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„Influence of Generational Student Status on Student Self-Perception and Consequent Intellectual Performance“

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Abstract

The concept of the influence of generationality on various factors in education has long been a concern in research but has gained more traction in recent years. The question of whether students who come from non-academic households (i.e., first generation students; FG) are systematically disadvantaged is an essential one, even more so in an environment that is becoming increasingly aware of the importance of equal opportunities. This study sought to examine how FG's perceptions of ability influence their performance on tests of mental ability. Results indicate that there were no differences in performances across all given tasks along the lines of student status. Our first hypothesis, no significant difference in easy tasks, is therefore confirmed. Our second hypothesis, that FG should perform worse in a higher difficulty task, however, is not supported by our data. This is possibly due to the composition of our sample, as we had only used psychology students from the University of Vienna. Since there is an admission test for the psychology programme at the university of Vienna, all our participants had previously undergone a highly selective process, which is likely to have screened out those students, who exhibit low self-efficacy. Thus, our samples' average self-efficacy is most likely higher than average self-efficacy across all FG, which would explain why the expected effect was not found in our data. The exploratory digression points towards a moderating influence of fatigue on performance, to the disadvantage of FG.

Introduction

Student status in higher education students

The global university population is consistently becoming more heterogeneous as people from different personal, educational, and social backgrounds begin to see college as a viable option for them. The increasing popularity of tertiary education has led to greater diversity in student bodies as the historically strong educational barriers are becoming more permeable (Cataldi et al., 2018). While barriers to access educational institutions have become lower, barriers to succeed at these same institutions have remained largely intact. Specifically, educational success continues to be linked to social factors, which influence students' performance through various, interconnected processes (LeBouef & Dworkin, 2021; Major et al., 2003; Pratt et al., 2019). One construct, which aims to combine several of these processes, looks at the academic generational status of students. If one or more of the primary caretakers have enjoyed an academic education, the students can be thought of as "Continuing Generation" students (CG). Conversely, if a student grew up without a primary caretaker who had attended college or university, they can be thought of as a "First Generation" student (FG). The distinction between FG and CG serves as an overarching construct, which includes several predictors for and influences on students' academic success. These two groups differ strongly from one another in their academic pursuits as well as their successes. In Germany, almost three times as many CG begin studying at university and almost four times as many CG complete a master's degree, compared to FG (Meyer-Guckel et al., 2022). A similar situation can be assumed for Austria, where 52.6% of all current university students have at least one parent who studied at university (Astleithner et al., 2022), even though, as of 2020, only 19.2% of Austrians between 25 and 64 had completed a tertiary education. This overrepresentation of CG in the tertiary education system points to systemic inequalities, inherent in their respective upbringing.

Since educational background and social-class are intricately linked, many of these can be described as belonging to a larger group of social-class-based disadvantages. As FG are more likely to have grown up in a family with a lower socioeconomic standing, they are more likely to have to work alongside studying (Pratt et al., 2019). They therefore experience their student years as being more stressful and show a greater likelihood of developing symptoms of depression (Stebleton et al., 2014). The rather competitive spirit present at most

colleges and universities in the western world leads to FG perceiving a mismatch between the culture in which they were brought up and the culture prevalent in western academic environment.

Before even entering their desired field of study, many selection tasks, often employed to select the most suitable students for a given topic, present a barrier for FG who have consistently underperformed on such tasks (Jury et al., 2015). When finally in college, whether they made it into their desired program or settled for a different field of study, FG tend to take longer to complete their studies and achieve lower grades while doing so, than their CG counterparts (Cataldi et al., 2018; L. Holmes, 2017). Continuing in the university journey, FG show higher dropout rates than CG do and so, only 56% of FG actually receive their bachelor's degree within six years of studying (Cataldi et al., 2018).

This is clearly problematic, seeing as universities' two main functions are "Selection" and "Education" (Dornbusch et al., 1996). It is therefore essential for universities as well as our society at large, to ensure a level playing field in which each and every individual has the same chance to pursue their interests and further their knowledge. Since currently FG make up about a third of college attendees and about a third to half of university attendees (Skomsvold, 2014; Staklis, 2016), this affects a large share of students enrolled in tertiary education. The current share of FG both in college as well as university settings is expected to grow further in the next years, leading to the current system being discriminatory against a current minority, and soon to be majority of students.

With the present study we want to further the current state of research into the influence of student status on performance. We therefore examined the effect of student generationality on performance in intellectual tasks by presenting students with increasingly difficult tasks to complete. To maximise the effect, we attempted to create an environment which conveyed a focus on innate abilities (i.e., talents).

Influences on self-perceived ability

In previous studies with self-report measures, FG have been found to be less confident about their ability to succeed (Ramos-Sánchez & Nichols, 2007), and also less comfortable at university in general (House et al., 2020; Janke et al., 2017; Phillips et al., 2020). FG have also been shown to be less confident in their ability to succeed at university (Sommet et al., 2013) as well as perceiving themselves to be relatively less intellectually talented in general

(Bauer, 2021). As stated above, FG achieve lower grades while having higher dropout rates. This might be connected by the fact, that they recall experienced academic failures as being a result of their lack of talent, rather than circumstances or other factors outside their control (Bauer et al., 2021). CG on the other hand were more prone to attributing experienced academic failures to reasons beyond their immediate influence.

Overall, it can therefore be stated, that FG feel generally less confident as well as less comfortable in an academic setting than CG do. This, in turn, leads FG to not pursue their education goals as vehemently as CG do. As outlined above, these tendencies manifest in poorer performances as well as higher dropout rates for FG. (Cataldi et al., 2018; L. Holmes, 2017)

Influences of self-perceived ability

Seeing as FG perceive their ability to succeed in an intellectual (e.g. academic) setting as lower (Sommet et al., 2013), and seeing as they make up an already large and still growing proportion of university attendees (Staklis, 2016), it is highly relevant to examine the possible consequences of FG's lower self-evaluations on academic performance. The fact that FG tend to take longer to finish their studies, while simultaneously achieving lower test scores (Cataldi et al., 2018; L. Holmes, 2017) already points to a cluster of effects that might be detrimental to the success of FG in an intellectual setting.

One of those effects being a certain level of stereotype threat associated with being FG. It arises when one feels at risk of confirming a negative stereotype about a group, one considers oneself to be a member of (Lamont et al., 2015; Steele & Aronson, 1995). The awareness of the risk in and of itself leads one to underperform in the task at hand, seemingly confirming the stereotype. Its impact has been shown and replicated across a wide range of topics, with marginalised groups based on, among other things, age, gender and ethnicity (Grusky & Hill, 2018; Keller, 2007; Lamont et al., 2015). These effects occur regardless of whether or not an individual actually believes in the specific stereotype and can be amplified by increasing the saliency of group membership by, for instance, asking about their ethnicity beforehand (Steele & Aronson, 1995). The effect of stereotype threat in regard to generationality in students has been investigated and an adverse effect for FG has been found (Canning et al., 2020), showing that FG can indeed be considered a marginalised group within settings which emphasise the importance of "talent" or other allegedly fixed abilities (e.g. at

university). This adverse impact applies in particular to competitive settings (Sommet et al., 2013), which means that any exam situation might result in a performance discrepancy based on your upbringing. While barriers to access university have decreased overall, a growing number of study programmes rely on entrance exams to assess potential students' abilities, which likely raises a discriminatory barrier before even entering university. If FG do indeed have a different self-concept, it is important to determine the potential, underlying causes.

Foundations of self-perceived ability

The differing self-perception between FG and CG can largely be traced back to systematic differences in their surroundings when growing up. FG have less or no access to the kind of social network that their CG counterparts are accustomed to relying on (Wittner & Kauffeld, 2021) and some FG have been shown to feel guilt towards their family for exceeding their parents' academic achievements (Palbusa & Gauvain, 2017; Sy et al., 2011). The experiences they have at university are less prevalent topics of conversation in non-academic households, even though they would most likely be vital for FG feeling confident or at least comfortable in their academic pursuits. It has been shown that talking about college is associated with higher self-perceived ability, better grades, higher psychological wellbeing as well as increased academic engagement (Covarrubias et al., 2020; Roksa & Kinsley, 2019).

These issues are less prevalent in CG households as higher education topics are more common and therefore the university setting presents less of a novel experience for CG. For FG on the other hand, the novelty of the university environment can lead to a collision of two separate, and seemingly incompatible, worlds and leave them experiencing a cultural mismatch (Jones & Schreier, 2022; Stephens et al., 2012). This perception seems to persist throughout their career in higher education (Phillips et al., 2020) and even lead some to hide the nature of their family background. This is clearly a systemic problem, as educational background is strongly correlated with financial means and thus also socioeconomic standing. The consequential feeling of mismatch negatively affects FG both in university settings, where they tend to feel like they do not belong, and at home, where this feeling of mismatch can affect the climate within the family. They subsequently seem to develop two separate identities, a university identity, and a home (or family) identity. The subjective feeling of mismatch has been the subject of investigation for a longitudinal study by Lecy (2021), which verified that a lower sense of belonging in middle or high school leads to a lower likelihood

of attending college. Even if FG choose to pursue tertiary education, their subjectively lower sense of belonging was shown to correlate with a lower social standing within the university community as well as lower grades. Furthermore, even if FG do feel like they belong into university, this perception is subject to stronger fluctuations on a daily basis (Gillen-O'Neel, 2021), which has been shown to be linked with their motivation to participate in (academic) discussions, their retention rate as well as their engagement in general (Pedler et al., 2022).

Setting-specific influences on self-perceived ability

The effect which self-perceived ability has on performance is in turn influenced by the situation and environment in which it occurs. More competitive and rivalrous settings amplify the effect and therefore the differences between FG and CG (Bauer et al., 2021). It is, again, irrelevant whether any situation would objectively be interpreted as competitive. Crucial for the intensity of the effect is the subjective perception of the setting by the individual. The subjective perception is itself of course dependent on a multitude of factors. Within an exam situation for instance, some relevant factors would be the reason to take the exam, the physical setting in which it takes place, as well as the wording used in the exam descriptions. Statements and/or wordings used in task description that can be seen as reinforcing stereotypes, or at least making them more salient, have been shown to influence subsequent performance, if the participant sees them as applying to themselves (Park et al., 2017). If a situation raises the impression of focusing on fixed abilities, and consequently stereotypes, it therefore has a negative effect on the performance of FG and should be avoided in order to ensure an environment which is as fair as possible.

The intensity of this effect seems to be primarily dictated by whether the situation is perceived as one, which requires a "fixed ability" (Bauer et al., 2021). If a situation is framed as focusing on abilities that can be acquired or trained, the impact of self-perceived ability on actual performance diminishes significantly. Unfortunately, universities and similar institutions traditionally focus on seemingly preordained, fixed abilities that can, at best, be improved, but not really fully acquired. This is especially true for student programmes that require an entrance exam, as this is an obvious, early hurdle, for any interested students who may have a self-perception of being less competent. Even though there has been some progress on that particular front, as universities are now striving to be, or at least to appear, more inclusive, a certain air of exclusivity remains. The University of Cambridge, for

example, justifies the need for entrance exams as follows: "*They [the entrance exams] allow us to assess your writing and language skills, and your levels of knowledge and understanding relevant to your course.*" (Bonetti, 2020, para. 2). While this sentence might seem innocuous at first glance, it could evoke a subjective sense of inadequacy in FG, whose self-concept often does not allow them to see themselves as having sufficient levels of knowledge. The fact that many university programmes rely on admission tests that ought to be as broadly applicable and easy to supervise and analyse as possible, could lead to skewed admissions even within FG. Those FG who, despite their generationality, might have cultivated a more capable self-concept, would find it easier to succeed in admission tests and be accepted into these programmes. Regardless of this kind of ranking within FG, the bigger bonus, again, goes to CG, who, due to their upbringing, tend to have higher levels of self-esteem in academic tasks in general. Admission tests are, academically speaking, only the starting point for potentially disadvantaging setting-specific influences. These continue to affect every situation in which one might have the impression that fixed abilities are (more) relevant. This effect can therefore be assumed to expand to most exam situations in university, as well as many instances where students are for example given an assignment to complete.

To address this issue and most effectively counter it, it is essential to emphasise that the abilities needed to be successful in the given situation are not "fixed" and instead can be acquired or learned. Highlighting the impact, a participant can have on the outcome heightens the perceived self-efficacy of the participant and allows them to perform more independently of potential stereotypes. While the discrepancy between FG and CG might not be eliminated entirely, by putting an emphasis on attainable skills, it certainly helps to level the playing field somewhat and comes closer to giving everyone an equal opportunity to excel (Bauer et al., 2021)

Motivational Intensity Theory in regard to intellectual tasks

A lot of research has been done in order to find out how humans are motivated and how their inclination for any task as well as the effort they are willing to put into it can be predicted. One of the most acknowledged, comprehensible and research-backed theories to date is Motivational Intensity Theory (MIT), first proposed in 1989 (Brehm & Self, 1989). It states, simply put, that the amount of effort we put into completing any given task, whether it

be physical or mental, depends on how challenging we expect the task to be. Exerting more effort is unavoidably going to consume more of our resources, be that time or energy. This is obviously plausible for physical assignments, but it does likewise apply to mental tasks. Whenever we physically exert ourselves by, for instance, going for a run, we quickly become aware of our body's response to it: Our breathing quickens, our heart rate picks up and our blood pressure increases. Similar effects occur, when we face intellectually challenging activities, even though we tend to be less aware than with physically challenging activities. However, since our brain just like our muscles needs energy to do its job, our body will react similarly to intellectually demanding tasks. As we naturally strive to minimise the amount of resources spent, we consult our assessment of task difficulty to determine the amount of effort put forth. The harder we expect an intellectual task to be, the harder we are going to work to complete it. How difficult we perceive any given intellectual task depends on how capable we perceive ourselves to complete said task. Therefore, our self-perceived ability directly predicts the amount of effort we exert to succeed at it. Or the other way round: If we have to put a lot of effort into a task, it is because we assume ourselves to be not very competent in this area.

Since effort can, however, not simply increase indefinitely, our subjective Success Importance (SI) acts as a cut-off for the linear growth of effort. If the expected difficulty is higher than our SI, we are inclined to minimise the resources spent on the task. We will do this by no longer striving to accomplish the task and disengaging instead. In other words, if a task would require more resources than we are willing to spend on it, we will just try to get through the task instead of trying to complete it successfully. The expected difficulty of a task is in turn dependent on our self-perceived ability. This means that people who consider themselves less capable will have to spend more resources to complete a task of objectively the same difficulty than people who consider themselves to be more proficient. If we assume both of these hypothetical people to have equivalent SI, it will also lead the subjectively less capable people to disengage sooner. The relationship between effort and difficulty is illustrated in Figure 1, using a comparison between two different levels of self-perceived ability.

Figure 1

Relationship between Effort and Task Difficulty for two different levels of Self-Perceived Ability.

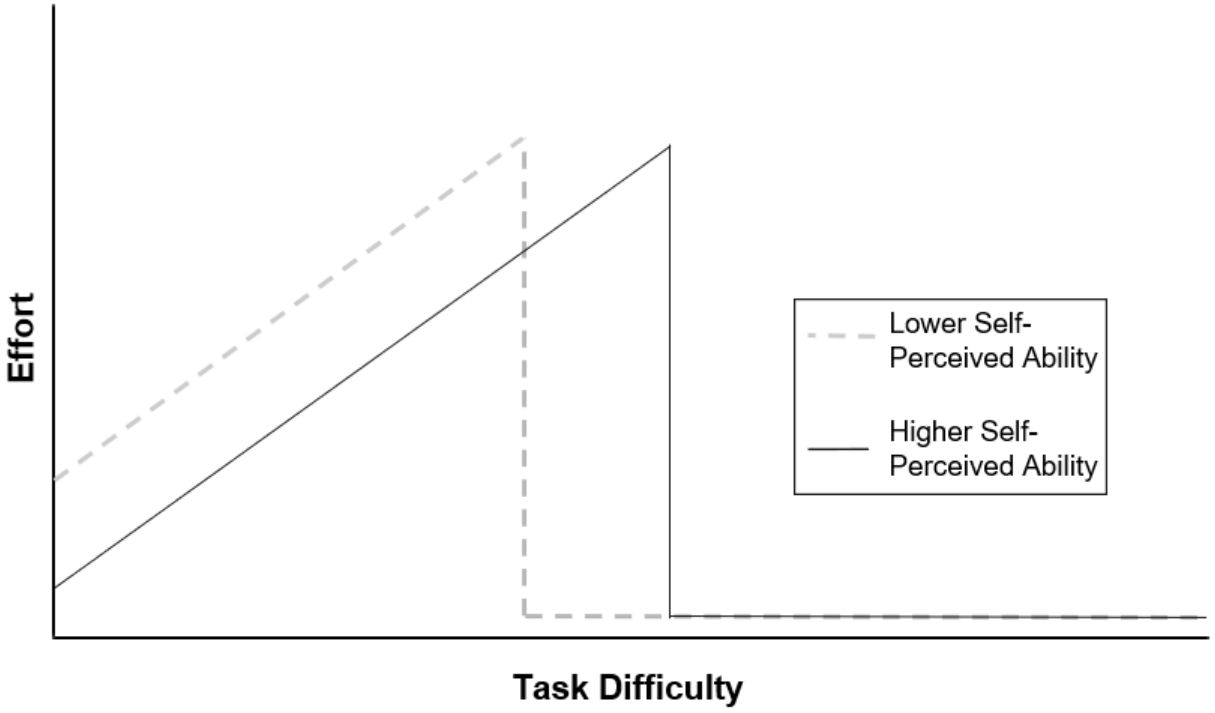


Figure 1 shows the effort levels for two hypothetical individuals, one of whom has a higher self-perceived ability than the other. The success importance for both of them is assumed to be equal, therefore their effort increases up to exactly the same threshold. When they hit the invisible barrier of success importance, they disengage and stop doing more than the bare minimum. Since the person with the lower self-perceived ability assumes the task to be more difficult, they will have to put forth more effort, regardless of the objective task difficulty. This will also lead them to disengage sooner than the person with higher self-perceived ability. The latter will therefore attempt, and possibly succeed in, objectively more demanding tasks. As outlined above, FG can be assumed to have lower self-perceived ability than CG and will have to exert more effort, which in turn leads to them disengaging sooner.

Present Research

The research was conducted as a group effort, so as to be able to cover all the necessary lab time slots. The group consisted of Thomas Gebetsberger, Marguerite Marie, Sophia Schlager and me. We helped each other in preparation and implementation of the

study and each of us chose to write their master's thesis on this topic. We all describe the same methods as well as report the same results, therefore some overlap will inevitably occur. The theses themselves are, however, all written individually. I have included the theses of Thomas Gebetsberger (Gebetsberger, 2022) and Sophia Schlager (Schlager, 2022) in the references and made an effort to point out potential overlap in the beginning of the relevant passages.

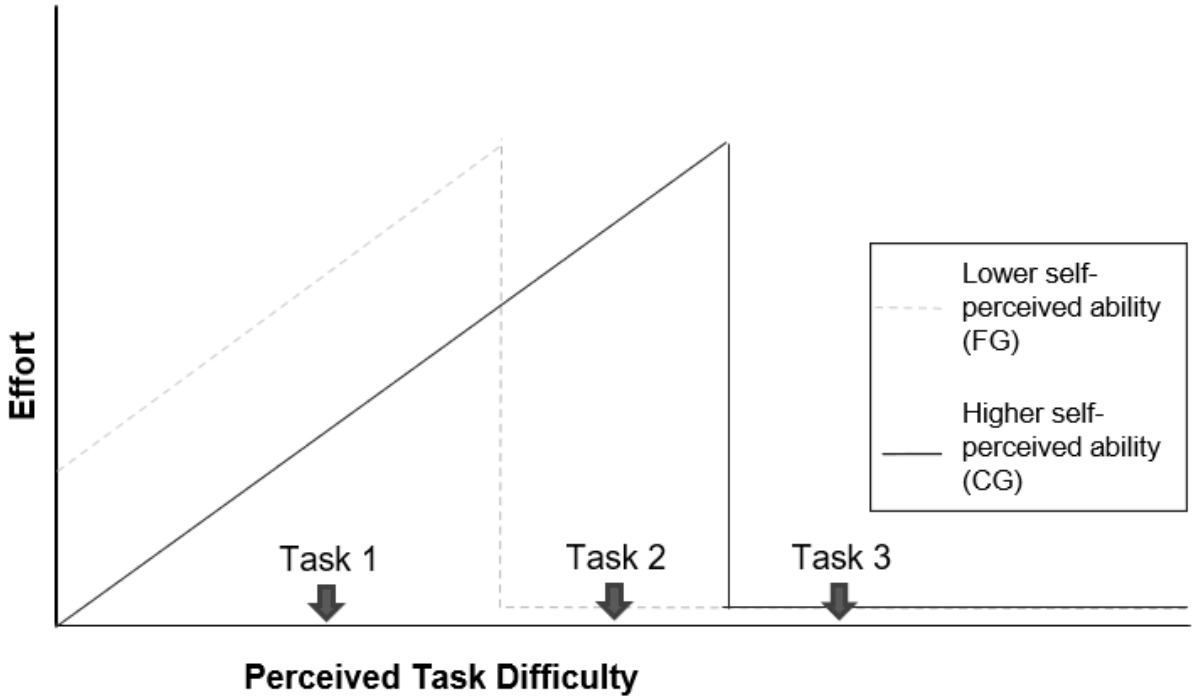
In the present study, we strived to combine the two branches of research outlined above: We tried to examine differences in self-perception between FG and CG with reference to MIT by giving a large sample comprised of university students intellectually challenging tasks to complete. Taking the previous research into account allowed us to make assumptions regarding the two groups. We thereby attempted to get a more neutral and objective assessment of these differences between FG and CG than previous studies had been able to achieve.

Previous research into performance differences and generationality has mainly relied on self-report questionnaires (Bauer et al., 2021) or only included student performance after the fact (Cataldi et al., 2018; L. Holmes, 2017). In our study, we attempted to measure self-perceptions more directly by way of effort and performance. For this we used 3 separate tasks with increasing difficulty to be worked on by our sample of students from the University of Vienna. In order to prove the effect known from previous studies as reliably as possible, we took extra steps to make the environment appear talent-focused and thereby the tasks to appear to rely on a fixed ability. Since the self-perceived ability of FG is lower, they should perceive each task to be more difficult than CG do. According to MIT, FG would therefore have to exert more effort to succeed. Since the SI can be assumed to be independent of academic generationality and equal for both groups, FG should reach this threshold earlier and thus disengage more readily in tasks of increasing difficulty. We therefore propose the following two main hypotheses. In the first task (i.e., lowest difficulty) the performance level for CG and FG should be roughly equivalent, since both groups should see themselves as able to manage this task (Hypothesis 1). Due to FG hitting the SI threshold sooner, the performance levels in more difficult tasks should drop at an earlier stage of objective difficulty. Therefore, performance levels for FG should decrease significantly faster across the tasks than performance rates for CG (Hypothesis 2). The third task (5-Back) acts as a sort of difficulty check, as it is designed to be difficult enough to prompt most participants, regardless of academic generationality, to disengage and therefore perform poorly. Figure 2

illustrates the placement of the three tasks within the previously outlined MIT-framework which we assumed for FG and CG. Finding the correct difficulty for the placement of the second task has proven to be especially challenging.

Figure 2

Placement of the three tasks within the MIT-framework.



Methods

The content of this section is likely to overlap with the master's theses of my colleagues Thomas Gebetsberger (Gebetsberger, 2022), Sophia Schlager (Schlager, 2022) and Marguerite Marie, who has not yet handed in her thesis. As noted above, the study was a group effort, on which each of us has decided to individually write their own thesis.

Sample description

Prior to the study we conducted a power analysis in order to determine the required sample size. This analysis suggested a sample size of 210 participants. Since problems during and after data collection can always be expected, we aimed for approximately 230 participants to ensure meeting the sample size requirements. However, due to the ongoing coronavirus pandemic we were faced with testing restrictions. After initially postponing the data collection it became clear that the restrictions were not going to be lifted in the foreseeable future, so we were forced to proceed anyway, rather than wait indefinitely.

We recruited participants through the "LABS-system" of the Faculty of Psychology at the University of Vienna. Therefore, only students currently enrolled in the psychology programme at the University of Vienna were able to participate.

All the data collected were of good quality, so none of the participants had to be excluded from our analysis. Our final sample size consisted of 200 participants, aged between 17 and 45 years (M = 21.99, SD = 3.60). Of these 200 participants 53 (26.5%) were male, 144 (72%) were female and 3 (1.5%) were non-binary. Furthermore, 109 (54.5%) participants were CG, compared to 91 (45.5%) participants who were FG. The gender distribution is skewed from the general population, but accurately represents the subset of psychology students.

Materials

Mood questionnaire

In the Pre-Task as well as the Post-Task Measures we had participants fill out the Mehrdimensionaler Befindlichkeitsfragebogen (Multidimensional Mood State Questionnaire / MDBF) in its German version (Steyer, 1997). We primarily used it to assess fatigue as a

possible influence on participants' performance. The MDBF consists of 24 items, clustered into the three subscales of awake-tired, calm-nervous and mood. The first half of the MDBF was presented in the Pre-Task Measures and the second part in the Post-Task Measures. Participants were asked how much terms like "tired" or "satisfied" applied to their current state of mind. They assessed how much these applied on a 5-point Likert scale, ranging from "not applicable at all" to "very applicable". The internal consistency was measured using Cronbach's alpha, ranging from $\alpha = .86$ to $\alpha = .94$, indicating good to very good internal consistency (Döring & Bortz, 2016).

Self-perceived talent

We attempted to gauge participants' self-perceived talent (e.g. "I consider myself gifted") by presenting them with two items to be rated on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree". The two items were taken out of a study by Bauer (Bauer et al., 2021).

Intellectual Task

After looking for suitable tasks with increasing difficulty, we came to the conclusion that the N-Back Task (Kirchner, 1958) would be fitting for our study. It allows for easy adaption of the difficulty level with minimal variation in how the task works, ensuring that the results remain comparable. Previous research at our faculty led us to assess the level "N-3" as ideal for the first task, "N-4" for the second and "N-5" the third.

During the training and trial phases we used three different variations of the N-Back Task (Kirchner, 1958) to collect performance levels. In this task, participants were presented with a series of letters on the screen, one by one, and had to choose whether the currently visible letter matched the one shown n letters before. The higher the n, the more difficult the task becomes.

Ahead of any of the tasks, participants were told on screen that they were going to work on a task measuring their intellectual ability. Then, to familiarise participants with the assignment, we used the 1-Back for a training round, before the real task began. For the performance survey rounds we used the 3-Back, the 4-Back and the 5-Back iterations. Each round, including the training, consisted of 60 trials. The higher the N-Back, the more letters had to be shown, since the trial can only begin with letter number n. Thus, for the 5-Back we had to use a total of 64 letters. Of these 60 trials in each round 25% were target trials,

meaning the current letter was the same as the one n letters back. Participants were instructed to try to get at least 80% of the trials right.

Perceived importance and perceived threat

After completing the task phase, we examined how threatening the participants had perceived the exercise. We based these questions on an anxiety questionnaire by Bian (Bian et al., 2018), out of which we extracted seven items (e.g. "I felt tense"), which the participants had to rate on a Likert scale ranging from 1 (strongly disagree) to 9 (strongly agree). We also included a question ("How important was it to you to succeed in the intellectual ability test?") which aimed at assessing their SI on a Likert scale between 0 ("not important at all") and 10 ("very important"). Lastly, we included one item ("How difficult was it for you to succeed in the intellectual ability test?") with which we wanted to determine how challenging they had perceived the task.

Demographic Measurements

Finally, the participants were asked a series of questions concerning their demographics such as age, gender and area of study. As this was central to our hypotheses, we also asked participants about their subjective affiliation to a social class, using a ladder metaphor with no jobs or poor jobs and low education on the bottom and best jobs, high levels of education and large amounts of money at the top. Participants had to indicate where they subjectively perceived themselves to be on this ladder (Adler et al., 2000). We also asked participants to estimate the number of books they had had in their childhood home (Hopstock & Pelczar, 2011).

In terms of more objective measures, we asked participants about the time they had already spent studying at university and their prior performance levels both at university and towards the end of their schooling. Finally, to assess the student status, we included two items on the highest level of parental education, one for each primary caretaker. If at least one of them had completed a degree at university, the participant was then classified in the CG category.

Procedure

The study was conducted on-site at a research facility in the "Neues Instititutsgebäude" (NIG) of the University of Vienna. Data collection started on 10th of

March 2022 and was originally scheduled to last two weeks. However, due to constraints and complications with Covid-19 it lasted until 12th of May 2022.

To ensure that the environment was perceived as talent focused to the participants, the researchers present were instructed to show little facial expressions, such as smiling, and not to small talk with the participants. They also wore white lab coats to convey a serious research-focused environment. On arrival, the participants were asked for their names and checked off the list of participants. They were then shown to their seat and given an information sheet about the study and the University of Vienna's data protection protocol. After signing the consent form, they were informed, that they could discontinue the experiment at any time without having to give any reason whatsoever. They were then asked to put on the provided headphones and start the study. If they had any questions, they could raise their hand at any time to contact one of the researchers present.

The central part of the study was made up of the following 5 steps:

1. **Pre-Task Measures**

   These were the measures taken at the beginning of the experiment. They included the first part of a mood questionnaire in order to be able to assess possible influences in potential performance variations. After this, the subjects were shown relaxing videos of nature scenes combined with calm music to ensure a comparable resting state for all participants. As a final step before the training, they were asked to fill out a questionnaire aimed at gauging their self-perceived talent.

2. **Training**

   To familiarise the subjects with the N-Back task and therefore minimise confusion, we included a training round in which they had to do the 1-Back variation. Seeing as this is the simplest variation of the task it was clearly the best option for a training round. The participants completed 60 trials of which 25% were target trials.

3. **N-Back Tasks**

   After completing the training with the 1-Back task, participants were informed that the training is now over, and the actual trial will commence. The trial phase was threefold and consisted of three variations of the N-Back Task with increasing

difficulty. Previous studies by faculty members informed the way we chose the difficulty of the N-Back Task and led us to allocate it as follows:

Task 1:	3-Back
Task 2:	4-Back
Task 3:	5-Back

Each of the three conditions consisted of 60 trials, 25% of which were target trials, same as the training.

4. **Post-Task Measures**

After the trial phase the participants were asked to fill out the second part of the mood questionnaire from the Pre-Task Measures, as well as questionnaires on their perceived importance of the task and how threatening they had perceived the tasks to be.

5. **Demographics & Social Class**

Lastly, we asked the participants about their demographic information and presented them with questions to measure their self-perceived social class. Finally, in order to assess their student generation status, we asked them about the highest level of formal education completed by their primary caregivers.

After the last step they were told on screen that the study was now over and that they should inform one of the researchers. Before the debriefing they were asked if anything had seemed strange, out of place or wrong to them before or during the study, and their answers were noted down. Each participant was then given a debriefing document with relevant information in regard to what we were going to analyse. The time of completion was recorded, and the participants were seen off.

Analysis

After data collection had concluded, we used two analyses to test our two hypotheses. To test Hypothesis 1, we used an independent samples t-test, so as to determine if performance in the first N-Back Task (N-Back 3 / Task 1) had differed between CG and FG. The dependent variable was the hit rate on the task and the student status acted as between-subjects factor. In order to test the second hypothesis, we completed a repeated-measures ANOVA to check if the performance rates for FG declined significantly faster. Again, the

student status acted as between-subjects factor and the hit rate was our dependent variable. However, with this analysis, we used the hit rate across all three iterations of the N-Back Task. Additionally, the difficulty of each N-Back Task was used as a within-subjects factor.

These were calculated using SPSS 28 and R 4.2.2.

Results

Again, the content of this section is likely to overlap with the master's theses of my colleagues Thomas Gebetsberger (Gebetsberger, 2022) and Sophia Schlager (Schlager, 2022), as conducting the study was a group effort.

To ensure that the FG and CG samples were generally comparable, we first analysed the samples using independent samples t-tests, which showed that the groups were not significantly different in terms of either gender ($p = 0.405$), length of study ($p = 0.359$), or self-perceived talent ($p = 0.387$). The last of which, self-perceived talent, was actually quite surprising. In terms of performance indicators, we also analysed the two groups in regard to their current average grade at university, which was also not significant ($p = 0.619$). Since a Levene's test for equality of variances showed that homoscedasticity could not be assumed for the distribution of age between the two groups, we used a Mann-Whitney U test to analyse age instead. It showed that the groups were not significantly different in terms of mean age ($p = 0.093$). Homoscedasticity could also not be assumed for the analysis of average grades when finishing school. Here, a Mann-Whitney U test showed the difference between was also not significant ($p = 0.516$).

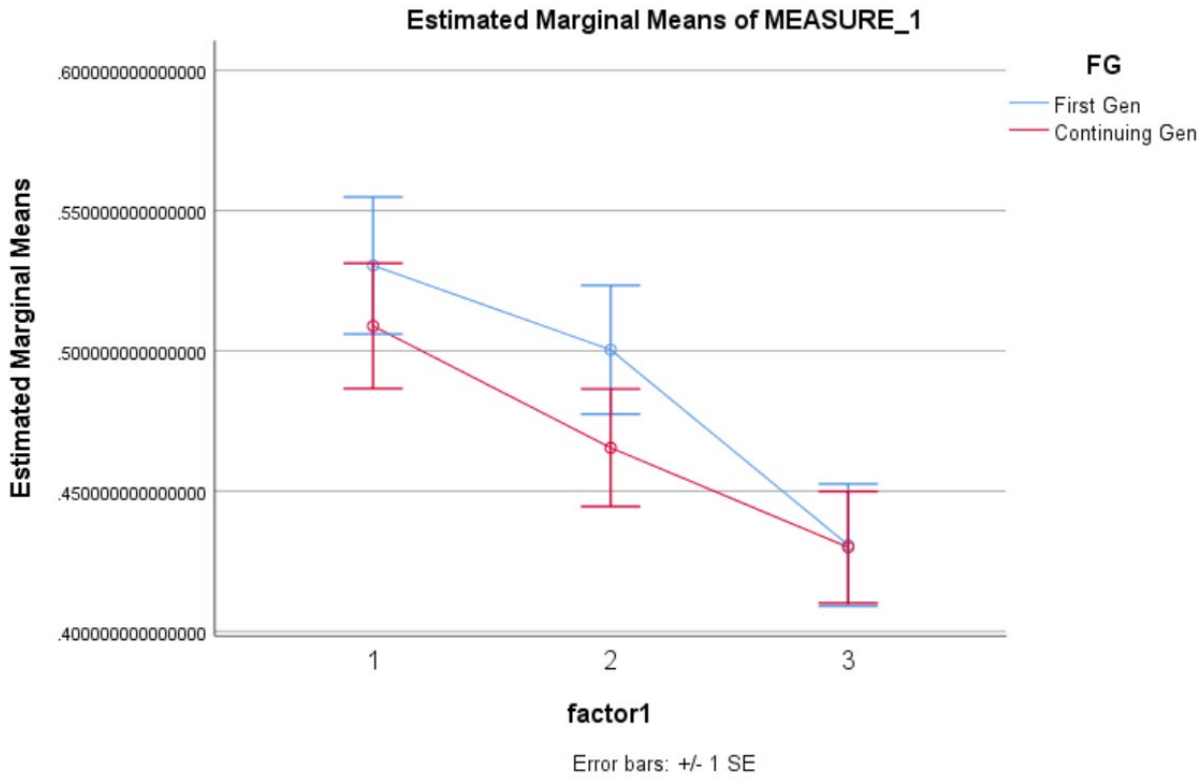
To test our first hypothesis, that performance for CG and FG should not differ significantly at the 3-Back iteration (Task 1), we ran a Mann-Whitney U test, since homoscedasticity could not be assumed for the sample. The dependent variable was the hit rate on Task 1, while the student status served as between-subjects factor. With a result of $p = 0.427$ the analysis showed that our first hypothesis was indeed correct and there was no significant difference between FG and CG in the 3-Back task.

Our second hypothesis stated that performance rates for FG would decline significantly faster across the three tasks than performance rates for CG. In order to test this, we ran a repeated-measures ANOVA, again using student status as the between-subjects factor and the hit rate as the dependent variable. However, for the repeated measures we used the hit rate on all three iterations of the N-Back task subsequently. The increasing difficulty of the three tasks was used as a within-subjects factor. The multivariate tests did not show a significant result with the p-value of Wilks' Lambda being $p = 0.442$. For the tests of within-subjects effects, sphericity could not be assumed, as Mauchly's Test of Sphericity was significant ($p = 0.024$). While the difficulty itself had a clear effect on performance ($p < 0.001$), there was no evidence for an effect of student status with a Lower-bound p-value of p

= 0.403. While the visual representation of performance rates across the three tasks depicted in Figure 3 shows a slight difference in performance, especially in the 4-Back task (Task 2), this difference is not significant for any task. Furthermore, it indicates the opposite of what we would have expected with FG performing better than CG.

Figure 3

Performance rates for FG and CG across the three tasks



As an exploratory analysis we also looked at the effect of wakefulness (collected as part of the MDBF) on performance and compared the effect it had on CG with the effect it had on FG in Task 3. In a first step, we compared the base model that included only the main effects for student status and wakefulness' ability to predict performance on Task 3. Findings revealed that neither main effect significantly predicted performance and the overall model did not reach significance ($F(3, 196) = 2.344$, $p = 0.074$). In step two, we added the interaction of wakefulness and student status to the model to predict performance on Task 3. The hierarchical multiple regression revealed that the interaction of fatigue (i.e. wakefulness) and student status accounted for an additional 4.4% of the variation in performance on Task 3 above the original model, and this change in R^2 was significant, $F(1, 196) = 8.78$, $p < 0.01$).

To determine the specific influence the interaction of wakefulness and student status had on performance we completed a simple slopes analysis. Results indicated that no performance difference existed between FG and CG at mean wakefulness levels ($p = 0.890$) but did indicate significant differences at one SD above ($p = 0.030$) as well as one SD below ($p = 0.046$) mean wakefulness. The results show, that when wakefulness is high (and participants' fatigue therefore low), FG perform better than CG. For detailed model results please see Table 1 and Figure 4 below.

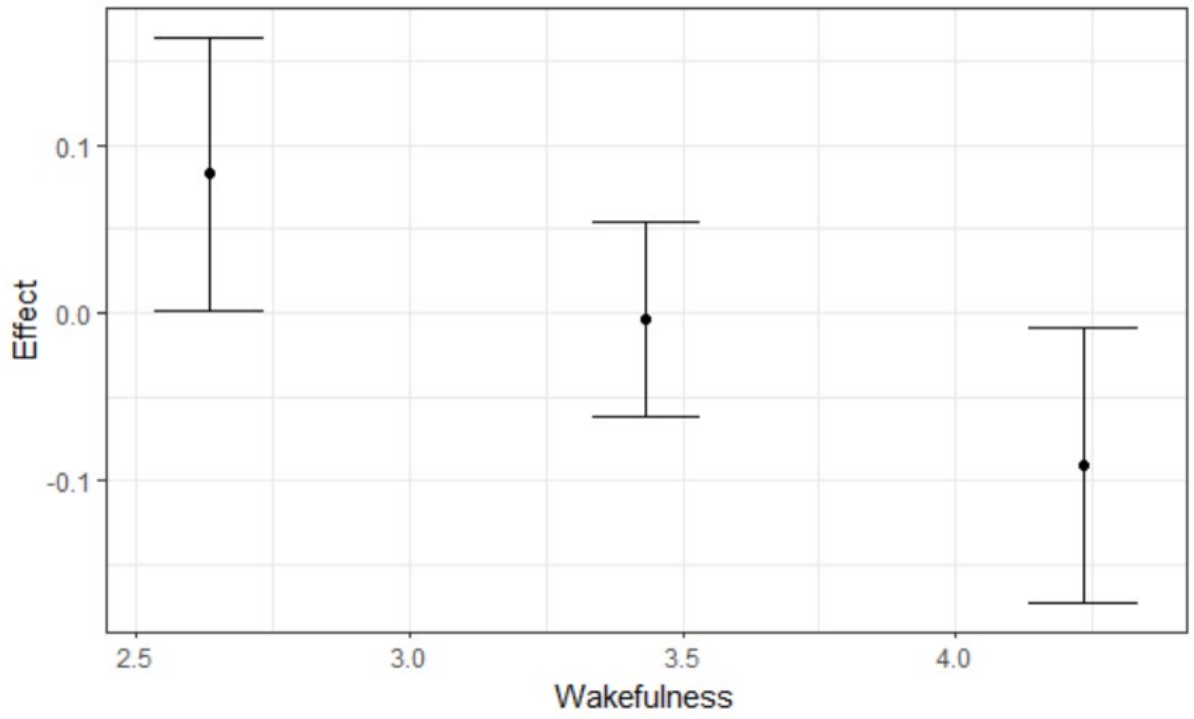
Table 1

Simple slopes analysis of effect of wakefulness on performance in Task 3

Wakefulness	Effect	SE	t	p	LLCI	ULCI
2.6331	0.0829	0.0413	2.0059	0.0462	0.0014	0.1644
3.4338	-0.0041	0.0294	-0.1390	0.8896	-0.0620	0.0538
4.2344	-0.0911	0.0417	-2.1834	0.0302	-0.1733	-0.0088

Figure 4

Influence of wakefulness on performance in Task 3 illustrated



Discussion

Previous research regarding the influence of student status on the experiences in university had already shed light on the various disadvantages, FG face in this regard. The effects of these disadvantages can be gauged by looking at statistical surveys, showing that FG are less likely to begin, let alone finish, a university education (Astleithner et al., 2022; Meyer-Guckel et al., 2022). Many of these effects would most likely be found in high schools as well and are therefore unlikely to originate in at university or in the transition from high school to university. Many of these disadvantages stem from negative self-perceptions, originating already in childhood (Bauer, 2021; Bauer et al., 2021; Ramos-Sánchez & Nichols, 2007; Sommet et al., 2013), as well as a perceived cultural mismatch (Jones & Schreier, 2022; Stephens et al., 2012). Both of these having a profound impact well into students' academic careers (House et al., 2020; Janke et al., 2017; Phillips et al., 2020). How exactly these connections function has been the subject of research, especially in recent years, and is becoming increasingly clear. It has emerged, that some of these effects are amplified by the environment they are observed in (Canning et al., 2020; Sommet et al., 2013)

Much of the recent research done particularly to investigate performance differences between CG and FG has been conducted using self-report questionnaires. In order to investigate these effects more objectively without relying on introspection, we attempted to develop a design in our study that would allow us to predict subjects' performance using MIT. This should exclude potential errors or self-bias, which can always arise in self-observation, as much as possible and deepen the picture developed so far.

We have, in part, been successful with this attempt, as our first hypothesis, that there would be no significant difference in performance between CG and FG, was indeed confirmed. This means that, in principle, the connection can indeed be investigated with this method.

Our second hypothesis, that the performance levels of FG would decline more quickly than the performance levels of CG, was not confirmed by the data collected. No significant difference in performance decline was found.

This stands in stark contrast to what previous research into the topic has suggested and would imply that there is no significant difference in performance between FG and CG. Our results are likely to have been heavily influenced by our sample, as psychology students at the

University of Vienna have to go through an admission test, which, as discussed, filters out potential candidates, who have a low self-perceived ability to succeed. Therefore, our sample can be assumed to be adjusted in regard to self-perceived ability, which is backed up by the non-significant difference in self-perceived talent between the two groups in our sample. This in turn points towards an equally as valuable finding: FG are clearly able to perform on par with CG, if they perceive themselves to be capable of performing well in the task at hand. This has widespread implications not just within research, but also in real-world application and, ideally, policymaking. As actual performance is mainly dependant on self-perceived ability and engagement vs disengagement, measures should be taken to improve self-perception of FG or make them more resilient in the face of intellectual challenges. As previously mentioned, a first step could be to frame situations as assessing attainable skills, rather than preordained and virtually unchangeable talents. For further research into the investigated effect, it is however advisable to use a more general sample pool. The most important takeaway regarding self-perceived talent in our sample, however, is undoubtedly that FG can in principle perform on par with or even better than CG. If certain basic prerequisites are met, and thus a level playing field is ensured, obstacles arising from student status can clearly be overcome. This is certainly an educational setting to aspire to.

There are a number of limitations concerning the informative value as well as the generalisability of this study which would need to be addressed in further investigations.

Concerning the generalisability there are some implications arising from the sample itself. As noted in the sample description, the gender distribution was heavily skewed towards female participants, with male participants representing only 26.5% of the sample population. This limits the generalisability of our findings, as it does not accurately represent the global or Austrian population. However, it can still be generalised to a narrower subset of the population: in the winter semester of 2021, of all students enrolled in a psychology programme at the University of Vienna, 34.3% were male (*Unidata - Zahlen Und Fakten Auf Knopfdruck*, n.d.). Apart from the gender distribution, another limiting factor for generalisation was the age distribution in our sample. With a mean age of 21.99 years (SD = 3.60) and the oldest participant being 45 years, it is, again, not representative of a general population, but it does fit what is to be expected of a student population at university. The split between FG and CG in the sample is representative, as in the winter semester of 2020/21 45.6% of the newly admitted domestic degree students at public universities were CG (Sommer-Binder, 2022), a share which traditionally increases over the duration of tertiary

education (see section “Generationality in higher education students” for more details). Since the lab-credit system used for recruitment of participants is used almost exclusively by psychology students, narrowing the scope of our generalisation to the more specific subset of (psychology) students makes sense from a sample recruitment standpoint as well. Due to the nature of our recruitment process, the sample must also be seen as a convenience sample, which further impedes on the validity for a general population.

Apart from the representativeness of the sample, there are other limiting factors as well. Since we only looked at students who are already enrolled in a university programme, it is possible that this might have acted as a preselection mechanism. If someone has a very low self-perceived talent, they will probably not enrol at university at all and rather pursue other career options, even if they might have the prerequisites to enrol (i.e. successfully completed their Reifeprüfung). The specific subset of students we examined poses an additional problem, as the psychology programme at the University of Vienna uses entrance examinations. These can be considered highly restrictive and make the psychology bachelor’s programme at the University of Vienna somewhat exclusive, as there have been 2,951 applications for one of the 485 study places in the 2022 entrance exam (*Zulassung und Aufnahmeverfahren*, 2022). Since only 16.4% of applicants are accepted into the programme, it must be assumed that the entrance examination already screens out many of the prospective students who would score lower on self-perceived ability. A questionnaire on student generationality that is presented to participants at the entrance examination and later evaluated with regard to their admission would be particularly interesting and undoubtedly informative. Since it could be included in the demographic survey, as we have done in this study, it would not be a particular extra effort.

Continuing in this line of reasoning it must also be noted that FG exhibit higher dropout rates than CG (Cataldi et al., 2018), as was already mentioned in the chapter on Theoretical background. This means that those FG who registered for university and managed to successfully complete the entrance examination, have to go through still another disadvantaging process of selection within their first few years at university. As the average number of semesters already studied in our sample was 4.32, it can be assumed that a further selection process took place during these approximately two years. These factors have certainly confounded our results and should undoubtedly be considered in any further investigation of this effect. One possible way of adapting the study to control for these

influences has been outlined above, although there are certainly different ways of approaching these issues.

We also experienced some technical difficulties during data collection. The relaxing nature videos shown to participants right before the task phase were high-definition videos, to make them more enjoyable. However, the technical equipment present in the lab was apparently not designed for video presentation, as the hardware clearly had problems buffering the videos, even though they were stored locally. While watching the videos, several participants remarked that the video stuttered, while the audio continued uninterrupted, which also caused the audio to finish before the video. After first being notified of this on the first day, we attempted some changes to the hardware environment, such as changing the computers used. However, we were unable to eliminate the problem completely. Especially in the afternoon, we noticed that the computers were having more and more problems with seamless video playback. When we were informed by participants, we told them that we were aware of the issue, apologised for it and asked them to pretend that the video played was playing without any problems. We also assured them, that this was not in any way intended and had nothing to do with our survey per se but was caused solely by the university's aging hardware. However, some of the participants reported in the debriefing session, that they did not fully believe us and suspected that the lagging video had been intentional and, in some way, connected to our study. This misconception may have led some participants to perform differently, while the stuttering video itself can also be suspected to have interfered with the calm, relaxed mood we wanted participants to be in before the task phase began.

Finally, it must be acknowledged that ultimately, we cannot know how effective we were in conveying a sense of a talent environment. Since the effect we were trying to replicate is highly dependent on the participants feeling as though it is most of all their innate abilities that matter, as outlined above, it would be central to our analysis and generalisation to know whether participants actually experienced the environment as such. For example, some of the verbal feedback we received after participants completed the study concerned the white lab coats worn by the researchers during the experiment. They were felt to be somewhat out of place for the study and some participants perceived them to be pointless or even strange. Given that this measure to ensure the perception of a talent environment seems to have failed in part, it is questionable to what extent other aspects, as well as the environment in general, were perceived in the desired way.

Notes for future research

In the planning phase for further research on this effect, it should be kept in mind that, if possible, the sample should ideally consist of people who fulfil the requirements for attending a university and also plan to do so. However, as few further restrictions as possible should be made so that as few selection effects as possible can occur. Ideally, the participants would be interested in studying in different fields and care should be taken to ensure a representative distribution of both gender and generational aspects for a larger subset of the general population. One of the questionnaires used should include a question to gauge the participants' perception of whether the environment in general as well as the task itself are perceived as talent focused. Ideally the sample would also not be a convenience sample, as we had to use. It must be avoided that such a strict and talent-focused pre-selection is made as was the case with our sample due to the entrance test for psychology. It would however be possible to use a self-report questionnaire at the entrance test for psychology. This would, of course, not fit all the criteria outlined above, as it is still a convenience sample, focused on one field of interest and most likely not representative of a general population, as well as likely less objective due to relying on introspection. It would, however, enable the researchers to look at a large sample in an environment that is typically perceived as talent focused. Additionally, the performance of participants is rated for different kinds of tasks but along a single line of evaluation.

If the sample size is large enough it would furthermore be worthwhile to try out different approaches towards conveying a talent-focused environment. The lab coats we used, as well as our other steps taken to ensure this perception, seem to not have been sufficient, as it was doubted repeatedly during the debriefing process. Additionally, there should be an item regarding participants' perception of the environment, whether or not it is perceived as talent focused.

Conclusion

The present study, albeit showing mixed results due to one of the hypotheses not being supported by the data, does offer valuable insights. It points out a possible way to further examine the relationship between student status, self-perception, and its possible influence on performance at university. The most likely reasons for finding no evidence to support our

second hypothesis lie in the rather specific composition of our sample. It is very likely that the admission test for psychology, which was a prerequisite to access the labs-system and register for our study, had already filtered out most FG with a low sense of self-efficacy. Those who managed to succeed in the admission test and further on in university, would also have their confidence improved by their continuing successes. This is reflected by FG and CG not significantly differing in self-perceived talent. Having looked at FG with higher self-perceived talent, who managed to perform just as good as the CG group, clearly shows that the performance differences between FG and CG are not inevitable and can indeed be overcome. Although this was not the main focus of our study, it is an important finding that highlights the need for continued research and potential policy changes in the future.

Further research in this field should consider our sample issues and attempt to study a sample group as diverse and representative as possible. Ideally from different fields of study or with interest in different fields of study. Also, since university inherently has selection effects, people towards the end of their school career or currently transitioning into university would likely prove better candidates.

In conclusion, our study supports the common perception, that universities, being perceived as talent-focused environments, are inherently discriminatory towards FG. Further steps must be taken to level the playing field of academia and award students, who grew up in households without any connection to university, the same chances, as others. If an emphasis is put on skill, instead of talent, beginning in high school and continuing through university, these exclusive effects would certainly be less likely to occur and award our society with the brightest minds from both CG as well as FG communities.

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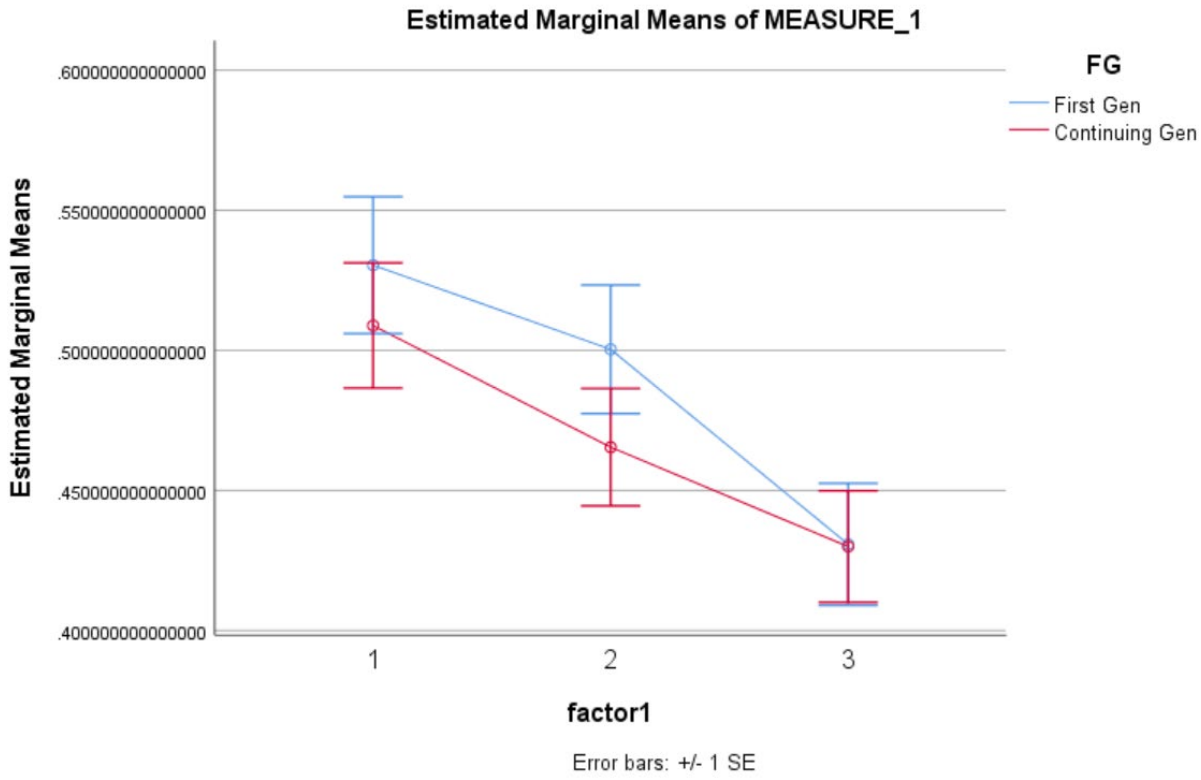
Supplemental Material

Figures

Figure 5

Performance levels for FG and CG across all tasks



Tables

Table 1

Effect of wakefulness on performance in Task 3 one SD below mean wakefulness, at mean wakefulness and one SD above mean wakefulness

Wakefulness	Effect	SE	t	p	LLCI	ULCI
2.6331	0.0829	0.0413	2.0059	0.0462	0.0014	0.1644
3.4338	-0.0041	0.0294	-0.1390	0.8896	-0.0620	0.0538
4.2344	-0.0911	0.0417	-2.1834	0.0302	-0.1733	-0.0088

Table 2

Difference between FG and CG in gender, duration of studies and grades at university (PPL1)

Independent Samples Test

		t-test for Equality of Means				
		Significance	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
					Lower	Upper
gender	Equal variances assumed	,405	,055	,066	-,076	,186
Duration	Equal variances assumed	,359	,507	,551	-,581	1,594
PPL1	Equal variances assumed	,619	-,04840	,09707	-,23989	,14309

Table 3

Difference between FG and CG in age

age across FG

Independent-Samples Mann-Whitney U Test Summary

Total N	200
Mann-Whitney U	4281,500
Wilcoxon W	10276,500
Test Statistic	4281,500
Standard Error	403,633
Standardized Test Statistic	-1,680
Asymptotic Sig.(2-sided test)	,093

Table 4

Difference between FG and CG in grades in their last year of school (PPL2)

PPL2 across FG

Independent-Samples Mann-Whitney U Test Summary

Total N	195
Mann-Whitney U	4962,000
Wilcoxon W	10740,000
Test Statistic	4962,000
Standard Error	390,834
Standardized Test Statistic	,650
Asymptotic Sig.(2-sided test)	,516

Table 5

Comparison of performance levels of FG vs CG at 3-Back

hitrate_N3 across FG

Independent-Samples Mann-Whitney U Test Summary

Total N	200
Mann-Whitney U	4637,000
Wilcoxon W	10632,000
Test Statistic	4637,000
Standard Error	405,889
Standardized Test Statistic	-,795
Asymptotic Sig.(2-sided test)	,427

Table 6

Analysis of the development of performance of FG vs CG across all three tasks

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.
factor1	Pillai's Trace	.146	16.783[b]	2.000	197.000	.000
	Wilks' Lambda	.854	16.783[b]	2.000	197.000	.000
	Hotelling's Trace	.170	16.783[b]	2.000	197.000	.000
	Roy's Largest Root	.170	16.783[b]	2.000	197.000	.000
factor1 * FG	Pillai's Trace	.008	.820[b]	2.000	197.000	.442
	Wilks' Lambda	.992	.820[b]	2.000	197.000	.442
	Hotelling's Trace	.008	.820[b]	2.000	197.000	.442
	Roy's Largest Root	.008	.820[b]	2.000	197.000	.442

a. Design: Intercept + FG
Within Subjects Design: factor1

b. Exact statistic

Abstract

The concept of the influence of generationality on various factors in education has long been a concern in research but has gained more traction in recent years. The question of whether students who come from non-academic households (i.e., first generation students; FG) are systematically disadvantaged is an essential one, even more so in an environment that is becoming increasingly aware of the importance of equal opportunities. This study sought to examine how FG's perceptions of ability influence their performance on tests of mental ability. Results indicate that there were no differences in performances across all given tasks along the lines of student status. Our first hypothesis, no significant difference in easy tasks, is therefore confirmed. Our second hypothesis, that FG should perform worse in a higher difficulty task, however, is not supported by our data. This is possibly due to the composition of our sample, as we had only used psychology students from the University of Vienna. Since there is an admission test for the psychology programme at the university of Vienna, all our participants had previously undergone a highly selective process, which is likely to have screened out those students, who exhibit low self-efficacy. Thus, our samples' average self-efficacy is most likely higher than average self-efficacy across all FG, which would explain why the expected effect was not found in our data. The exploratory digression points towards a moderating influence of fatigue on performance, to the disadvantage of FG.

Abstract German

Das Konzept des Einflusses der Generationszugehörigkeit auf verschiedene Faktoren im Bildungswesen ist in der Forschung schon lange ein Thema, hat aber in den letzten Jahren an Bedeutung gewonnen. Die Frage, ob Studierende aus nicht-akademischen Haushalten (FG) systematisch benachteiligt sind, ist von grundlegender Bedeutung, umso mehr in einem Umfeld, das sich der Bedeutung der Chancengleichheit immer stärker bewusst wird. In dieser Studie wurde untersucht, wie sich die Wahrnehmung der Fähigkeiten von FG auf ihre Leistungen bei Tests der geistigen Fähigkeiten auswirkt. Die Ergebnisse zeigen, dass es bei allen Aufgaben keine Leistungsunterschiede in Abhängigkeit der Generationszugehörigkeit gab. Unsere erste Hypothese, dass es keine signifikanten Unterschiede bei leichten Aufgaben gibt, wird somit bestätigt. Unsere zweite Hypothese, dass FG bei einer Aufgabe mit höherem Schwierigkeitsgrad schlechter abschneiden sollten, wird durch unsere Daten jedoch nicht gestützt. Dies ist möglicherweise auf die Zusammensetzung unserer Stichprobe

zurückzuführen, da wir nur Psychologiestudierende der Universität Wien untersucht haben. Da es einen Aufnahmetest für das Psychologiestudium an der Universität Wien gibt, hatten alle unsere Teilnehmenden zuvor ein hochselektives Verfahren durchlaufen, das wahrscheinlich jene Studierenden aussortiert hat, die eine geringe Selbstwirksamkeit aufweisen. Daher ist die durchschnittliche Selbstwirksamkeit der FG unserer Stichprobe wahrscheinlich höher als die durchschnittliche Selbstwirksamkeit über alle FG, was erklären würde, warum der erwartete Effekt in unseren Daten nicht gefunden wurde. Der explorative Exkurs deutet auf einen moderierenden Einfluss von Ermüdung auf die Leistung, zum Nachteil der FG, hin.

Abbreviations

Abbreviation	Term
FG	First-generation student
CG	Continuing-generation student
MIT	Motivational Intensity Theory
SI	Success Importance
MDBF	Multidimensionaler Befindlichkeitsfragebogen

Materials

MDBF – Pre-Task

Bitte geben Sie an, wie Sie sich jetzt in diesem Moment fühlen.

	gar nicht				sehr
1. zufrieden	1	2	3	4	5
2. schlecht	1	2	3	4	5
3. gut	1	2	3	4	5
4. unwohl	1	2	3	4	5
5. ausgeruht	1	2	3	4	5

6.	schlapp	1	2	3	4	5
7.	müde	1	2	3	4	5
8.	munter	1	2	3	4	5
9.	ruhelos	1	2	3	4	5
10.	gelassen	1	2	3	4	5
11.	unruhig	1	2	3	4	5
12.	entspannt	1	2	3	4	5

Self-perceived talent

In Bezug auf Ihre **intellektuellen Fähigkeiten**: Wie sehr treffen die folgenden Aussagen Ihrer Meinung nach auf Sie zu?

	Trifft gar nicht zu (1)	Trifft sehr wenig zu (2)	Trifft eher nicht zu (3)	Trifft mittelmäßig zu (4)	Trifft eher zu (5)	Trifft sehr zu (6)	Trifft völlig zu (7)
Ich halte mich für begabt. (1)	O	O	O	O	O	O	O
Ich halte mich für talentiert. (2)	O	O	O	O	O	O	O

MDBF – Post-Task

Bitte geben Sie an, wie Sie sich jetzt in diesem Moment fühlen.

		gar nicht				**sehr**
1.	wohl	1	2	3	4	5
2.	unglücklich	1	2	3	4	5
3.	unzufrieden	1	2	3	4	5
4.	glücklich	1	2	3	4	5
5.	schläfrig	1	2	3	4	5

6.	wach	1	2	3	4	5
7.	frisch	1	2	3	4	5
8.	ermattet	1	2	3	4	5
9.	ausgeglichen	1	2	3	4	5
10.	angespannt	1	2	3	4	5
11.	nervös	1	2	3	4	5
12.	ruhig	1	2	3	4	5

Perceived importance of task

1. Wie wichtig war es Ihnen, im intellektuellen Fähigkeitstest erfolgreich zu sein?

0	1	2	3	4	5	6	7	8	9	10
Überhaupt nicht wichtig										Sehr wichtig

Perceived difficulty

2. Wie schwierig war es für Sie, im intellektuellen Fähigkeitstest erfolgreich zu sein?

0	1	2	3	4	5	6	7	8	9	10
Nicht schwierig										Sehr schwierig

Perceived threat during second task

Wenn Sie daran denken, wie Sie sich gerade bei der **letzten** Aufgabe gefühlt haben – inwiefern treffen die folgenden Aussagen zu?

	Trifft gar nicht zu (1)	Trifft sehr wenig zu (4)	Trifft eher nicht zu (5)	Trifft mittelmäßig zu (6)	Trifft eher zu (7)	Trifft sehr zu (8)	Trifft völlig zu (9)
Ich habe mich nervös gefühlt (1)	○	○	○	○	○	○	○

Ich habe mich angespannt gefühlt (4)	○	○	○	○	○	○	○
Ich habe mich eingeschüchtert gefühlt (5)	○	○	○	○	○	○	○
Ich habe mich begeistert gefühlt (6)	○	○	○	○	○	○	○
Ich habe mich entspannt gefühlt (7)	○	○	○	○	○	○	○
Ich habe mich motiviert gefühlt (8)	○	○	○	○	○	○	○
Ich habe mich gestresst gefühlt (9)	○	○	○	○	○	○	○

Number of books at home

Wenn Sie an Ihre Kindheit denken und wie Sie aufgewachsen sind: Wie viele Bücher gab es bei Ihnen zu Hause? (Hinweis: Auf einen Meter Regalbrett passen ungefähr 40 Bücher)

- keine
- 1-10
- 11-50
- 51-100
- 101-250
- 251-500
- mehr als 500

Subjective class

Stellen Sie sich bitte eine Leiter mit 10 Sprossen vor, die zeigen soll, wo die Menschen in Österreich stehen.

Ganz oben stehen die Menschen mit dem meisten Geld, der höchsten Bildung und den besten Jobs. Ganz unten stehen diejenigen mit dem wenigsten Geld, der niedrigsten Bildung und den schlechtesten Jobs oder ohne Job. Je höher man auf der Leiter steht, desto näher ist man den Personen ganz oben, je niedriger, desto näher den Personen ganz unten.

Wo würden Sie sich auf der Leiter platzieren?

Bitte kreuzen Sie an, auf welcher Sprosse Sie Ihrer Meinung nach in Ihrer aktuellen Lebensphase im Verhältnis zu anderen Menschen in Österreich stehen.

1 (1)

2 (2)

3 (3)

4 (4)

5 (5)

6 (6)

7 (7)

8 (8)

9 (9)

10 (10)

Age

Wie alt sind Sie? _____

Gender

Mit welchem Geschlecht identifizieren Sie sich?

Männlich, weiblich, sonstiges

Area of study

Was studieren Sie?

- Psychologie
- Sonstiges, und zwar:

  _____

Time spent studying

Im wievielten Semester studieren Sie gerade (**Gesamt-Anzahl** der Semester an einer Hochschule)

1 (4)

2 (5)

3 (6)

4 (7)

5 (8)

6 (9)

7 (10)

8 (11)

9 (12)

10 (13)

Anderes, und zwar: (14) _____

Prior performance levels (at uni etc)

Was ist Ihre momentane Durchschnittsnote im Studium?

_____

Was war Ihre Durchschnittsnote bei Ihrer Hochschulzugangsberechtigung (z.B. Abitur)?

_____

First-generation student status

Was ist der höchste Bildungsabschluss Ihrer Mutter (Wenn Ihre Mutter außerhalb Deutschlands ausgebildet wurde: Welchem Abschluss entspricht der Abschluss am ehesten?)

kein Schulabschluss (1)

Hauptschulabschluss (2)

Realschulabschluss (3)

abgeschlossene Lehre/ Berufsausbildung (4)

Abitur/ Matura (5)

Abschluss einer Fachhochschule (6)

Abschluss einer Universität (z.B. Bachelor, Master, Diplom, Staatsexamen) (7)

Promotion (8)

Habilitation (9)

Sonstiges, und zwar: (10) _____

Was ist der höchste Bildungsabschluss Ihres Vaters? (Wenn Ihr Vater außerhalb Deutschlands ausgebildet wurde: Welchem Abschluss entspricht der Abschluss am ehesten?)

kein Schulabschluss (1)

Hauptschulabschluss (2)

Realschulabschluss (3)

abgeschlossene Lehre/ Berufsausbildung (4)

Abitur/ Matura (5)

Abschluss einer Fachhochschule (6)

Abschluss einer Universität (z.B. Bachelor, Master, Diplom, Staatsexamen) (7)

Promotion (8)

Habilitation (9)

Sonstiges, und zwar: (10) _____