$ is the estimated dispersion from the mean. Standard errors presented in parentheses. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

In summary, these results demonstrate that the performance and belief differences generated by the treatments were not caused by subjects naively believing that the treatment assignment had some relationship with their ability on the task. On the contrary, I find that subjects who deliberately chose to get more information about their relative ability on the task, as well as those who did not acquired such information, displayed significant treatment effects. However, the treatment effects were larger for low ability subjects who did not accessed the rank because receiving bad news weakened, but not restricted in their totality, the formation and maintenance of motivated beliefs.

6. Conclusion and Discussion

This paper demonstrated that internal constraints generated by social status, in the form of beliefs about own abilities, are powerful enough to affect achievement. Therefore, social standings can influence economic achievement not only by means of the pecuniary advantages or disadvantages that they entail, but also through the beliefs that they trigger in individuals. A theoretical framework demonstrated that individuals can form beliefs and display performance levels that depend on their assigned social status, and this dependence emerges despite stringent assumptions being imposed. Two empirical analyses support this mechanism and complement each other. The laboratory experiment presented clean causal evidence that the status treatment affected beliefs, performance, and rank access behavior. The analysis of the cohort study presented survey evidence consistent with my proposal, and, more importantly, demonstrated that the proposed mechanism not only materializes in the laboratory, but that is powerful enough to affect the life of individuals.

The main economic implications of these findings entail that societies with institutions that instigate acute social differences, even when these differences do not entail material (dis) advantages, can stimulate economic disparities through unexpected channels. To address these disparities, it would be unrealistic to formulate policies designed to raise everyone's perceived social status, given that social status is, by construction, a zero-sum concept. Although, macroeconomic policies aimed at decreasing income, wealth, and social inequality can, diminish the detrimental psychological effects of having a low social status as presented in this paper.

Furthermore, policies aimed at providing disadvantaged individuals with the opportunity to learn and develop relevant abilities, as well as policies aimed at addressing how these individuals form beliefs about their abilities could help them reach their full potential. The first set of policies could consist on programs that provide education on relevant skills for the labor market as well as guidance to discover, exploit, and gain self-confidence on these talents. The rationale behind these policies is grounded in the model and the results of the experiments, which show that highly skilled individuals are less prone to the psychological effects of social status. The second set of policies could consist on presenting individuals encouraging role models, with the aim of exemplifying that others with a similar background had the capacity to encounter economic success, also programs designed to teach individuals to set ambitious but realistic goals and aspirations, and/or programs that provide therapy aimed at improving self-confidence, self-efficacy, and self-esteem.

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Appendix A: Proofs

Lemma 1

Proof. Suppose that Self 1 receives $\tilde{\theta}_H$ from Self 0. Upon receiving this signal, he chooses e_H as long as:

$$\mathbb{E}_1\Big(U(e_H,\theta_i)|\tilde{\theta}_H\Big) \geq \mathbb{E}_1\Big(U(e_L,\theta_i)|\tilde{\theta}_H\Big) \Leftrightarrow p_H(\lambda_H,\lambda_L)\theta_H(a+s)+\Big(1-p_H(\lambda_H,\lambda_L)\Big)\theta_L(a+s) \geq c, \tag{9}$$

where $p_H(\lambda_H,\lambda_L)$ is defined in equation (4). Algebraic manipulations yield the following inequality:

$$\lambda_L \geq 1 - \frac{(\theta_H(a+s)-c)\Big(qr+\lambda_H q(1-r)+\epsilon(1-\lambda_H)\Big)}{\Big(c-\theta_L(a+s)\Big)\chi\left((1-q)r-\epsilon\right)}. \tag{10}$$

Thus, Self 1 chooses e_H after receiving $\tilde{\theta}_H$ if $\lambda_L \geq \hat{\lambda}_L$ where

$$\hat{\lambda}_L := 1 - \frac{(\theta_H(a+s)-c)\left(qr+\lambda_H q(1-r)+\epsilon(1-\lambda_H)\right)}{\left(c-\theta_L(a+s)\right)\chi\left((1-q)r-\epsilon\right)}.$$

Next, suppose that Self 1 receives $\tilde{\theta}_L$. Choosing e_H is profitable as long as :

$$\mathbb{E}_1\Big(U(e_H,\theta_i)|\tilde{\theta}_L\Big) \geq \mathbb{E}_1\Big(U(e_L,\theta_i)|\tilde{\theta}_L\Big) \Leftrightarrow p_L(\lambda_H,\lambda_L)\theta_H(a+s)+\Big(1-p_L(\lambda_H,\lambda_L)\Big)\theta_L(a+s) \geq c, \tag{11}$$

where $p_L(\lambda_H,\lambda_L)$ as in equation (5). Algebraic manipulations yield the following condition:

$$\lambda_H \leq 1 - \frac{(\theta_H(a+s)-c)\Big((1-q)(1-r)+\epsilon+\lambda_L\left((1-q)r-\epsilon\right)\Big)}{\Big(c-\theta_L(a+s)\Big)\chi(q(1-r)-\epsilon)} \tag{12}$$

Hence, e_H is chosen by Self 1 after receiving $\tilde{\theta}_L$ if $\lambda_H \leq \hat{\lambda}_H$ where

$$\hat{\lambda}_H := 1 - \frac{(\theta_H(a+s)-c)\left((1-q)(1-r)+\epsilon+\lambda_L\left((1-q)r-\epsilon\right)\right)}{\left(c-\theta_L(a+s)\right)\chi(q(1-r)-\epsilon)}$$

.

■

Proposition 1

Proof. Suppose that Self 0 with θ_H chooses a truthful strategy, $\lambda_H = 1$. According to Lemma 1, Self 1 chooses e_L after receiving the unfavorable signal $\tilde{\theta}_L$. Instead, if Self 1 receives $\tilde{\theta}_H$, he chooses either e_H or e_L depending on the value of λ_L. Suppose that $\lambda_L = 0$, which entails that low types will lie whenever possible, induces the low effort level, e_L. Self 0 considers such strategy beneficial as long as:

$$\begin{aligned} \mathbb{E}_0\Big(U(\lambda_L = 1, e_L)\Big) \leq & \mathbb{E}_0\Big(U(\lambda_L = 0, e_L)\Big) \Leftrightarrow \\ \theta_L(a+s)e_L \leq & \theta_L(a+s)e_L + se_L(\theta_H - \theta_L)p_H(\lambda_H = 1, \lambda_L = 0) - m, \end{aligned} \tag{13}$$

which holds whenever m attains the upper bound:

$$m \leq \frac{se_L q(\theta_H - \theta_L)}{q + \chi\left(r(1-q) - \epsilon\right)}. \tag{14}$$

Alternatively, let $\lambda_L = 0$ induce e_H. Self 0 considers $\lambda_L = 0$ beneficial if:

$$\begin{aligned} \mathbb{E}_0\Big(U(\lambda_L = 1, e_L)) \leq & \mathbb{E}_0(U(\lambda_L = 0, e_H)\Big) \Leftrightarrow \\ \theta_L(a+s)e_L \leq & \theta_L(a+s)e_H + se_H(\theta_H - \theta_L)p_H(\lambda_H = 1, \lambda_L = 0) - m - c, \end{aligned} \tag{15}$$

which holds when $c \geq (a+s)\theta_L$, which is assumed through the paper, and m attains the upper bound:

$$m \leq \frac{se_H q(\theta_H - \theta_L)}{q + \chi\left(r(1-q) - \epsilon\right)}. \tag{16}$$

Hence, when the truthful strategy $\lambda_H = 1$ is assumed, the best strategy of Self 0 with a low ability is to tell the truth at the rate $\lambda_L = 0$ if $m \leq \frac{se_H q(\theta_H - \theta_L)}{q + \chi(r(1-q) - \epsilon)}$.

According to Lemma 1, under strategies $\lambda_H = 1$ and $\lambda_L = 0$, Self 1 chooses e_L after receiving $\tilde{\theta}_H$. Therefore, If the aim of Self 0 with (θ_L, σ_H) is to induce e_H, he can engage in a mixed strategy $\lambda_L = \rho$ where $\hat{\lambda}_H \leq \rho < 1$. Such strategy is profitable as long as

$$\begin{aligned} \mathbb{E}_0\Big(U(e_L, \lambda_L = 1)\Big) \leq & \mathbb{E}_0\Big(U(e_H, \lambda_L = \rho)\Big) \Leftrightarrow \\ \theta_L(a+s)e_L \leq & \theta_L a e_H - c - m + \\ se_H\Bigg(\rho\theta_L + (1-\rho)\Big(\theta_H p_H(\lambda_H = 1, \lambda_L = \rho) & + \theta_L\Big(1 - p_H(\lambda_H = 1, \lambda_L = \rho)\Big)\Big)\Bigg) \end{aligned} \tag{17}$$

The second inequality in (17) can be rewritten as,

$$\rho \leq 1 - \frac{\phi q}{1 - \phi\chi\left((1-q)r - \epsilon\right)} \tag{18}$$

where $\phi := \frac{c - \theta_L(a+s)+m}{q(\theta_H - \theta_L)se_H}$.

Suppose $\rho = \hat{\lambda}_H$. Then, replacing (4) into (18) yields:

$$1 - \frac{(\theta_H(a+s) - c)q(r + (1-r)\lambda_H)}{(c - (a+s)\theta_L)\chi(1-q)r} \leq 1 - \frac{\phi q}{1 - \phi\chi\left((1-q)r - \epsilon\right)}. \tag{19}$$

Some algebraic manipulations yield that (19) can be rewritten as:

$$c \leq (a+s)\left(\frac{se_H q\theta_H + \chi\left((1-q)r - \epsilon\right)(m - (a+s)\theta_L)}{se_H q + (a+s)\chi\left((1-q)r - \epsilon\right)}\right) \tag{20}$$

Hence, if $m \leq \bar{m}$ and $c \leq \bar{c}$ hold, where $\bar{m} = \frac{se_L q(\theta_H - \theta_L)}{q + \chi(r(1-q) - \epsilon)}$ and $\bar{c}$ is the right hand side of (20), Self 0 with (θ_L, σ_H) chooses the mixed strategy $\lambda_L = \hat{\lambda}_L$ to which Self 1 reacts choosing e_H.

Self 0 does not deviate from the strategy $\lambda_L = \hat{\lambda}_H$ to choose another mixed strategy $\hat{\lambda}_H < \rho < 1$ because:

$$\begin{aligned} \mathbb{E}_0\Big(U(e_L, \lambda_L = \rho)\Big) \leq &\mathbb{E}_0\Big(U(e_H, \lambda_L = \hat{\lambda}_L)\Big) \Leftrightarrow \\ qse_H(\theta_H - \theta_L)\left(\frac{(1-\rho)}{q + (1-\rho)\chi\left((1-q)r - \epsilon\right)} - \frac{(1-\hat{\lambda}_L)}{q + (1-\hat{\lambda}_L)\chi\left((1-q)r - \epsilon\right)}\right) &\leq 0, \end{aligned} \tag{21}$$

where the second inequality in (21) is guaranteed by the relationship $\rho > \hat{\lambda}_L$. Therefore, to induce e_H, Self 0 with (θ_L, σ_H) sets $\lambda_L^{**} = \hat{\lambda}_L$ if $m \leq \bar{m}$ and $c \leq \bar{c}$ hold.

Furthermore, Self 0 with θ_H does not deviate from $\lambda = 1$. Suppose that setting $\lambda_H = 0$ induces e_H, then Self 0 is better off with $\lambda = 1$ since he does not incur in the cost m and he obtains higher psychological benefits. Formally,

$$\begin{aligned} &\mathbb{E}_0\Big(U(\lambda_H = 1, e_H)\Big) > \mathbb{E}_0\Big(U(\lambda_H = 0, e_H)\Big) \\ &\quad \theta_H(a+s)e_H - c > \theta_H(a+s)e_H - se_H(\theta_H - \theta_L)p(\lambda_H = 0, \lambda_L = \hat{\lambda}_L) - m - c. \end{aligned} \tag{22}$$

The second inequality in (22) holds since $-se_L(\theta_H - \theta_L)p(\lambda_H = 0, \lambda_L = \hat{\lambda_L}) - m < 0$

Let instead $\lambda_H = 0$ generate e_L. Then, Self 0 is again better off setting $\theta_H = 1$. That is because

$$\begin{aligned} &\mathbb{E}_0\Big(U(\lambda_H = 1, e_H)\Big) > \mathbb{E}_0\Big(U(\lambda_H = 0, e_H)\Big) \Leftrightarrow \\ &\quad \theta_H(a+s)e_H - c > \theta_H(a+s)e_L - se_L(\theta_H - \theta_L)p(\lambda_H = 0, \lambda_L = \hat{\lambda}_L) - m \end{aligned} \tag{23}$$

always holds due to $\theta_H(a+s) - c > 0 > -se_L(\theta_H - \theta_L)p(\lambda_H = \nu, \lambda_L = \hat{\lambda}_L) - m$. Similarly, any mixed strategy $\lambda_H = \nu$, where $0 < \nu < 1$, yields lower psychological benefits than setting $\lambda_H = 1$ and generates self-deception costs $m > 0$, making Self 0 worse off. Hence, Self 0 with $\theta_i = \theta_H$ is better off setting $\lambda_H^{**} = 1$ whenever $\lambda_L = \hat{\lambda}_L$.

Finally, Selves 0 with (θ_L, σ_L) or with (θ_L, σ_L) are unable to engage in self-deception and set $\lambda_L^{**} = 1$ and $\lambda_H^{**} = 1$. These strategies yield e_L and e_H, respectively.

■

Corollary 1

Proof. To investigate the effect of increments on ϵ on the conditions required for Proposition 1, I compute the derivatives $\frac{\partial \bar{c}}{\partial \epsilon}$ and $\frac{\partial \bar{m}}{\partial \epsilon}$. The derivative of ϵ on $\bar{c}$ is:

$$\frac{\partial \bar{c}}{\partial \epsilon} = \frac{\chi(a+s)}{se_H q + (a+s)\chi((1-q)r - \epsilon)}\Big((a+s)\theta_L + \bar{c} - m\Big) \tag{24}$$

Suppose that $\frac{\partial \bar{c}}{\partial \epsilon} < 0$, Equation (24) entails that a requirement for this comparative static is:

$$m > (a+s)\theta_L + \bar{c} \tag{25}$$

Replacing $\bar{c} = (a+s)\left(\frac{se_H q\theta_H + \chi((1-q)r-\epsilon)(m-(a+s)\theta_L)}{se_H q + (a+s)\chi((1-q)r-\epsilon)}\right)$ from Proposition 1 into (25) yields:

$$m > (a+s)(\theta_H + \theta_L), \tag{26}$$

which cannot hold inasmuch as Proposition eq:conditioncorollary holds as long as $m < \bar{m}$, where $\bar{m} = \frac{se_H q(\theta_H - \theta_L)}{q + \chi(r(1-q)-\epsilon)}$. Hence, it must be that $\frac{\partial \bar{c}}{\partial \epsilon} > 0$.

The partial derivative of ϵ on $\bar{m}$ is:

$$\frac{\partial \bar{m}}{\partial \epsilon} = \frac{\chi se_L q(\theta_H - \theta_L)}{\left(q + \chi\left(r(1-q) - \epsilon\right)\right)^2} \tag{27}$$

where it is evident that $\frac{\partial \bar{m}}{\partial \epsilon} > 0$. Therefore, the conditions for Proposition 1, $c < \bar{c}$ and $m < \bar{m}$ become less stringent as ϵ increases. ■

Proposition 2

Proof. Suppose that Self 0 with θ_L chooses $\lambda_L = 1$. Lemma 1 states that after receiving $\tilde{\theta}_H$, Self 1 chooses e_H since $\lambda_L = 1 \geq \hat{\lambda}_L$. Instead, Self 1 chooses either e_H or e_L after receiving $\tilde{\theta}_L$. Assume that $\lambda_L = 0$ induces Self 1 to choose e_H. Then, Self 0 with (θ_H, σ_L) is better off choosing $\lambda_H = 1$ as long as:

$$
\begin{aligned}
\mathbb{E}_0\Big(U(\lambda_H = 1, e_H)\Big) \geq & \mathbb{E}_0\Big(U(\lambda_H = 0, e_H)\Big) \Leftrightarrow \\
\theta_H(a+s)e_H - c \geq & \theta_H(a+s)e_H - se_H(\theta_H - \theta_L)p_L(\lambda_H = 0, \lambda_L = 1) - m - c,
\end{aligned} \tag{28}
$$

where the second inequality above holds since $-se_L(\theta_H - \theta_L)p_L(\lambda_H = 0, \lambda_L = 1) - m < 0$.

Alternatively, let $\lambda_H = 0$ yield e_L. Then, Self 0 with (θ_H, σ_L) is better off choosing $\lambda_H = 1$ as long as:

$$
\begin{aligned}
\mathbb{E}_0\Big(U(\lambda_H = 1, e_H)\Big) \geq & \ \mathbb{E}_0\Big(U(\lambda_H = 0, e_H)\Big) \Leftrightarrow \\
\theta_H(a+s)e_H - c \geq & \ \theta_H(a+s)e_L - se_L(\theta_H - \theta_L)p_L(\lambda_H = 0, \lambda_L = 1) - m,
\end{aligned} \tag{29}
$$

where the second inequality above holds for all the feasible values that the parameters of the model can attain since $\theta_H(a+s) - c > 0 > -se_L(\theta_H - \theta_L)p_L(\lambda_H = 0, \lambda_L = 1) - m$. Hence, Self 0's best response is to set $\lambda_H^{**} = 1$ if $\lambda_L = 1$.

Suppose now that $\lambda_H = 1$. According to Lemma 1, Self 1 chooses e_L upon receiving $\tilde{\theta}_L$ since $\lambda_H = 1 \geq \hat{\lambda}_H$. Instead, if Self 1 receives $\tilde{\theta}_H$ he can either choose e_H or e_L. The strategy of Self 0 with the tuple ability-status (θ_L, σ_H) depends on the magnitude of m. To see how, suppose that $\lambda_L = 0$ induces e_L, $\lambda_L = 1$ makes Self 0 better off as long as:

$$
\begin{aligned}
\mathbb{E}_0\Big(U(\lambda_L = 1, e_L)\Big) > & \ E_0\Big(U(\lambda_L = 0, e_L)\Big) \Leftrightarrow \\
\theta_L(a+s)e_L > & \ \theta_L(a+s)e_L + se_L(\theta_H - \theta_L)p_H(\lambda_H = 1, \lambda_L = 0) - m,
\end{aligned} \tag{30}
$$

which holds whenever $m > \frac{se_L q(\theta_H - \theta_L)}{q + \chi((1-q)r - \epsilon)}$

Alternatively, when $\lambda_L = 0$ induces e_H, Self 0 is better off setting $\lambda_L = 1$ whenever:

$$
\begin{aligned}
\mathbb{E}_0\Big(U(\lambda_L = 1, e_L)\Big) > & \ \mathbb{E}_0\Big(U(\lambda_L = 0, e_H)\Big) \Leftrightarrow \\
\theta_L(a+s)e_L > & \ \theta_L(a+s)e_H + se_H(\theta_H - \theta_L)p_H(\lambda_H = 1, \lambda_L = 0) - m - c,
\end{aligned} \tag{31}
$$

which holds as long as $m > \frac{se_H q(\theta_H - \theta_L)}{(q + \chi(r(1-q)) - \epsilon)}$. Therefore, Self 0's best strategy is to set $\lambda_L^{**} = 1$ if $\lambda_H = 1$ and $m > \frac{se_H q(\theta_H - \theta_L)}{q + \chi(r(1-q) - \epsilon)}$.

Finally, note that Lemma 1 states that when $\lambda_L^{**} = 1$ and $\lambda_H^{**} = 1$, Self 1 reacts to $\tilde{\theta}_L$ with e_L and to $\tilde{\theta}_H$, with e_H.

■

Appendix B: Additional equilibria of the status and self-deception game

In this appendix I present the remaining equilibria of the social status and self-deception game. These equilibria are relegated to an appendix for two reasons. The first is to keep the paper short and coherent; presenting the whole set of equilibria could deviate the reader's attention from the main message of this study which that status can have an influence on performance by means of beliefs. This message is adequately conveyed by Proposition 1. The second reason is that the equilibria presented in the main body of the paper are the empirically relevant equilibria. While Proposition 1 yields the message that status can affect beliefs and performance, Proposition 2 represents the opposing situation in which status is economically irrelevant. Instead, the equilibria described below yield that status affects beliefs and performance in unexpected ways.

I start describing an equilibrium in which individuals exert low effort regardless of their social status or ability. This equilibrium is a pooling equilibrium at low levels of effort and it presents a situation in which low ability individuals engage in self-deception whenever they can, making favorable signals non-credible.

Definition 3. *A "low pooling" equilibrium of the status and self-deception game is characterized by the tuple* $(\lambda_\ell^{**}, e_\ell^{**})$*, where*

$$e_\ell^{**} = e_L$$

and

$$\lambda_\ell^{**} = \begin{cases} 0 & \text{if } (\theta_L, \sigma_H), \\ 1 & \text{if } \theta_H \text{ or } (\theta_L, \sigma_L). \end{cases}$$

Proposition 3. *The equilibrium* $(\lambda_\ell^{**}, e_\ell^{**})$ *is sustained if* $s > 0$*,* $c > \bar{c}$*,* $m \leq \bar{m}$*, and* $m > a(\theta_H - \theta_L) + s(\theta_H - \theta_L)\frac{((1-q)(1-r)+\epsilon)e_L + \chi((1-q)r-\epsilon)}{(1-q)(1-r)+\epsilon+\chi((1-q)r-\epsilon)}$.

Proof. Suppose that $\lambda_H = 1$. According to Lemma 1, Self 1 chooses e_L when receiving $\tilde{\theta}_L$ since $\lambda_H = 1 \geq \hat{\lambda}_H$. Instead, after receiving $\tilde{\theta}_H$, Self 1 chooses either e_H or e_L. Given these possible reactions, Self 0's strategy depends on the magnitude of m. In particular, when $\lambda_L = 0$ induces e_L and $m \leq \frac{se_L q(\theta_H - \theta_L)}{q+\chi(r(1-q)-\epsilon)}$, Self 0 is better off setting $\lambda_L = 0$, because for those values of m, $\mathbb{E}_0\Big(U(\lambda_L = 1, e_L)\Big) = \theta_L(a+s)e_L \leq \theta_L(a+s)e_L + se_L(\theta_H - \theta_L)p_H(\lambda_H = 1, \lambda_L = 0) - m = \mathbb{E}_0\Big(U(\lambda_L = 0, e_L)\Big)$. Instead, if $\lambda_L = 0$ induces e_H, Self 0 is better off setting $\lambda_L = 0$ as long as $m \leq \frac{se_H q(\theta_H - \theta_L)}{q+\chi(r(1-q)-\epsilon)}$ since $\mathbb{E}_0\Big(U(\lambda_L = 1, e_L)\Big) = \theta_L(a+s)e_L \leq$

$\theta_L(a+s)e_H + se_H(\theta_H-\theta_L)p_H(\lambda_H=1,\lambda_L=0) - m - c = \mathbb{E}\Big(U(\lambda_L=0,e_H)\Big)$ requires that m attains, at least, $m = \frac{se_H q(\theta_H-\theta_L)}{q+\chi((1-q)-\epsilon)}$.

Additionally, according to Proposition 1, Self 0 prefers to set $\lambda_L = 0$ to $\lambda_L = \hat{\lambda}_L$ if $c > \bar{c}$, since $\mathbb{E}_0\Big(U(e_L,\lambda_L=0)\Big) > \mathbb{E}_0\Big(U(e_H,\lambda_L=\hat{\lambda}_H)\Big)$. Therefore, Self 0's best strategy is to set $\lambda_L = 0$ if $\lambda_H = 1$ and $m \leq \frac{se_L q(\theta_H-\theta_L)}{q+\chi(r(1-q)-\epsilon)}$.

Next, suppose that $\lambda_L = 0$. According to Lemma 1, Self 1 chooses e_L after receiving $\tilde{\theta}_H$ since $\lambda_L = 0 < \hat{\lambda}_L$. Instead, if $\tilde{\theta}_L$ is received, Self 1 chooses either e_H or e_L. Self 0 is better off setting $\lambda_H = 1$ if $\lambda_H = 0$ induces e_L, since $\mathbb{E}_0\Big(U(\lambda_H=1,e_L)\Big) = \theta_H(a+s)e_L \geq \theta_H(a+s)e_L - se_L(\theta_H-\theta_L)p_L(\lambda_H=0,\lambda_L=0) - m = \mathbb{E}_0\Big(U(\lambda_H=0,e_L)\Big)$ always holds due to $-se_L(\theta_H-\theta_L)p_L(\lambda_H=0,\lambda_L=0) - m < 0$. In contrast, when $\lambda_H = 0$ induces e_H, Self 0 is better off with $\lambda_H = 1$ rather than with $\lambda_H = 0$ whenever $m > a(\theta_H-\theta_L) + s(\theta_H-\theta_L)\frac{((1-q)(1-r)+\epsilon)e_L+\chi((1-q)r-\epsilon)}{(1-q)(1-r)+\epsilon+\chi((1-q)r-\epsilon)}$. This is because $\mathbb{E}_0\Big(U(\lambda_H=1,e_L)\Big) = \theta_H(a+s)e_L > \theta_H(a+s)e_H - se_H(\theta_H-\theta_L)p_L(\lambda_H=0,\lambda_L=0) - m - c = \mathbb{E}_0\Big(U(\lambda_H=0,e_H)\Big)$ holds for such values of m. Therefore, when $\lambda_L = 0$ and the cost of self-deception is large, Self 0 with (θ_H, s_L) sets $\lambda_H^{**} = 1$.

Lemma 1 states that when $\lambda_L^{**} = 0$ and $\lambda_H^{**} = 1$, favorable signals $\tilde{\theta}_H$ are best responded with e_L. Finally, individuals with (θ_L,σ_L) and (θ_H,σ_H) set $\lambda_L^{**} = 1$ and $\lambda_H^{**} = 1$, respectively, to which Self 1 reacts with e_L.

■

Proposition 3 presents an equilibrium in which low ability individuals engage in a pure strategy of self-deception $\lambda_L = 0$. In contrast to Proposition 1, engaging in a mixed strategy $\lambda_L = \hat{\lambda}_H$ to make Self 1 indifferent is no longer profitable due to the high costs faced by the individual when the high effort e_H is chosen. However, self-deception is profitable inasmuch as it yields psychological utility and the costs associated to it are moderate for the low types, i.e. $m < \bar{m}$. For high ability individuals is best strategy to be truthful because they could generate e_L without the need of engaging in self-deception and because the costs associated to high effort are too elevated. Finally, Self 1 reacts to favorable signals by setting low effort levels.

Another equilibrium arising from the game is a separating equilibrium in social status. However, in this equilibrium effort becomes lower with higher status.

Definition 4. *A separating equilibrium of the status and self-deception game is characterized by the tuple* $(\lambda_m^{**}, e_m^{**})$, *where*

$$e_m^{**} = \begin{cases} e_L & \textit{if } (\theta_L,\sigma_H) \textit{ and } (\theta_H,\sigma_H), \\ e_H & \textit{if } (\theta_L,\sigma_L) \textit{ and } (\theta_H,\sigma_L). \end{cases}$$

and

$$\lambda_m^{**} = \begin{cases} 0 & \textit{if } (\theta_L, \sigma_H) \textit{ and } (\theta_H, \sigma_L), \\ 1 & \textit{if } (\theta_L, \sigma_L) \textit{ and } (\theta_H, \sigma_H). \end{cases}$$

Proposition 4. *The equilibrium $(\lambda_m^{**}, e_m^{**})$ is sustained if $s > 0$, $c > \bar{c}$, $m < \bar{m}$, and $m \leq a(\theta_H - \theta_L) + s(\theta_H - \theta_L)\frac{((1-q)(1-r)+\epsilon)e_L + \chi((1-q)r-\epsilon)}{(1-q)(1-r)+\epsilon+\chi((1-q)r-\epsilon)}$.*

Proof. Let $\lambda_H = 0$. According to Lemma 1, Self 1 chooses e_H after receiving $\tilde{\theta}_L$ since $\lambda_H = 0 < \hat{\lambda}_H$. Instead, if $\tilde{\theta}_H$ is received, Self 1 chooses either e_H or e_L. Self 0's strategy with (θ_L, σ_H) depends on m. Let $\lambda_L = 0$ generate e_L, then $\mathbb{E}_0\Big(U(\lambda_L = 0, e_L\Big) = (a + s)\theta_L e_L + s e_L(\theta_H - \theta_L)p_H(\lambda_H = 0, \lambda_L = 0) - m \geq (a+s)\theta_L e_H - c = \mathbb{E}_0\Big(U(\lambda_L = 1, e_H\Big)$ whenever $m \leq \frac{(qr+\epsilon)se_L(\theta_H-\theta_L)}{qr+\epsilon+\chi((1-q)r-\epsilon)}$. Next, let $\lambda_L = 0$ induce e_H. Self 0's strategy again depends on the values that m attains. Strategy $\lambda_L = 0$ is profitable if $m \leq \frac{(qr+\epsilon)se_H(\theta_H-\theta_L)}{qr+\epsilon+\chi((1-q)r-\epsilon)}$. That m attains such lower bound guarantees that $\mathbb{E}_0\Big(U(\lambda_L = 1, e_H)\Big) = \theta_L(a+s)e_H - c \leq \theta_L(a+s)e_H + se_H(\theta_H - \theta_L)p_H(\lambda_H = 0, \lambda_L = 0) - m - c = \mathbb{E}_0\Big(U(\lambda_L = 0, e_L)\Big)$.

Let $\lambda_L = 0$. According to Lemma 1, Self 1 chooses e_L after receiving $\tilde{\theta}_H$ since $\lambda_L = 0 < \hat{\lambda}_L$. Instead, if $\tilde{\theta}_L$ is received, Self 1 chooses either e_H or e_L. Suppose that $\lambda_H = 0$ induces e_L. Then, self 0 is better off setting $\lambda_H = 1$ since the inequality $\mathbb{E}_0\Big(U(\lambda_H = 1, e_L)\Big) = \theta_H(a+s)e_L \geq \theta_H(a+s)e_L - se_L(\theta_H - \theta_L)p_L(\lambda_H = 0, \lambda_L = 0) - m = \mathbb{E}_0\Big(U(\lambda_H = 0, e_L)\Big)$ holds for all the possible values that the parameters of the model can attain since $-se_L(\theta_H - \theta_L)p_L(\lambda_H = 0, \lambda_L = 0) - m < 0 < \theta_H(a+s)$. Instead,Self 0 is better off setting $\lambda_H = 0$ rather than $\lambda_H = 1$ if $\lambda_H = 0$ induces e_H and $m \leq a(\theta_H - \theta_L) + s(\theta_H - \theta_L)\frac{((1-q)(1-r)+\epsilon)e_L + \chi((1-q)r-\epsilon)}{(1-q)(1-r)+\epsilon+\chi((1-q)r-\epsilon)}$. Because for such values of m the inequality $\mathbb{E}_0\Big(U(\lambda_H = 1, e_L)\Big) = \theta_H(a+s)e_L \leq \theta_H(a+s)e_H - se_H(\theta_H - \theta_L)p_L(\lambda_H = 0, \lambda_L = 0) - m - c = \mathbb{E}_0\Big(U(\lambda_H = 0, e_H)\Big)$ holds. Thus, when $\lambda_L = 0$ Self 0 with $\theta_i = \theta_H$ is better off sending $\lambda_H = 1$ as long as the cost of self-deception is not larger than the upper bound $m \leq a(\theta_H - \theta_L) + s(\theta_H - \theta_L)\frac{((1-q)(1-r)+\epsilon)e_L + \chi((1-q)r-\epsilon)}{(1-q)(1-r)+\epsilon+\chi((1-q)r-\epsilon)}$.

Lemma 1, shows that for $\lambda_L^{**} = 0$ and $\lambda_H^{**} = 1$, Self 1 reaction to receiving $\tilde{\theta}_H$ is setting e_L. Also, upon receiving $\tilde{\theta}_L$ Self 1's best-response is to set e_H. Finally, individuals with (θ_L, σ_L) and (θ_H, σ_H) set $\lambda_L^{**} = 1$ and $\lambda_H^{**} = 1$, to which self 1 reacts with e_H and e_L, respectively.

■

Proposition 4 presents an equilibrium in which both high and low ability individuals engage in pure strategies of self-deception whenever possible. Such behavior makes favorable and unfavorable signals not credible. According to Lemma 1, this propensity to engage in self-deception from both types entails that Self 1's reaction to favorable signals is to exert low effort, e_L and also that the reaction to unfavorable signals is to set high effort, e_H.

This equilibrium emerges because low ability individuals have no incentive to be truthful: they derive utility gains from holding high beliefs about their ability. Similarly, high ability individuals engage in a strategy of self-deception because self-deception is not too costly and because being truthful generates lower effort levels, which leads to lower utility levels.

Appendix C: Description of control variables

Table 9: Variables description

Variable	Sweep	Type	Description
Demographic			
Mother's age birth	1970	Continuous	Age of mother at first birth
Father's age	1970	Continuous	Age of father at present marriage
Female	1970	Dichotomous	Whether individual is female
Family Income	1980	Categorical	Gross weekly family income
Cognitive ability			
Number of O levels	1986	Continuous	Number of achieved O-levels
EPVT	1975	Continuous	English Picture Vocabulary Test
MATHS	1980	Continuous	Friendly Maths Test Score
READ	1980	Continuous	Edinburgh Reading Test Score
Copy	1975	Continuous	Score of Copying Test
BAST	1980	Continuous	British Ability Scale Test
Non-cognitive traits			
Anti-social	1975	Continuous	Disobedient, destructive, aggressive, restless and tantrum.
Neurotic	1975	Continuous	miserable, worried, fearful, fussy and complains of aches and pains.
Anxiety	1980	Continuous	9 items on anxiety.
Hyperactivity	1980	Continuous	6 items, includes the items squirmy, excitable, twitches, hums and taps.
Application	1980	Continuous	Child's concentration and perseverance and ability to understand and complete complex tasks.
Clumsiness	1980	Continuous	items on bumping into things, and the use of small objects such as scissors.
Extroversion	1980	Continuous	items concerning talkativeness and an explicit question about extroversion.
CAROLOC	1980	Continuous	Score for locus of control (Gammage, 1975)
LAWSEQ	1980	Continuous	Score for self-confidence (Lawrence, 1973, 1978)

Variables description (Continued)

Variable	Sweep	Type	Description
Self-reported skills			
Communicator	1986	Dichotomous	Whether individual is a good communicator
Handy	1986	Dichotomous	Whether individual is good with hands
Thinker	1986	Dichotomous	Whether individual is a clear thinker
Worker	1986	Dichotomous	Whether individual is a hard worker
Tidy	1986	Dichotomous	Whether individual is clean and tidy
Reliable	1986	Dichotomous	Whether individual is reliable
Time	1986	Dichotomous	Whether individual is a good time-keeper
Responsible	1986	Dichotomous	Whether individual can take responsibility
Attitudes toward school			
Waste	1986	Categorical	School is largely a waste of time
Quiet	1986	Categorical	Quiet in classroom and get on with work
Bore	1986	Categorical	Thinks homework is a bore
Mind	1986	Categorical	Find it difficult to keep mind on work
Seriously	1986	Categorical	Never take work seriously
Do not like school	1986	Categorical	Do not like school
No plans	1986	Categorical	Plans pointless, take things as they come
Help teacher	1986	Categorical	Always willing to help the teacher
Health variables			
Missed school	1986	Dichotomous	Missed school past 2 yrs due to health
Days Missed	1986	Continuous	Number of school days lost
Depressed	1986	Dichotomous	Whether individual depressed or anxious
Days depressed	1986	Continuous	Days the individual is depressed
Medical help	1986	Dichotomous	Visited the doctor when depressed
Neighborhood variables			
Neighbors	1986	Categorical	What are people like in your neighborhood?
Walk alone	1986	Categorical	Ever walk alone in your area after dark?
Safe walk alone	1986	Categorical	if walk alone, how do you feel?
Expectations			
Parents Expectations	1986	Dichotomous	Advised by parents to leave school early.
Teachers Expectations	1986	Dichotomous	Advised by teachers to leave school early.
Own expectations	1986	Dichotomous	Always taken early leaving for granted

Table 10: Descriptive statistics of variables

Variable	**N**	**Mean**	**Median**	**St. Dev.**
Demographics				
Mothers' age birth	17,196	21.94	22	4.727
Father's age	17,196	13.551	21	14.939
Female	8,874	0.526	1	0.499
Family Income	14,875	2.612	3	1.993
Cognitive ability				
No. of O-levels	23,327	1.263	0	2.449
EPVT	13,1357	34.280	36	16.256
MATHS	14,875	34.154	40	21.521
READ	14,875	-0.342	-0.76	0.940
Copy	13,135	4.663	5	2.089
BAST	11,368	62.662	63	12.295
Non-cognitive traits				
Anti-social	13,135	9.228	9	3.825
Anxiety	12,751	135.374	124	76.910
Hyperactivity	12,751	69.969	58	50.655
Neurotic	13,135	8.044	8	3.392
Application	12,751	312.581	311	59.116
Clumsiness	12,751	197.218	195	47.137
Extroversion	12,751	145.608	147	27.123
CAROLOC	23,327	3.675	3	3.942
LAWSEQ	23,327	8.247	8	8.237
Self-reported skills				
Communicator	11,617	0.459	0	0.36
Handy	11,617	0.495	0	0.387
Thinker	11,617	0.494	0	0.387
Worker	11,617	0.299	0	0.221
Tidy	11,617	0.432	0	0.340
Reliable	11,617	0.295	0	0.217
Responsible	11,617	0.363	0	0.644

Descriptive statistics of variables (continued)

Variable	**N**	**Mean**	**Median**	**St. Dev.**
Attitudes toward school				
Waste	11,617	0.952	2	1.879
Quiet	11,617	0 .604	1	1.564
Bore	11,617	0.490	1	1.480
Mind	11,617	0.679	1	1.650
Seriously	11,617	0.910	2	1.848
No Plans	11,617	0.907	1	1.854
Help teacher	11,617	0.636	1	1.603
health variables				
Missed school	11,617	0.544	1	0.438
Days missed	11,617	2.014	0	12.055
Depressed	11,617	0.590	0	0.426
Days depressed (>0)	11,617	3.308	4	0.871
Medical help (>0)	11,617	1.925	1	0.262
Neighborhood				
Neighbors	11,617	.996	1	1.816
Walk alone	11,617	.996	1	1.209
Safe walk alone	11,617	0 .837	1	1.689
Expectations				
Parents Expectations (>-1)	11,617	0.918	1	0.274
Teacher Expectations(>-1)	11,617	0.96	1	0.171
Own expectations(>-1)	11,617	0.903	1	0.087

Appendix D: Experimental Instructions

This is an experiment in the economics of decision-making. The instructions are simple and if you follow them carefully and make good decisions, you might earn a considerable amount of money, which will be paid to you via bank transfer at the end of the experiment. The amount of payment that you receive depends entirely on your decisions and effort.

Once the experiment has started, no one is allowed to talk to anybody other than the experimenter. Anyone who violates this rule will lose his or her right to participate in this experiment. If you have further questions when reading these instructions please do not hesitate to raise your hand and formulate the question to the experimenter.

Part 1

In the first part of the experiment we will ask you to solve a set of 12 tasks, in each of the tasks you are asked to complete a pattern, to do so, you need to choose among some of the options that we provide. Remember that only one of the options is correct. In this part of the experiment you have 4 minutes in order to complete the set of 12 tasks. With the completion of this task we will place you in one of two groups. At the beginning of this part of the experiment we will ask you to provide a personal goal or target, this is we would like you to estimate how many patterns you would be able to solve in that round. Please provide this goal at your best ability! We would really like to know how accurate your estimates are.

Here is an example, which option do you think is the most accurate to complete the pattern?
(Display Example 1)

Here is another example, which option do you think is the most accurate to complete the pattern?
(Display Example 2)

(Completion set I, programmed to be 5 minutes)

The following participants have a position in the GOLD group. [Call out ID numbers]. Please come up as we call your name and receive your medal. You will wear your medal for the rest of the exercise. Please remain standing at the front of the room until all medals are distributed.
Let's give the Gold group a round of applause!

Part 2

In the second and last part of the experiment you are asked to solve patterns just like the ones that you completed in the first part of this experiment. You need to solve as many patterns as you can, since for each correctly solved pattern you would receive a certain amount of points, which can be exchanged for money at the end of the experiment. Hence the money that you earn in the exercise depends on your performance in this part of the experiment.

(Display only if relative performance ranking available) While working on the patterns you can also check you ranking with respect to your peers by pressing on the button "check my ranking" located at the bottom of your screen. Mind that this descending ranking only reflects your performance in the task with respect to your peers. You can go back to complete patters by pressing the bottom "Take me back to work".

During this part of the experiment you have 5 rounds, each of 4 minutes, to complete as many patterns as you can. Feedback about your own performance, this is whether you solved correctly a pattern or not, would be given to you as soon as you solved that pattern. A summary of the number of correctly solved and incorrectly solved patterns in the round would be given to you as soon as the round ends. Your final score, this is the amount of points derived from each round, would only be shown to you at the end of the experiment. The exchange rate at which the points can be exchanged for money would be determine is of 0.50 Euro cents per point.

Finally, at the beginning of each round we will ask you to provide a personal goal or target, this is we would like you to estimate how many patterns you would be able to solve in that round. Please provide this goal at your best ability! we would really like to know how accurate are your estimates.

(Completion set II, programmed to take 25 minutes)

Appendix E: Additional Analyses

E.1 Cohort data with discrete variables

This Appendix presents the analysis of the cohort data when the most relevant variables are discrete. The variables *"High Status Parents"*, *"High Aspirations"*, and *"High Status"*, indicate either occupations that require non-vocational tertiary education levels such as university, or the aspiration to achieve these education levels. The descriptive statistics of these variables are presented in Table 11

Table 11: Descriptive statistics of discrete variables

Variable	Mean	St. Dev.	Median	Max.	Min.
High Aspirations	0.417	0.417	0	1	0
High Status Parents	0.182	0.386	0	1	0
High Status Adult	0.412	0.492	0	1	0

Note: This table presents the averages, standard deviations, medians, the maximum value and the minimum value of the main variables used in the survey analysis.

The estimates of logistic regressions featuring the discrete versions of the variables of interest are presented in Table 12. Columns 1 and 2 show that belonging to a high status is associated a 5.4% higher chance to have high educational aspirations and this increase is significant at the 1% level for all specifications. Hence, I find empirical evidence supporting the claim that higher status at birth is related with a higher educational aspirations and that this relationship is robust to controlling for variables that reflect the individuals' aptitudes and circumstances.

The estimates presented in Columns 3 and 4 in Table 12 suggest that belonging to a high status is associated a 5.4% higher chance to have high educational aspirations and this increase is significant at the 1% level for all specifications. Hence, I find empirical evidence supporting the claim that higher status at birth is related with a higher educational aspirations and that this relationship is robust to controlling for variables that reflect the individuals' aptitudes and circumstances.

E.2 Heterogeneous treatment effects

To better understand the effect of the treatments on performance, I abandon the binary classification of ability, e.g. high and low, and replace it by the subjects' performance on the first part of the experiment. The latter measure can be interpreted as a "continuous"

Table 12: Determinants of High Achieved Status and High Aspirations

	(1) High Aspirations	(2) High Aspirations	(3) High Status Adult	(4) High Status Adult
High Aspirations* High Status Parents			2.097***	0.884***
			(0.162)	(0.203)
High Aspirations			1.361***	0.836***
			(0.114)	(0.146)
High Status Parents	0.892***	0.311**	0.134	-0.142
	(0.097)	(0.122)	(0.163)	(0.199)
Mother's age at birth	0.005	-0.007	0.008	0.004
	(0.005)	(0.006)	(0.006)	(0.007)
Female	0.492***	0.428***	-0.568***	-0.550***
	(0.083)	(0.127)	(0.099)	(0.138)
Family income 1980		-0.142***		-0.113***
		(0.030)		(0.032)
Constant	1.975***	1.614*	-1.026***	-2.575**
	(0.307)	(0.960)	(0.384)	(1.074)
Cognitive skills	NO	YES	NO	YES
Non-cognitive traits	NO	YES	NO	YES
Self-reported skills	NO	YES	NO	YES
Neighborhood	NO	YES	NO	YES
Expectations	NO	YES	NO	YES
Attitudes toward school	NO	YES	NO	YES
Health	NO	YES	NO	YES
Country Fixed effects	YES	YES	YES	YES
Region Fixed effects	YES	YES	YES	YES
Log-Likelihood	-1728.591	-1095.687	-1271.931	-936.744
Observations	2661	2178	2,090	1,719

Note: Columns 1, 2, and 3 presents the estimates of the ordered logistic regression of the model $HighAspirations_i = \beta_0 + \beta_1 HighStatusParents_i + Controls'\Gamma + \epsilon_i$ with $\epsilon_i \sim logistic$. Columns 4, 5, and 6 presents the estimates of the ordered logistic regression of the model and $HighStatusAdult_i = \beta_0 + \beta_1 HighStatusParents * HighAspirations + \beta_2 HighAspirations + \beta_3 HighStatusParents_i + Controls'\Gamma + \epsilon_i$ with $\epsilon_i \sim logistic$. "High Status Adult" is an binary variable that takes a value of one if the individual's occupation at the age of 37 required either university or technical education. "High Aspirations" is a binary variable that takes a value of one when the educational aspirations of the individual at adolescence indicated either university or technical education. "High Status Parents" is a binary variable that takes a value of one when the parents' education was either university or technical education. The description of the control variables is presented in Appendix C. Clustered standard errors at the individual level in parentheses. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

measure of ability, and it allows for a richer quantification of the treatment effect. Table 13 presents the estimates of negative binomial regressions of performance on the second part of the experiment on performance on the first part of the experiment, a treatment dummy and, for some specifications, relevant controls.

Table 13: Heterogeneous Treatment Effects in Experiment 1

	(1) Performance	(2) Performance	(3) Beliefs	(4) Beliefs
High Status* Performance Part 1	-3.058***	-3.058***	-0.849	-0.979
	(0.951)	(0.861)	(1.185)	(0.655)
High Status	28.616***	28.743***	8.794	10.195*
	(8.868)	(8.102)	(11.001)	(5.983)
Performance Part 1	2.184***	2.392***	1.300	1.373***
	(0.639)	(0.593)	(0.987)	(0.476)
Session Size		-0.628*		0.087
		(0.358)		(0.308)
Belief practice round		-0.041		1.513***
		(0.199)		(0.137)
Medal Fair		-2.243		-0.776
		(1.555)		(1.157)
Locus of Control		0.736*		0.381
		(0.414)		(0.361)
Female		3.476**		-0.426
		(1.590)		(1.242)
Performed Task Before		5.777***		4.793***
		(1.963)		(1.682)
$ln(\delta)$	0.612***	0.394	0.577***	-1.000
	(0.260)	(0.287)	(0.206)	(0.636)
N	136	136	136	136
Log-likelihood	-472.418	-463.537	-492.051	-443.101

Note: This table presents marginal effects of negative binomial regressions of the model $Performance_i = \beta_0 + \beta_1 PerformancePart1 + \beta_2 HighStatus + \beta_3 PerformancePart1 * HighStatus + Controls'\Gamma + \epsilon_i$, with $\epsilon \sim poisson(\lambda)$. "Performance" is the number of correctly solved matrices in the second part of Experiment 1, "High Status" is a dummy variable that captures whether the subject was assigned to the high status treatment "Performance Part 1' is the number of correctly solved matrices in the first part of the experiment. $ln(\delta)$ is the estimated dispersion from the mean. Standard errors presented in parentheses. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

The resulting estimates suggest that the treatments generate a drastic change in the relationship between the subjects' performance in the first part of the experiment and the subjects' performance in the second part of the experiment. The estimate associated to "Performance Part I" in Table 13 suggests that for subjects assigned to low status, performance in the parts of the experiment relate positively. For these subjects solving correctly one additional matrix in Part 1 increases their performance in Part 2 by 2.18 tables on average. In contrast, the estimate associated to "Part I* High status" shows that subjects assigned to High Status exhibit a negative relationship between these two parts of the experiment. For these subjects, solving correctly an additional matrix in Part 1 yields a decrease in performance of 3.058 tables on average. The evident asymmetry of these treatment effects accounts for the treatment effects presented in Table 4.

Furthermore, the estimates in Table 13 show that when the subject is given Low Status, solving correctly one additional matrix in Part 1 yields an increase of beliefs in Part 2 of 1.37 average matrices. Moreover, the estimate associated to High Status shows that for any performance level in Part 1, subjects exhibit higher beliefs when assigned to the high status treatments as compared to subjects in Low Status who exhibited the same performance in Part 1.

E.3 Beliefs by round

To gain further understanding about the influence of social status on thew subjects' beliefs, I investigate the evolution of beliefs over experimental rounds. The aim of this analysis is twofold. First, it seeks to study whether the treatment assignment affects beliefs at the onset of the experiment or whether such influence requires time and experience on the task. Second, it allows me to understand how individuals update beliefs in each round and how the treatment assignment influenced this updating process. The analysis presented in this subsection focuses on low ability subjects, because high ability subjects did not exhibit aggregate belief differences nor performance differences.

Table 14 presents the average beliefs of subjects by round, by treatment, and by ability. I find that low ability subjects assigned to different treatments display similar average beliefs in the first ($U = 0.811, p = 0.417$) and second round ($U = 0.416, p = 0.677$). However, as of the third round, steep treatment differences emerge.[33] Hence, the treatments' influence on the subjects' beliefs emerges after the first rounds. Additionally, the estimates show that the average beliefs by round of low and high ability subjects are statistically indistinguishable when both groups are assigned High Status.[34]

To understand how subjects update beliefs, I perform a regression relating the subjects' beliefs in a round r to their beliefs and performance in previous rounds. This analysis

[33]The t-tests of these differences are round 3 ($t(52.046) = -1.819, p = 0.03$), round 4 ($t(59.678) = -1.239, p = 0.110$) and round 5 ($t(61.499) = -1.621, p = 0.055$)

[34]The t-tests of these differences are round 1 ($t(43.284) = 1.206, p = 0.234$, round 2 ($t(60.890) = -0.136, p = 0.891$) ,round 3 ($t(54.178) = 1.001, p = 0.321$), round 4 ($t(60.466) = 0.189, p = 0.850$) and round 5 ($t(58.501) = 58.501, 0.661$

Table 14: Performance beliefs by round and by treatment for low ability subjects

Ability Treatment	Low Ability High Status	Low Ability Low Status	High Ability High Status	High Ability Low Status
$\text{Belief}_{r=1}$	7.228	8.103	7.804	8.428
	(2.880)	(4.369)	(4.539)	(4.590)
$\text{Belief}_{r=2}$	8.542	8	8.464	9.463
	(2.582)	(2.449)	(1.971)	(2.079)
$\text{Belief}_{r=3}$	6.285	5.310	6.560	6.785
	(1.824)	(2.361)	(2.549)	(2.079)
$\text{Belief}_{r=4}$	4.371	3.724	4.464	4.634
	(2.073)	(2.085)	(1.815)	(2.130)
$\text{Belief}_{r=5}$	3.3714	2.482	3.142	3.341
	(2.498)	(1.882)	(1.603)	(2.220)
Belief_{r}	5.96	5.524	6.257	6.345
	(3.029)	(3.549)	(3.285)	(3.259)

Note: This table presents the averages and standard deviations of beliefs in the second part of Experiment 1 by experimental treatment and round for those subjects classified as low ability. Standard deviations are presented in parentheses.

allows me to distinguish between subjects setting high beliefs to match a high performance level achieved in previous rounds from subjects setting high beliefs due to the influence of the treatment. Evidence supporting the former conjecture would suggest that the high status treatment induced high performance, and that beliefs matched these high performance. Evidence supporting the latter conjecture would corroborate the existence of the proposed mechanism: social status induces internal constraints through beliefs, which consequently affect effort and performance.

The specific statistical model regresses individual beliefs in round r on performance in round $r-1$, beliefs in the previous two rounds, $r-1$ and $r-2$, treatment dummies, and relevant controls.[35] I estimate the model using the Blundell and Bond technique, which has the advantage of allowing the error term of the regression to be correlated with non-observable characteristics of the subjects. Additionally, I instrumented the subject's belief in the previous round, as is typically done in dynamic panel data models, as well as the subject's performance in the previous round.

Table 15 presents the estimates of the Blundell and Bond regression. The data suggest that the belief-updating process of low ability subjects differs across treatments in two ways. First, there is a treatment difference in how subjects update beliefs in reaction to achieved

[35]This model is the one that best fits the data, additional auto-regressive terms display no statistical significance at the 10% level.

performance in the previous round. Specifically, subjects who belong to High Status always updated their beliefs upward with respect to achieved performance in the previous round, while subjects belonging to Low Status do not exhibit this feature. This difference in belief updating suggests that the assignment to High Status induced confidence in the subjects, who believed that their previous achieved could be improved. This result disregards the conjecture of subjects setting high beliefs only to match high performance levels in previous rounds. Instead, subjects in High Status displayed high average beliefs regardless of their performance level achieved in previous rounds.

Table 15: Belief dynamics for low ability subjects

	(1)	(2)	(3)
Sample	Low Ability	Low Ability/High Status	Low Ability/ Low Status
	Belief_r	Belief_r	Belief_r
Belief_{r-1}	0.4170***	0.400 ***	0.342***
	(0.127)	(0.155)	(0.436)
Belief_{r-2}	0.083	0.258***	0.016
	(0.055)	(0.088)	(0.075)
Performance_{r-1}	0.488***	0.521***	0.311
	(0.124)	(0.149)	(0.235)
Constant	11.528***	-1.441***	-12.201
	(155.444)	(46.090)	(15.728)
Controls	Yes	Yes	Yes
Observations	192	105	87
# instruments	23	23	23

Note: This table presents estimates of the Blundell and Bond regression of the model $Belief_{ri} = \beta_0 + \beta_1 Belief_{(r-1)i} + \beta_2 Performance_{(r-1),i} + Controls'\Gamma + \epsilon_{r,i}$. "Belief" is a subject's beliefs about the number of correctly solved matrices in round r. "Performance" is the number of correctly solved matrices in a round in the second part of the experiment. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

Second, low ability subjects assigned High Status exhibited stronger state dependence (Heckman, 1981). This means that they exhibit a stronger inertia toward updating beliefs upward as rounds elapse. Subjects in High Status update beliefs upward with respect to their own beliefs in the previous two rounds, while subjects in Low Status also update their beliefs upward, but only with respect to their own beliefs in the previous round. This difference in belief updating between similarly skilled subjects suggests that subjects with high status had the confidence to update beliefs upward and more steeply than their counterparts with low status, and this tendency emerged independently of the subjects' performance in previous rounds.

These two differences in belief updating between low ability subjects support the findings of Eil and Rao (2011) and Mobius et al. (2014), who find that favorable and unfavorable signals about ability are internalized differently. In my experiment, subjects with low ability reacted to an assignment to high status by updating their beliefs upward, displaying optimism about the level of performance they expected to attain in the next round. Such optimism emerged despite them having received unfavorable feedback in the first part of the experiment. In contrast, the low status assignment was ignored by high ability subjects who behaved and formed beliefs as if they were ignoring such unfavorable signals.

Appendix F: Experiment 2

In the second experiment, High Status is exclusively assigned to high ability subjects. The goal of this experiment is to investigate whether this meritocratic assignment maintains the ability differences between high and low ability subjects in the second part of the experiment. Such a result would suggest that the treatment effects in Experiment 1 are entirely caused by the assignment to the treatments and not by other confounding factors. As in the analysis presented in the main body of the paper, I begin showing that the classification of subjects into high and low ability entails considerable performance differences in the first part of the experiment. According to the data, the difference in average performance between low and high ability subjects is of 2.31 standard deviations (Hedge's $\text{g}, p < 0.001$).

In the second part of the experiment, high ability subjects outperformed low ability subjects ($U = 2.169, p = 0.015$). This difference is equal to 0.407 standard deviations (Hedge's $\text{g}, p = 0.015$ with 1000 bootstrap replications). This result demonstrates that when assigned low status, low ability subjects achieve lower performance levels in the second part of the experiment.

To control for factors other than treatment assignment that could be driving these results, I perform negative binomial regressions of performance in the second part of the experiment on subjects' ability, treatment dummies and relevant controls. The estimates, presented in Columns 1 and 2 of Table 16, confirm the finding that subjects assigned to High Status exhibit higher performance on the task.

Next, I show that unless assigned to High Status, subjects with low ability exhibit lower beliefs as compared to high ability subjects. Table 17 presents the aggregated beliefs of subjects participating in Experiment 2 as well as their beliefs by round and by treatment. On average, the beliefs of high ability subjects are 9.2% higher than those of low ability subjects ($U = 2.99, p = 0.001$). This difference emerges in the first rounds of the experiment. In particular, high status subjects display higher belief in round two ($U = 3.433, p = 0.001$) and round three ($U = 3.254, p = 0.0003$). This result is corroborated by negative binomial regressions of performance on treatment dummies and relevant controls. The estimates presented in columns 3 and 4 of Table 16 show that low ability subjects in this experiment exhibit lower average beliefs.

Subjects in Experiment 2 accessed the rank 1.847 times on average. As in Experiment 1, the frequency of rank-access increased over rounds. After the first round subjects accessed the rank 0.27 times on average and this number surged to 0.94 after the third round of the experiment. This increase in rank-access behavior is driven by more subjects accessing the rank. After the first round 20.3% of subjects who had access to the rank choose to look at it

Table 16: Treatment Effects in Experiment 2

	(1) Performance	(2) Performance	(3) Beliefs	(4) Beliefs
High Status/High Ability	2.321*	2.412*	3.765**	4.058***
	(1.362)	(1.299)	(1.719)	(1.549)
Group Size		-0.284		-0.556*
		(0.278)		(0.333)
Belief practice round		0.289		0.730***
		(0.198)		(0.272)
Fair Medal		1.791		0.937
		(1.220)		(1.490)
Locus of Control		0.035		0.204
		(0.468)		(0.530)
Female		-2.003		-2.641*
		(1.239)		(1.596)
Task performed before		2.479		2.104
		(1.654)		(1.455)
$ln(\delta)$	0.401	.048	0.658	0.206
	(0.288)	(0.227)	(0.348)	(0.296)
Log Likelihood	-478.157	-454.599	-509.192	-478.792
Observations	138	136	138	136

Note: This table presents marginal effects of negative binomial regressions of the model $y_i = \beta_0 + \beta_1 HighStatus + Controls'\Gamma + \epsilon_i$, with $\epsilon \sim poisson(\lambda)$. y_i is "Performance" in column (1) and column (2) and "Beliefs" in column (3) and column (4). "Performance" is the number of correctly solved matrices in the second part of Experiment 2, "Beliefs' is the number of correctly solved matrices the participant believed could achieve in the second part of Experiment 2, "High Status" is a dummy variable that captures whether the subject was assigned to the high status treatment. $ln(\delta)$ is the estimated dispersion from the mean. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

Table 17: Performance beliefs in Experiment 2

Ability	Low ability	High ability
$\text{Belief}_{r=1}$	7.112	8.045
	(0.445)	(0.533)
$\text{Belief}_{r=2}$	8.323	10.121
	(0.268)	(0.336)
$\text{Belief}_{r=3}$	6.323	7.560
	(0.236)	(0.277)
$\text{Belief}_{r=4}$	4.056	4.484
	(0.245)	(0.263)
$\text{Belief}_{r=5}$	3.281	3.575
	(0.269)	(0.309)
Aggregated Beliefs	29.098	33.787
	(1.009)	(1.197)

Note: This table presents the averages and standard deviations of beliefs in the second part of Experiment 2 by experimental treatment and round. Standard deviations are presented in parentheses.

and this number increased to 54,23 % at the end of the experiment.

Across treatments I find no empirical evidence of a difference in rank access behavior with the used measures of rank-access. Specifically, rank access behavior was similar across treatments after the first round ($U = 0.101, p = 0.919$), after the third round ($U = 0.101, p = 0.919$), and over the five rounds experiment ($U = 0.227, p = 0.820$). A regression of the different measures of rank-access behavior on treatment dummies and relevant controls confirm this finding. The regression estimates are presented in Table 18. All in all, these results demonstrate that the lower frequency at which low ability subjects accessed the rank in Experiment 1 was only due to their assignment to the High Status.

Finally, I estimate the statistical models presented in Table 16 with the difference that the different measures of rank access are included in the model and are interacted with the dummy indicated assignment to the High Status treatment. Table 19, presents the regression estimates. I find that high ability subjects, who are also those belonging to high status, exhibit higher performance than low ability subjects when both groups do not access the rank. Also, the estimates of the third and fifth columns show that accessing the rank more often can be detrimental to the performance of high ability subjects. This result suggest that accessing the rank could be costly for these individuals inasmuch as it decreased their available time to perform the task. Nevertheless, such a decrease in performance does not appear in the data for low ability individuals. However, these low skill subjects exhibit lower beliefs as they acquire more information about their ability relative to that of others. This result suggest that the relative performance rank informed these subjects about their ability and they reacted properly to this information by updating their beliefs downwards.

Table 18: Determinants of rank-access in Part 2 of Experiment 2

	(1) Times Rank Round 1	(2) Times Rank Round 1	(3) Times Rank Round 1-3	(4) Times Rank Round 1-3	(5) Times Rank All rounds	(6) Times Rank All rounds
High Ability	-0.054	-0.037	-0.000	-0.001	0.013	-0.133
	(0.156)	(0.157)	(0.380)	(0.413)	(0.579)	(0.641)
Group Size		0.063		0.679		0.837
		(0.199)		(0.614)		(0.922)
Fair Medal		0.015		0.131		0.440
		(0.145)		(0.429)		(0.710)
Locus of control		0.024		0.000		0.258
		(0.060)		(0.137)		(0.261)
Female		-0.344		-1.124*		-1.000
		(0.242)		(0.598)		(0.788)
Belief practice round		-0.020		0.023		0.278
		(0.038)		(0.132)		(0.271)
Task performed before		-4.742***		-0.913		-0.938
		(1.691)		(0.669)		(1.277)
$ln(\delta)$	0.221	-0.104	1.116***	0.995***	1.405***	1.246***
	(0.564)	(0.730)	(0.375)	(1.140)	(0.286)	(0.344)
Observations	59	58	59	58	59	58
Log Likelihood	-38.476	-33.547	-73.937	-68.092	-103.912	-98.252

Note: This table presents marginal effects of negative binomial regressions of the model $TimesRank_i = \beta_0 + \beta_1 LowAbility + \beta_2 HighStatus + \beta_3 LowAbility * HighStatus + Controls'\Gamma + \epsilon_i$, with $\epsilon \sim poisson(\lambda)$. "Times Rank" is the occurrence of rank-access by a subject in the second part of the experiment,"High Status" is a dummy variable that captures whether the subject was assigned to the high status treatment "Low Ability" is a dummy variable that captures whether the subject was classified as having low ability on the task. $ln(\delta)$ is the estimated dispersion from the mean. Standard errors presented in parentheses. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.

Table 19: Treatment effects and rank-access in Experiment 2

	(1) Performance	(2) Beliefs	(3) Performance	(4) Beliefs	(5) Performance	(6) Beliefs
High Status	2.648**	4.284***	3.349**	4.620***	3.303**	4.618***
	(1.326)	(1.595)	(1.343)	(1.632)	(1.343)	(1.668)
High Status * Times Rank	-2.419	-3.349	-3.639**	-3.009	-1.624**	-1.528
	(4.792)	(5.028)	(1.449)	(2.097)	(0.816)	(0.989)
Times Rank	0.513	-1.520	0.042	-1.102***	0.058	-0.649**
	(1.475)	(1.212)	(0.364)	(0.381)	(0.221)	(0.267)
Group Size	-0.268	-0.399	-0.059	-0.136	-0.094	-0.110
	(0.286)	(0.351)	(0.298)	(0.372)	(0.300)	(0.380)
Fair Medal	1.710	0.943	2.022*	1.233	1.953	1.216
	(1.235)	(1.498)	(1.219)	(1.466)	(1.232)	(1.468)
Locus of Control	0.038	0.206	0.042	0.234	0.043	0.307
	(0.470)	(0.522)	(0.461)	(0.484)	(0.467)	(0.485)
Female	-2.084*	-3.149*	-2.501**	-3.812**	-2.356*	-3.606**
	(1.214)	(1.624)	(1.241)	(1.637)	(1.243)	(1.599)
Belief practice round	0.299	0.740***	0.328	0.774***	0.327	0.797***
	(0.199)	(0.276)	(0.201)	(0.277)	(0.201)	(0.277)
Task Performed before	2.400	1.661	2.074	1.343	2.019	1.301
	(1.669)	(1.528)	(1.730)	(1.551)	(1.713)	(1.553)
$ln(\delta)$	0.041	0.181	-0.026	0.088	-0.002	0.090
	(0.224)	(0.292)	(0.224)	(0.305)	(0.225)	(0.304)
Observations	136	136	136	136	136	136
Log Likelihood	-454.369	-477.813	-452.008	-474.199	-452.760	-474.308

Note: This table presents marginal effects of negative binomial regressions of the model $TimesRank_i = \beta_0 + \beta_1 LowAbility + \beta_2 HighStatus + \beta_3 LowAbility * HighStatus + Controls'\Gamma + \epsilon_i$, with $\epsilon \sim poisson(\lambda)$. "Times Rank" is the occurrence of rank-access by a subject in the second part of Experiment 2,"High Status" is a dummy variable that captures whether the subject was assigned to the high status treatment "Low Ability" is a dummy variable that captures whether the subject was classified as having low ability on the task. $ln(\delta)$ is the estimated dispersion from the mean. Standard errors presented in parentheses. *** denotes significance at the 0.01 level, ** denotes significance at the 0.05 level, * denotes significance at the 0.1 level.