



# PhD first-generation and continuing generation students' academic experience and strengths

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## Abstract

This study identifies the factors that help doctoral students cope with difficulties in their studies, based on social reproduction theory and the anti-deficit approach. A thematic analysis of 23 semi-structured interviews of doctoral students at six universities revealed that first-generation and continuing generation doctoral students had to overcome challenges, and each group represented unique experiences. Continuing generation students reported facing emotional difficulties, and relied on parents' support and cultural capital. First-generation doctoral students described their academic path as an obstacle course, including academic and economic barriers and cultural difficulties, as well as culture shock, otherness, and ambivalent reactions from their families. This group mainly relied on personal resources as aspirational capital and grit. We argue that personal resources may play a significant role in social mobility of disadvantaged groups. Greater awareness to non-cognitive resources and in-program holistic support including social and psychological support may contribute to higher education equitable opportunities.

**Keywords** First-generation students · Doctoral students · Anti-deficit approach · Non-cognitive skills · Cultural capital

Enrollment in higher education (HE) and the acquisition of academic degrees constitute an essential factor contributing to upward social mobility (Buchman et al., 2020). While it is common for young people to pursue an academic degree, a persistent inequality in access to HE still exists in undergraduate rates and enrollment to advanced degrees, with socially dominant groups having an advantage compared to disadvantaged groups (Parker et al., 2016). In this context, studies have compared *continuing generation students* (CGS) to *first generation students* (FGS). CGS are commonly<sup>1</sup> defined as students whose parents have earned an academic degree (a bachelor degree or a higher degree), while FGS refers

<sup>1</sup> Various definitions for FGS are used, for example, the first in the family to go to college. We studied two distinguished groups: both parents with or without a bachelor or a higher degree.

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to students where none of their parents possesses an academic degree (Beattie, 2018). Prior studies showed that although FGS have become a more prevalent group in countries undergoing massification in HE (e.g., Alcock & Belluigi, 2018), they are underrepresented and compose a distinct social group.

Many studies (e.g., Pascarella et al., 2012) adopted the deficit approach, which emphasizes FGS' lack of relevant resources (Yee, 2014), while less are based on an anti-deficit approach focusing on successful students. Furthermore, most studies focus on undergraduate students (Cross, 2013), devoting less attention to the experience of those who pursue an advanced degree. The present study aims to address these gaps in order to explore the driving forces and resources that doctoral students rely on in the process of acquiring advanced degrees in spite of barriers and impeding factors.

In many countries, an average rate of 1% of the population between 25 and 64 years of age holds a PhD degree (OECD, 2021; Renmerger et al., 2021), and doctoral students encompass a small group in HE. Nevertheless, this group holds leadership and high professional positions (OECD, 2021), and professors at HE institutions are recruited from this group. As such, along with the calls for diversity among students and academic staff (e.g., Association of American Colleges & Universities, 2021), it is important that doctoral students reflect the composition of the population and serve as role models for underprivileged groups. Thus, focusing on successful students may provide a better understanding of FGS' path toward the actualization of educational opportunities in HE and eventually toward increased social mobility, contributing to social equality of disadvantaged groups and enhancing meritocratic values.

## FGS compared to CGS

Although HE is one of the significant and pivotal means for upward socioeconomic mobility (Cin & Dogan, 2020), research has consistently shown differences between CGS' and FGS' experiences in HE. FGS are less likely to enroll in colleges (Choy, 2001) and attend less prestigious institutions (Ayalon & Mcdossi, 2016) in less prestigious fields of study (Walpole, 2003). They experience social alienation and marginalization (Gardener, 2013). Some FGS report difficulties in self-regulation (Williams & Hellman, 2004) and experience confusion (Lee & Kramer, 2013), discomfort (Benmayor, 2002), loneliness (Smyth & Banks, 2012), and limited family support (Gibbons & Shofiner, 2004). Being a FGS appears to carry academic consequences as well. Their average grades are lower, and they are less likely to obtain a degree and to enroll in graduate studies (Phillips, Stephens & Townsend, 2016). Thus, their opportunities to enroll in advanced degrees seem to be further diminished (Cataldi et al., 2018). According to an updated data, 12% of FGS who accomplished a bachelor degree enrolled in doctoral studies, compared to 22% of CGS (Renmerger et al., 2021).

Once reaching doctoral studies, the demanding process of being a student for many years and conducting an independent original and innovative research work is a great challenge for most students, regardless of their social background. Thus, at first glance, we can assume that being the first in the family to pursue a PhD degree is a common challenge with FGS as is with many CGS<sup>2</sup>. Nevertheless, more CGS may be exposed from a young

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<sup>2</sup> Because very few hold a PhD degree. We thank the anonymous reviewer for this insight.

age to aspire for a PhD degree, while this is less common among FGS. For example, 16% of Israeli academic parents (of which only 5% have a PhD degree)<sup>3</sup> expected their children to achieve a PhD degree, compared to 6% among non-academic parents. Furthermore, we can assume that doctoral studies are more challenging for disadvantaged groups (e.g., Alvarez, 2020; Okahana et al., 2018), and that their experiences and difficulties in the course of prior studies (e.g., Beattie, 2018) may have spilled over to doctoral studies as well, thus putting them in a disadvantaged position (Cross, 2013). PhD FGS tend to enroll in less prestigious fields (such as education [Smith & Tang, 1994]); experience financial difficulties; are less likely to obtain research funds and be granted awards (Kniffin, 2007); and some may even feel a sense of “living in two worlds” (Gardner, 2013), namely, both “in and out” of the academic world.

## Theoretical approaches

In explaining the differences between the experiences of CGS and FGS in HE, many studies emphasize the *social reproduction process*, in reference to Bourdieu’s sociological field theory (Bourdieu, 1977; 1986; 1990). According to this theoretical frame, navigation within the HE *field* is easier for those with the appropriate *habitus*, i.e., ways of thinking and embodied behavioral tendencies, as well as for those that possess relevant types of capital, with an emphasis on cultural or social capital (Bourdieu, 1986; Moore, 2008).

In this context, CGS possess *cultural capital* that since childhood has been mainly internalized and accumulated within families, and is reflected in the parenting *cultivation logic* (Lareau, 2003; 2011; 2015; Lareau, Evans & Yee, 2016). Middle-class parents, who hold academic degrees, instill in their children norms that fit the educational institution, e.g., their cultural capital fits *the rule of the game* of educational institutions, and enables them to know how to negotiate for better conditions and academic success (Lareau, 2015). For these parents, the attainment of an academic degree is a common norm (Walpole, 2003), and as such, they transfer to their children values related to HE (Hill & Tyson, 2009) and direct them to study at “good” institutions. Hence, CGS are assumed to have the knowledge, beliefs, perception, and understanding of *how to act* in HE institutions (Lareau et al., 2016; Stevenson & Clegg, 2010), which eventually equip them with an advantage (Yee, 2014).

In contrast, FGS whose parents do not possess any college experience have fewer opportunities to transmit information, norms, and values of HE to their children (Alvarez, 2020). Furthermore, their own social milieu lies beyond the sphere of academia and their acquaintance with HE is limited. This limitation affects the educational decision-making of their children. FGS tend to focus on short-term plans, and risk avoidance is a foremost consideration. Thus, they prefer to enroll in close to home community colleges, rather than applying to prestigious, demanding universities (Yee, 2014). However, these decisions may have significant implications for pursuing further academic paths (Ayalon & Mcdossi, 2016). FGS possess less *well-designed cultural capital* that is relevant to the HE field (Clegg, 2011). Based on the reproduction approach, FGS lack the means needed for enrolling and succeeding in HE. They may experience a cultural conflict (Jensen, 2004) between their homes’ values and those prevailing in HE institutions (Hartig & Steigerwald, 2007),

<sup>3</sup> Based on data analysis of the Israeli Central Bureau of Statistics, longitudinal survey of household, 2017.

leading to greater difficulties (Devlin, 2013), and eventually to lower academic expectations and achievements.

In contrast, another school of thought suggests that the anti-deficit approach provides an opportunity to learn from successful disadvantaged groups (Ngalo-Morrison, 2017; Tinto, 2004). This perspective assumes that FGS succeed in HE, due to the particular resources they employ for overcoming the barriers they encounter (Reed et al., 2018). For example, researchers indicate that *aspiration capital* (Yosso, 2014) describing the will and efforts of individuals from underprivileged groups and among communities of blacks and ethnic minorities to invest consciously in breaking out of their existing SES and climbing “as high as possible” on the social ladder. According to Yosso (2005), in many cases, this acts as a response and resistance to discrimination, which they frequently experience in society. This conceptualization is also relevant for FGS’ success (e.g., Basit, 2012). Another study refers to *family capital* (Gofen, 2009), representing parents who emphasize the value of education while also encouraging “investing effort,” often without involvement in academic decisions (Auerbach, 2006).

Both the social reproduction and the anti-deficit approaches focus on undergraduate students, whereas much less attention is paid to the doctoral level (Gardener, 2013).

## Research purpose and questions

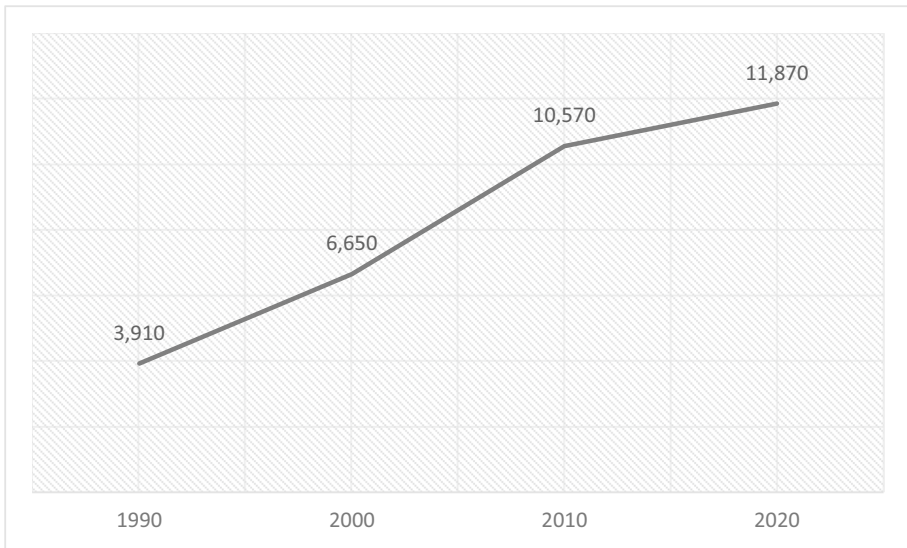
The present study explores participants’ experiences as PhD students, by identifying their views concerning the factors that challenge their progress towards a PhD degree, and the resources on which they rely throughout their studies. Two questions guide the inquiry:

1. What are the challenges and barriers experienced by FGS when compared to CGS?
2. What are the strengths on which FGS rely on to overcome their challenges, compared to CGS?

## The research setting

In Israel, as in other countries, an academic education is highly valued, 40% of high school cohorts enroll in HE, and about half of the population holds an academic degree<sup>4</sup>. Within the students’ population, 3.8% are doctoral students (Council for HE, 2020). They are required to study several graduate-level courses and conduct independent research under the guidance and supervision of an advisor. The duration of their studies may last between five to seven years (Central Bureau of Statistics, CBS, 2018a). PhD students are generally older (average of 33 years) than their peers in other countries (CBS, 2018b), thus some graduate at 40 years of age. During this time, many are employed and have their own family. Despite the increase in the number of doctoral students (Council for HE, 2020), as presented in Figure 1, very little research has been conducted on this group (Yair, 2009).

<sup>4</sup> At ages 24–65, 49% of Israelis hold an academic degree, after Canada and Russia with 54%. [https://en.wikipedia.org/wiki/List\\_of\\_countries\\_by\\_tertiary\\_education\\_attainment](https://en.wikipedia.org/wiki/List_of_countries_by_tertiary_education_attainment), Retrieved February 12, 2021.



**Fig. 1** PhD Students (1990–2020). Based on Council for Higher Education’s data (2020)

## Research method

This qualitative research aimed to extend our knowledge about PhD students generally, and to understand the success of FGS in pursuing PhD degrees in particular. Participants were recruited using three methods. First, since there is an overlap between SES and parents’ education levels, we approached doctoral students eligible for financial aid, to ensure FGS’ participation. Additional participants were recruited through the PhD students’ university seminars. Third, we employed the “snowball” sampling method, asking participants to invite peers to participate. The sample included 23 doctoral students in various fields of study, from six universities<sup>5</sup>. Participants included students from first year to recent PhD graduates. Twelve were FGS and 11 CGS, their ages ranged from 29 to 55 years, and 17 were women (Appendix Table 1).

## Data collection

Initially, we sent an e-mail inviting PhD students to participate in a study about doctoral studies, asking everyone who was willing to participate to contact us by e-mail. We then called participants by phone, ensuring complete confidentiality and anonymity. The data was collected using semi-structured face-to-face interviews (Morehouse, 2012), which took between one to two and a half hours and were conducted in a quiet library study room. The interviews were recorded and transcribed.

Participants were first asked to refer to a very broad question: “Tell me about yourself, your background, and your academic path”. This opening question allowed interviewees

<sup>5</sup> Six institutions offered a PhD degree. Two that recently were accredited as universities are not included.

to freely describe the course of their lives, and to present their thoughts and expectations about their academic path. We posed additional questions that were needed to round out the information, enabling us to obtain coherent data about academic paths, while revealing significant support figures and completing details concerning family background. The questions were refined in an ongoing process following the preliminary analysis of the interviews.

## Data analysis

Based on thematic analysis (Braun & Clarke, 2006), the data was analyzed inductively, focusing on comparison between FGS and CGS. At this stage, we searched for categories and themes that emerged from the interviews while seeking confirmation of the categories by comparing the coded interviews conducted separately by both authors (Miles & Huberman, 1994). Data collection was conducted simultaneously with data analysis, and the process ended when interviews appeared to produce “more of the same” information as was obtained from previous participants. There was a high level of agreement between the two authors in all categories. Repeated comparisons were made to the initial data in order to refine the themes, until the analyzing process was saturated (Charmaz, 2014), and themes were clearly established.

## Findings

The data analysis revealed considerable differences between CGS and FGS in respect to the difficulties PhD students were faced with and strengths they drew on to cope with these challenges. First, we present the themes regarding FGS, followed by themes relating to CGS.

### First-generation PhD students' experiences

#### FGS' challenges

When asked PhD FGS to describe their academic experience, they tended to perceive their academic path as an *obstacle course*. They emphasized academic, financial, and particularly cultural challenges, from the time of their undergraduate studies through their doctoral studies, with some reference to high school.

#### Academic challenges

FGS reported experiencing a sequence of academic difficulties since the time of their undergraduate studies. They described barriers in admission to a university and their need to compromise by enrolling in academic colleges, which are considered less prestigious, or second tier institutions compared to the research universities, and may have diminished their chances to enroll to PhD programs. They also had to compromise in respect to the field

of study, as Keren<sup>6</sup> said: “I wanted psychology [...] (even) after completing my bachelor’s degree, I was not accepted [...]. I completed two undergraduate degrees (in other fields)”. Keren’s experience was also echoed by other FGS, and was in accordance with previous studies showing that first-generation undergraduate students were enrolled in less prestigious programs (e.g., Parker et al., 2016). Such experiences were not mentioned by CGS.

While it may be expected that students become socialized to HE and acquire academic skills during their undergraduate studies (Winkle-Wagner & McCoy, 2016), it was found that this in fact remained as an ongoing process and students had to continue and acquire additional academic skills: “I had difficulties. I had no one to ask and there was no certain instruction on how to write an academic essay” (Ron); “It was difficult (in terms of academic writing) in a thesis and difficult in a PhD [...] It took me six years to finish my Masters and many years in PhD studies” (Tamar). Although part of their difficulties may have risen from the various skills needed at each level of academic degree, no parallel findings emerged among CGS. These findings reflect gaps in knowledge, language, and expectations of FGS (Gardner, 2013), who must deal with disparities that are persevered beyond the transition from high school to HE (Yee, 2014).

### Economic difficulties

Compared to CGS, FGS came mainly from lower income families (Gardner, 2013) and lacked economic resources. Thus, they needed to work and earn a living to support the cost of their studies. FGS reported working many hours and at low-skilled jobs, as Tal, a mother of a child, described:

Yes, I had to work in a university library, to clean houses, be a waitress, [...]. I did not go into classes [...] because I had no option [...] I had no other choice [...] Yes, I worked very-very hard.

In addition to academic and economic challenges, FGS referred to diverse cultural barriers as presented below.

### Cultural challenges

First, when entering HE, FGS experienced *culture shock*, as Ron said: “I came to university and [...] I had a bit of a culture shock”. Tal as well reported a sharp cultural transition (Pedersen, 1994) from home to HE institution:

When I arrived at the university for the first class, half of the professor’s speech was in Latin [...] I could not believe that the university staff spoke an incomprehensible language, half of the words (I) did not understand. I couldn’t believe it was like that, I was in shock.

From the interviews with FGS, it emerged that they became aware of their lack of knowledge when encountering CGS. Tamar said, “I didn’t understand how other students knew things [...] I was surprised how they knew, and I didn’t”.

These experiences can be attributed to the cultural gaps differentiating FGS’ habitus that was formed in their original family context and was *second nature* to them (Bourdieu, 1994), from the academic culture at the university. Thus, FGS felt to be

<sup>6</sup> Participants’ quotes were translated into English.



lacking the “proper” dominant habitus, as Gal put it: “If you are the son of a professor, you have a direct track to the PhD”. As such, FGS had to invest more effort in re-socialization in order to attain their current position, as Yonatan said: “I had to start from scratch [...] it was extremely difficult. [...]. I looked at people differently, whoever received everything with a silver spoon.”

Accordingly, FGS’ experiences revealed a feeling of *Otherness*. Participants used diverse expressions to describe their social position, such as being “exceptional,” “not a part of,” “weird,” “a little unusual,” “being different,” and “foreign.” These expressions represented a feeling of being *a fish out of water* (Hardy, 2008; Maton, 2008), when one does not find his or her place in a social field. Indeed, PhD FGS described feelings of *discomfort and confusion* within the HE institutions: “I’ve always felt uncomfortable” (Ron). They also had doubts about their academic abilities, as Tal related: “I keep saying (to myself): Do I fit or do I not fit in academia? Am I good enough or not good enough? [Do I] Belong or not belong?” Over the years that FGS spent as students in HE, they also experienced a normative distinction with their own family in respect to education.

First, FGS reported low parental expectations for advanced academic studies, as Hadas put it: “Just after high school, my parents (told me to) [...] acquire a practical job”. Sophie, who is pursuing a PhD in education remembered:

I would not forget that they (parents) [...] said: she’s better off being a big fish in a small pond, [...] (and later on,) being a teacher is a good job for a woman. They did not have higher expectations of me than just that.

Apparently, as indicated in prior studies, low-status non-academic parents often expect their children to gain full-time employment immediately upon graduating high school and frequently direct them to practical professional studies (Horvat et al, 2010). Thus, it was not surprising that PhD FGS mentioned that frequently their parents and siblings did not understand the purpose of acquiring advanced degrees and raised doubts about the necessity of doing so, as Hadas said: “My parents asked: why do you need a PhD? What does it matter? What do you want to do with it?” Yonatan, added: “My mom thinks I’m learning nonsense”; Interviewees noted that family members criticized them and in some cases humiliated them about pursuing advanced degrees: “My brother still makes fun of me for being a student for so many years” (Tal). These findings may reflect a change in PhD FGS’ disposition compared to their family (Curl, Lareau & Wu, 2018).

Apparently, while low SES parents recognize the importance of enrolling in HE as a central key for social mobility, they mainly encourage pursuing undergraduate studies. Nevertheless, they are skeptical about the benefits of earning an advanced academic degree, and sometimes studies are accompanied by negative reactions (Reay, 2013). The case of PhD FGS supports this claim. Within this context, one FGS said, “I’m in a very bad situation. One can’t go back [...] I don’t fit [...] It is not funny, I don’t belong here or there” (Yonatan). This expression may indicate that FGS shared the complex predicament of having a *split habitus* (Lee & Kramer, 2013), caught between their families’ world and the academia. They experienced disparity, discomfort, and a conflict of belonging. This brought about an experience of *living in two worlds* (Gardener, 2013), and moving back and forth between these two very different worlds.



## FGS' strengths

While PhD FGS were aware of the diverse challenges they were confronted with, they also discovered strengths for dealing with these challenges by relying on their own personal resources or non-cognitive factors.

### Determination and persistency

PhD FGS interviewees expressed a strong sense of motivation to succeed in their academic path. They emphasized the strength and determination needed to face the many obstacles they encountered, as Carmel described:

The goal is an academic (career). It sounds a bit obsessive, it is! [...]. I'm really on it! No one could sidetrack me [...] I have a very long way, but I know I will achieve it. I decided to go with my dreams all the way.

This expression may reflect a high level of *grit* (Duckworth et al, 2007, Duckworth & Quinn, 2009, Duckworth, 2016), which is a non-cognitive resource comprising passion and persistence. Grit demonstrates an on-going effort to keep on and persevere toward long-term goals in spite of difficulties and obstacles.

Further, FGS expressed high levels of aspirations and ambitions regarding their studies: “I knew I would finish a doctoral degree anyway, I had no doubt, even elsewhere, even if [this meant going] abroad, nothing would stop me” (Tal). Tamar added: “It was very important for me to finish my studies ‘summa cum laude’. [...]. I would take a test again and again, and take more courses, to reach an average of 95”.

Such statements may reflect FGS' *aspirational capital* (Yosso, 2005), representing their will and efforts to invest in their studies in order to move upwards “as high as possible” on the social rank. Hence, aspirational capital continued to sustain alongside difficulties in previous academic experiences and limited family support for their academic path. On their race towards the desired doctoral degree, these students were able to push beyond the expectations of their own performance as among high school students (Piper, 2020).

## Continuing generation PhD students' experiences

### CGS' challenges

PhD CGS also encountered difficulties throughout their studies. However, compared to FGS who described diverse challenges, CGS were more focused on personal and emotional difficulties associated with their dissertation work, as stated by Roy:

[...] to convince yourself every day to sit down writing. [...] every day to muster the discipline to sit down to write, even just a page or half a page [...]. It's extremely difficult, this aspect of discipline, you need an iron will [...] to spend more mental resources to see myself in the same place, not be distracted.

Within this context, PhD CGS emphasized the need for maintaining high *self-discipline* in conducting their research. This is not surprising as in many cases doctoral students are expected to work independently under the supervision of their instructors. As such, students need to exhibit a high level of self-discipline in managing their studies.

In addition, *procrastination* was also found to inhibit the advancement of doctoral studies as stated by Billy: “It took me a long time to write my thesis, and not because I was busy, but because I was postponing and postponing until I got to write, and you also have many life temptations”. Yoel added:

For two or three years, I am very close to completing my PhD. [...] procrastination [...]. I am haunted by an inner voice, [...] this inner voice, which I hated, because it was constant [...]. I would love to achieve [this goal].

Further, doctoral studies were found to be a demanding long-term process that appeared to be linked to higher levels of *emotional difficulties and stress*, as Rachel described:

You swing [...] if there was something on my mind that was perceived as stressful, or overloaded or very challenging. I would come down and cry for an hour [...] and (then) a kind of a mania, not completely stable. That’s how it went for four years [...] I had moments in which I felt like leaving everything. [...] a mixture of emotions.

Doctoral students also experienced feelings of distress during their studies, and a few reported mental crises attributed to doctoral studies, as Hila related: “two weeks ago I was in a state of distress”; Lily added: “a year ago, I was pretty close to a nervous breakdown.”

Other PhD CGS interviewees, emphasized feelings of *loneliness through the process of writing their dissertation*, as Helen said: “All day you sit at home and work alone on the computer [...]. Too many hours of digging and thinking so many hours makes you nuts [...] loneliness is a huge difficulty.” Roy added:

The main difficulty [...] is that you are alone [...] a never-ending arduous process where you are very lonely. [...] I have to think alone [...] write everything alone [...] the main difficulty is being very lonely [...] there is the advisor [...] but at the end, you are somehow totally alone.

While emotional difficulties were prominent among CGS, they were less reported by FGS.

## CGS’ strengths

From the thematic analysis, it emerged that a positive perception of competitiveness, academic self-concept, and knowing how to engage within HE institutions seemed to assist CGS to overcome their personal barriers. CGS reported being very *competitive* when comparing themselves with other students. They viewed competitiveness as a useful trait for success in the academia, as stated: “I’m pretty aggressive, competitive, running forward (Hilla); “The PhD for me is more like a bridge to my next future” (Lily); “You need determination and you have to know how to promote yourself” (Yasmin).

Moreover, the interviews revealed that CGS held a positive *academic self-concept* (Bong & Clark, 1999), representing a high estimation of one’s ability to succeed in the academic field: “The fact that I am smart and successful is deeply ingrained in me” (Lily); “My expectation is a post-doctorate at a prestigious U.S. university, and I hope so much that when I get back, I’ll obtain a faculty position” (Yasmin).

We can assume that competitiveness and a positive academic self-concept are personal traits that may represent the outcomes of successful academic socialization, which is considered a significant predictor of academic achievements (Hill & Tyson, 2009). Accordingly, CGS seemed to feel *natural and comfortable* within the university environment. As prior research indicated (Lareau, 2015), CGS are instilled with the proper habitus and are socialized with an orientation to university study, as Hila stated: “I came from a family that [...] everyone continues (in graduate studies) [...] to advance themselves in life.” Yarden also indicated:

The fact that I would study for a B.A. was clear. It was obvious before birth. [...] My father was a professor at the university [...]. For many people, [a PhD] is the most desired and most impossible goal [...] and for me it never seems that way, because it seems the most natural thing.

This finding reflects the fact that CGS reached university with a *well-designed cultural capital* (Moore, 2008).

Another significant source that supported CGS was the family. Several participants mentioned their parents’ academic assistance, including proffering advice about their research or dissertation writing, as Yasmin said; “I talk to them (parents) about the conclusions (of my research), [...] although they are not in the (same) profession.” Roy also reported:

I must positively mention my mother [...] because she has written a doctorate as well, she can help me a lot. [...] I send her things I write, and she says what she thinks, or offers me how to fix it.

Tom added: “When I have some hesitations, I consult with my father [...] He is studying statistics for my sake, to be able to advise and assist me.” Currently, much evidence exists pointing to *parents’ support and engagement* in their children’s HE (e.g., Alvarez, 2020), mainly in respect to enrollment in HE and during their undergraduate studies. In the current research, the findings showed that academic parents continued to be supportive to children that continued toward PhDs. The same was not evidenced in the responses by FGS.

## Discussion

The study aimed to reveal factors that inhibit or facilitate PhD students’ academic success, based on interviews with 23 PhD CGS and FGS, from various fields of study at six universities. Both groups have attained the highest level of academic studies, overcoming common challenges as well as unique difficulties. Their description of the path to the top was different — a finding that supports the persistent effect of social backgrounds. We found that FGS and CGS each had their own unique experiences, as manifested in the divergent challenges they described and the resources they used to persevere in their studies. CGS reported contending mainly with emotional challenges – procrastination, stress, and loneliness — a finding that seems in accordance with prior academic research (e.g., Mudrak et al., 2018). In facing these challenges, PhD CGS continued to rely on parental support. This finding supports Lareau’s argument that “the commitment to concert cultivation, whereby parents actively fostered and developed children’s talents and skills did not, it turns out, wane over time (Lareau, 2003: 305).” CGS emphasized their positive academic self-concept and sense of competitiveness as well. As a consequence, they relied on their successful academic socialization, which appeared to be highly developed among privileged groups (Farkas, 2003).

As for PhD FGS, they reported facing more and diverse challenges, including academic, economic and mainly cultural difficulties. We can assume that they felt some loneliness as CGS; however, as members of disadvantaged groups, FGS payed a price for the social mobility they experienced (Reay, 2013). Their perception of living in two social worlds was associated with strong feelings of otherness and non-belonging. These feelings that may reflect a situation of *split habitus* (Lee & Kramer, 2013) or of a fractured *cleft habitus* (Barlösius, 2014; Bourdieu, 2007) had two sources: in part they were due to the cultural differences between students' background and the university's culture, and in part to the cultural gap dividing their family's habitus from their own, which had undergone a transformation since enrolling in HE. Apparently, PhD FGS may have partially modified their family socialized disposition, in order to adjust and succeed in HE (Curl et al., 2018; Ivermark & Ambrose, 2021). In line with the reproduction approach that emphasizes the deficit position of FGS, we might argue that these students are perceived as those who failed to integrate, since they lacked the appropriate resources needed for success as valued by the dominant group. Nevertheless, this is only part of the picture, since the findings also echoed the anti-deficit approach with regard to FGS' resources, which were activated in order to face challenges encountered during their PhD studies and which enabled them to succeed in HE. It emerged that FGS depended less on their parents and were more autonomous (Lareau, 2003). They relied on their personal resources (Kautz et al., 2014; Liu, 2019), mainly on grit (Duckworth et al., 2007), as part of their academic work habits (Farkas, 2018). This finding fits prior research literature indicating positive relations between grit (as a personality trait) and success in school or HE (Kajonius & Carlander, 2017), for low SES students (Huang & Zhu, 2017). As a part of demonstrating grit, FGS also possessed high motivation, ambition, and perseverance, which were drawn on when dealing with social challenges. We can assume that CGS also had high aspirations, otherwise they would not have reached this stage of education. However, for FGS, these resources may have been a significant substitute for lacking the resources possessed by CGS (Biats, 2012). As indicated by Klein and Carmo (2019), the experiences of FGS are not so much "culturally poor" compared to their classmates, rather they are not recognized in traditional HE institutions.

In this context, there is a need to legitimize diverse types of capital in HE and move away from the highbrow cultural capital to more up-to-date social trends (Gilleard, 2020; Prieur & Savage, 2013). Hence, multiple resources need to be taken into account when examining the process of stratification (Farkas, 2018). Ensuring greater awareness of emotional challenges and non-cognitive resources can be of benefit to all PhD students. Furthermore, aspirations and efforts that are recognized as significant ingredients for FGS' studies need to be supported.

Few practical directions can be offered to support doctoral students. There is a need to be aware of the diverse PhD challenges and accordingly provide holistic support (Posselt, 2018; Renbarger et al., 2021), giving consideration not only to academic or financial support as some institutions provide, but also to social and psychological support. First, support that is oriented to diverse students should include in-program faculty mentoring that may contribute to knowledge about financial aids, occupational opportunities in HE, career development, and more. Second, there is a need to strengthen the academic support with tutoring on research steps and concrete preparation for independent studies. Third, establishing peer networking may be an important source of advice and social support. The study revealed the complexity of doctoral studies among students from different backgrounds; these directions could provide more equitable opportunities in HE.

## Future research

While we focused on successful PhD students, future research should expand our understanding of students who embarked on the path to a PhD, but dropped due to difficulties encountered along the way. Students were included in this study, regardless of their field of study. Research needs also to be broadened to encompass a greater range of academic fields, to allow greater insight into students' diversity of experience. In addition, much is yet to be learned about the FGS' paths to developing an academic career in comparison with those of CGS. We also propose further examining the effect of parents' role in HE—in terms of both benefits and costs.

Lastly, in the future, the design of a quantitative research project should be called for in order to measure the effects of social, cultural, and family capital, as well as grit, on predicting how PhD students cope with barriers and challenges.

## Appendix

Table 1

**Table 1** List of participants and their characters

Year of study	Field of Study	University	FGS CES /	Gender	Age	Name*
4	Education	A	FGS	F	45	Gal
3	Sociology	C	FGS	F	42	Tal
2	History	B	FGS	M	41	Yonatan
Doctorate approved	Education	A	FGS	F	45	Tamar
7	Sociology	D	FGS	M	41	Ron
1	Education	A	FGS	M	36	Yony
4	Education	A	FGS	F	73	Hadas
2	Education	A	FGS	F	48	Keren
4	Computer Engineering	A	FGS	F	34	Rivy
4	Business Administration	A	CES	F	37	Lily
2	Political Science	A	CES	F	29	Hilla
4	Business Administration	A	CES	F	41	Yarden
3	Education	A	FGS	F	36	Carmel
3	Social Work	A	CES	F	33	Yasmin
4	Anthropology	A	CES	F	36	Helen
Doctorate approved	Physics	F	CES	F	55	Rachel
3	Education	A	FGS	F	38	Sophie
3	Education	A	CES	F	40	Tom
1	Education	A	CES	F	38	Billy
5	Psychology	E	CES	M	36	Roy
3	Education	A	CES	F	49	**Nina
1	Philosophy	A	FGS	M	45	Michael
6	Psychology	B	CES	M	44	Yoel

\*Pseudo names; \*\*estimated age

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## Declarations

**Conflict of interest** The authors declare no competing interests.

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