Exploring gender differences in Gen Z students’ attribution of obstacles influencing their academic and professional success

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ABSTRACT

Universities are often criticised for perpetuating gender inequalities in the preparation of students for the workforce. Employing a mixed methods approach, we explore whether perceived obstacles to academic and professional success are gender-based. We analyse responses from generation Z management students (n = 405) using attribution theory. We find that students predominantly perceive ‘effort’ as an enabler to their future success with gender disparities emerging when examining the multifaceted obstacles to their future success. Out of all demographic characteristics analysed, gender, and particularly a perceived lack of confidence by female students, is the most predominant and statistically significant factor. Through in-depth qualitative research we develop our understanding of these gendered student attributions, highlighting their potential impact on long-term professional success and their contribution to future earning inequalities. We examine the implications of our findings for educators and propose proactive strategies to tackle gendered disparities in the student experience.

1. Introduction

Education systems are frequently seen as reinforcing inequality rather than reducing it, with universities remaining both ‘gendered and gendering organizations’ (Rosa & Clavero, 2022, p. 1).\textsuperscript{1} Repeated calls have been made for higher education to place gender more firmly on the agenda (Acai et al., 2022). We respond to this by examining gender differences\textsuperscript{2} in terms of what students perceive as obstacles to success related to their university studies and in anticipation of their future professional careers. Students were asked to consider success in two dimensions: (1) academic success: achieving high grades, completing challenging coursework, and developing strong academic skills, as well as (2) anticipated professional success: developing career-related skills and gaining experiences, such as networking with industry professionals, and feeling well-prepared for their future work.

For our empirical research we used a mixed methods approach, combining quantitative and qualitative aspects, in which we surveyed and interviewed management students (n = 405) at two research-intensive UK universities. To interpret and explain our findings, we employ attribution theory, a framework developed by Heider (1958) and Weiner (2010). Attribution theory explores how...
individuals attribute causes to behaviours and events. It distinguishes between internal and external loci of control, such as talent and ability versus task difficulty or support available, and between stable and unstable causes of these behaviours and events, such as talent and ability versus own effort expended.

Our research focus is on whether gender manifests in generation Z’s students’ attribution of obstacles influencing their academic and professional success. We analyse this through two research sub-questions.

RQ1: What do Gen Z students attribute as obstacles to their academic and professional success?
RQ2: Does gender shape Gen Z students’ attribution of obstacles to their academic and professional success.

Our qualitative findings show that the combination of ‘gender’ linked to ‘confidence’ and ‘oral communication skills’ is more significant than any other collected combination of demographic characteristics in terms of how students rank their perceived obstacles to academic and professional success. We unpack these findings with in-depth qualitative research to develop our understanding of these gendered student attributions.

Our research makes various contributions, two at a theoretical level and one at a practical level. Firstly, we contribute towards our understanding of attribution theory in a contemporary university student setting. Secondly, this research contributes to our understanding of gender inequalities by examining whether higher education exhibits gender blindness (Mavin & Bryans, 1999; Mavin et al., 2004; Wilson, 1996) in the context of preferred learning styles (Garber et al., 2017), as well as in needs and attitudes to learning (Gallos, 2017; Gilligan, 2003).

Lastly, at a practical level, mindful of the gender consequences that we outline, our research contributes to practice by suggesting tangible ways how educators could shape their teaching to improve academic and professional success, and how appropriate training and resources could support faculty in this effort. There is a need to understand these dynamics as research shows that universities are increasingly out of touch with student expectations and that employers have raised concerns about managing these young employees (Maloni et al., 2019).

The paper is structured as follows. The literature review is next, and this is followed by the research methodology which outlines our research approach. The findings ensue and this is followed by an extensive discussion, and we conclude with implications for higher education and areas for future research.

2. Literature review

Our literature review consists of two sections. Firstly, we examine attribution theory in the context of academic and professional success. Secondly, we explore the influence of gender on Gen Z students’ attribution patterns, particularly focusing on the role of a perceived lack of confidence among female students.

2.1. Attribution theory in the context of academic and professional success

Understanding what Gen Z management students attribute as obstacles for their current academic and future employment success requires an examination of the impact of their attribution-related beliefs on their causal thinking (Fishman & Husman, 2017). Weiner (2010) developed a three-stage process to understand the causal dimensions or properties of behaviour which are (1) locus of control, (2) stability, and (3) controllability. In the first stage, the locus of control, there are three criteria that need to be met: (a) behaviour is observed, (b) behaviour is determined to be deliberate, and (c) behaviour is attributed to internal or external causes. An internal locus of control is dispositional to the individual student-participant and their action, whilst an external locus of control is seen by the individual as situational and outside their own control.

In the second stage of attribution theory, a key distinction is made between stable and unstable causes. Students’ behaviour to achieve a high grade and professional success can be attributed according to the stability of the causes, i.e., whether causes change over time and can be differentiated into stable or unstable causes. The perceived stability of the cause affects how likely that behaviour remains stable and thus is likely to be repeated, or alternatively is unstable and will change over time. To reflect controllability, Weiner (2010) added a third stage to his attribution theory, which differentiates between whether the behaviour is seen as controllable and related to own effort (e.g., by learning a new skill) or as uncontrollable (e.g., luck). Weiner’s attribution theory is frequently applied to empirical research in education to measure causal attributions as regards achievements (Graham, 1991; Wang & Hall, 2018).

Attribution theory can be represented as a quadrant, as outlined in Table 1. This is best explained through the illustrative example of an exam in an educational setting. Quadrant 1 (Q1, internal, unstable) represents a student’s own decision and agency to put in the effort to revise – or not to revise – to prepare for the exam (an unstable cause that can be highly variable from one exam to the next). Quadrant 2 (Q2, internal, stable) represents a student’s perceived own ability or intelligence independent of the actual exam. Students perceive it as a stable cause that does not change substantially from one exam to another.

Quadrant 3 (Q3) then moves from the internal loci of control, the student, to the external loci of control of the student. Q3 represents external and stable factors, such as the actual difficulty of the exam set by the examiner. It also represents the external environment such as structural inequalities and societal expectations that are not seen as fluctuating substantially over time. Similar to

\(^{3}\) Gen Z, born between 1995 and 2012.
Q3, Quadrant 4 (Q4) represents an external focus, however, unlike Q3 moves back to an unstable cause of events. For example, an external and unpredictable factor representative of Q4 would be luck - capturing if the student fortuitously focused on the right things during their revisions. Q4 would also include opportunities provided by the institution to the student. For example, exam preparation support offered to students is captured in Q4. This contrasts with Q1, which represents the effort demonstrated by the student in making use of the exam preparation opportunities provided.

Transferred into the workplace, examples of the attribution theory quadrants could be - Q1 (internal, unstable): Motivated to putting in the effort and working long hours; Q2 (internal, stable): Perceived natural ability and talent of doing certain tasks; Q3 (external and stable): The external environment such as structural inequalities and societal expectations; and finally, Q4 (external and unstable): Management support, the project budget, and market fluctuations.

We use attribution theory to understand the factors that Gen Z students attribute as obstacles to their academic and professional success and explore this further below.

### 2.2. Attributing obstacles to success: the interplay of gender and perceived confidence

We are cognisant that identifying determinants of ‘success’ is complex due to the substantial interactions between factors (Strand, 2014). Yet, when considering background or birth characteristics, one of the key predictors of good degree outcomes appears to be gender, with female students obtaining higher proportions of good degree outcomes (Barrow et al., 2009; Jones et al., 2017; Smith & White, 2015), despite both men and women stating that women face greater challenges during their studies and careers (Woodfield, 2019).

Gender can also be considered as a moderator of other factors and seems more significant for degree results than pre-entry qualifications, ethnicity, or socio-economic background (Barrow et al., 2009; Smith & White, 2015). When drilling down into the moderating effect of gender, gender impacts differences in expectations (Wells et al., 2011) and behavioural patterns, with female students being considered to work harder than male students which, in turn, is perceived to lead to expressions of higher levels of anxiety in women (Woodfield et al., 2005). Gender also has a moderating effect on employability and entrepreneurial intention (Santos-Jaén et al., 2022), and when investigating students’ belief of whether their learning tasks seem career-relevant and applicable in the workplace, gender is one of the two determining factors in addition to year of study (Bennett et al., 2022).

From the start of their academic studies ‘[w]omen come into academic settings with lingering questions about their capabilities and intellectual competence’ (Gallos, 2017, p. 653), and, unlike their male counterparts, female students then frequently prefer having relational ways of learning that value lived experiences and interconnection with others (Gilligan, 2003). Recent empirical studies continue to support a pattern model of distinct gender-based learning profiles at universities, demonstrating a gender difference in learning preferences and attitudes. For example, female students, when taking part in a serious game exercise, viewed themselves as receptive learners, while male students tended to be more competitive and confident (Garber et al., 2017). To augment learning, Garber et al. (2017) therefore recommend that educators should tailor guidance to gender profiles, emphasising the need to reassure less confident female learners. In terms of gender and confidence, Colbeck et al. (2001) also find these closely related, with male students being more confident. For example, women express lower confidence than men when predicting their outcome in competitive simulation games (Casile et al., 2021).

A recent 2024 study corroborated earlier findings indicating that upon entering the workforce, female graduates continue to exhibit less assertiveness and boldness in salary negotiations, coupled with lower salary expectations than their male counterparts (Kiessling et al., 2024). Similarly, when Flanagan and Palmer (2021) asked students in a quantitative study using Likert scales, on their agreement with statements measuring intentions to become CEOs, fewer female students than male students aimed to become CEOs, with female students demonstrating lower behavioural, normative and control beliefs about such CEO positions than their male counterparts. Likewise, when comparing students’ perceptions of their current academic selves and of their possible future selves, there is a larger gender gap between future selves than between current selves that is highly correlated with gender stereotypes and confidence (Lips, 2004).

Confidence might mean different things to different people and might manifest itself differently corresponding to gender. For example, according to Simpson et al. (2005) confidence for women comes from a feeling of self-worth while for men it comes from a fuller skill set. Confidence might be particularly important for Gen Z, who seem less confident than millennials (Twenge, 2018). There is a wealth of empirical research on the role of confidence as a moderator of other factors in higher education (Brau et al., 2017; Icekson et al., 2020). Confidence has a positive influence on students’ willingness to attempt and complete challenging tasks as opposed to inaction, which is seen as the natural result of low confidence (Estes & Felker, 2012).

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4 Good degree outcomes are defined here as achieving a First or a 2.1.\(^\text{4}\)
I. Fischer and J.M. Luiz

One of the measurements of reducing the confidence gap, and more broadly a measurement for ‘adult success’ in neoliberal terms, is the gender pay gap (see Kahn & Lundgren-Resenterra, 2021 for a critical reflection on this). There are extensive analyses of the gender pay gaps globally and nationally (e.g. Bishu & Alkadry, 2017). In the UK, five years after graduating, female students face already a gender pay gap of 15% (Department for Education, 2019) which combined with other factors then links to a gender pension gap in the UK of 39.5% (Pension, 2019). The gender pay gap is a consequence of various factors (Wagner, 2015). A recent study by the Higher Education Policy Institute (Cornell et al., 2020, pp. 5–6) argues that: ‘Men appear to be more focused on their career search than women; they begin their career planning earlier during their time at university … They also display more confidence. … Women expect lower salaries than men.’

Considering that there are now more female university students than male students in many countries (Wolfers, 2021), it is important for us to examine whether we are doing everything that we can in higher education (and management education in particular) to prepare female students for their future success and addressing some sources of inequality. Asking students themselves what they perceive to be obstacles to success, and how to mitigate these obstacles, is a useful place to start.

To interpret and explain our findings on gender using attribution theory we borrow from Butler’s (1988, 2009) concept of gender performativity. Butler argues that although gender is frequently seen as a stable factor, it should be understood as an unstable factor that is constantly being constructed through compliance with dominant societal norms. In other words, these gendered inequalities may be a function of a complex system allied with an anti-gender sentiment that results in female students feeling and behaving in certain ways. How this manifests in higher education - and how we as educators respond - is an important area for exploration.

3. Methods

3.1. Design and data

This study uses Q methodology, a mixed-method research methodology (Ramlo, 2016) that aims to understand the subjective viewpoints of participants (Watts & Stenner, 2012). There are three core mixed-method designs: the ‘explanatory sequential design’ where the quantitative data collection is ahead of the qualitative data collection, the ‘convergent design’ where the qualitative and the quantitative research are intertwined, and the ‘exploratory sequential design’ where the qualitative research precedes the quantitative research (Creswell & Clark, 2017). This research is an ‘exploratory sequential design’ because of the sequence: from the start, qualitative research was positioned before quantitative research. To explain the sequence of the different research steps, mixed-method annotation suggests capitalising relatively more significant steps. Our research follows the sequence: ‘qual -> quan -> QUAL’, the first qual being a qualitative pre-stage semi-structured survey that was itself guided by prior literature. The findings of the first qualitative step then allowed us to use the student voice to develop a quantitative Q methodology survey, before conducting in-depth focus group discussions to unpack and discuss the results of the quantitative survey.

Q methodology surveys use forced distribution rankings rather than, for example, Likert scale surveys, so that participants must choose which factors resonate more or less with them, rather than being able to rank all obstacles equally high or low. The completed surveys were then analysed using Q methodology to identify the shared versus divergent viewpoints of participants. Q methodology is person-centred unlike the more known traditional variable-centred R-statistics (R) that build on T-tests and other regression analyses to calculate statistical significance (Rost, 2021). While in R, correlational analysis is used to examine the relationships between two or more variables and factor analysis is used to identify underlying factors that explain the variation in a set of variables, Q correlates and factor-analyses the entire responses of participants with each other by inverting the correlation matrix. As the inverse Q matrix has more variables and factor analysis is used to identify underlying factors that explain the variation in a set of variables, Q correlates and factor-analyses the entire responses of participants with each other by inverting the correlation matrix. As the inverse Q matrix has different means and standard deviations than R, if R were to be used in addition to Q, results that aim to get a holistic understanding of the responses, would be distorted (Rost, 2021; Watts & Stenner, 2012). As part of the research, we followed the convention of Q methodology outlined by Watts and Stenner (2012).

The research was conducted between 2018 and 2021. We started our research with a qualitative pre-stage analysis using semi-structured questionnaires, where ten management students from different demographic backgrounds outlined their perceived enablers and obstacles to academic and professional success. We compared the findings with academic literature on the topic to check for similarities and differences to ensure that we were not missing any important aspects from the survey (the concourse in Q methodology terms). Based on the findings we then designed the quantitative survey for the next step. Before rolling out the survey we asked two students to read the suggested survey, questioning their comprehension to ensure that both the terminology and the design of the quantitative survey was clear to them. Following this, students were asked to complete the quantitative survey where participants had to rank the most pertinent 12 obstacles that were identified in the initial pre-stage qualitative research. As explained, we used forced distribution ranking so that participants had to choose which obstacles resonated more or less with them, rather than being able to rank all obstacles equally high or low. To comply with research ethics approval requirements, our quantitative survey was administered online using QsorTouch for Business School 1, and Qualtrics for Business School 2.

To allow for further triangulation, the quantitative results were substantiated with data collected through in-depth qualitative research to develop our understanding of the findings. In this third qualitative phase, we discussed the observed phenomena with students first via semi-structured surveys. Findings from the survey were then unpacked in five different focus group discussions. Two
focus group discussions took place face-to-face in Business School 1 and three focus group discussions took place online using Teams for students from Business School 2. Each of the five focus group discussions lasted for about 1.5 h with the researchers assuring that every participant was heard.

Appendix 1 captures how in the student focus group discussions we explored the underlying causes and consequences of the student-reported obstacles to their academic and professional success, stratifying findings by demographic variables. Topics that emerged were grouped in line with the attribution quadrants, i.e. differentiating between stable and unstable cause of events, as well as internal and external locus of control. Some of the topics that emerged were ‘building confidence’ versus ‘having confidence’ and being offered networking opportunities versus actually attending them.

3.2. Sampling and limitations

We focused on Gen Z undergraduate finalist business school students from two leading UK universities.\(^5\) Students were selected using convenience sampling, mainly by advertising the surveys and focus group discussions in core lectures.\(^6\) The student selections and results were conducted and analysed separately per business school to allow for comparisons. The number of participants and their composition is outlined in Table 2. For the purposes of our research, we seek to understand sources of possible inequality for affirmative remedial purposes, and it is thus necessary to utilize gender categorisation ‘to explicate those relationships’ focusing on the ‘modalities of social relations and subject formations’ (McCall, 2005, p. 1771).\(^7\)

3.3. Research criteria

The research criteria relating to validity and reliability have been assured by the proximity of the participants to the context in question and focusing on the participants’ personal viewpoints on the researched topic. We developed clear protocols that were followed throughout the data collection process, and we documented all procedures (Yin, 2009). Moreover, to ensure accuracy and to reduce research bias, focus group discussions were recorded and transcribed verbatim. Finally, triangulation has been confirmed by the internal consistency of quantitative and qualitative findings and by academic literature corroborating these findings, thus increasing credibility (Creswell & Clark, 2017). For example, the findings of both the quantitative and the qualitative phases on gender-related differences in perceived confidence confirm findings from the literature.

3.4. Data analysis

When analysing students’ perceptions of factors influencing academic and professional success, we considered both the actual statements that participants were asked to rank or discuss, and their demographic characteristics. The latter included gender, race, and nationality, as well as their intersections. This allowed us to review any ranking differences by demographic characteristics.

To analyse the quantitative survey results, we calculated the intercorrelation of each participant’s survey with each other, with the correlation matrix being linked to an inverted factor analysis. We used Pearson correlation to calculate the correlation between each of the participants to determine clusters of participants who think similarly. We used Principal Component Analysis (PCA), a data reduction technique that reduces the number of dimensions of datasets (Jolliffe & Cadima, 2016), and combined it with Varimax, an orthogonal rotation tool to capture the clusters developed by PCA (Zabala, 2016). The resulting Z-scores expressed the distance in standard deviations between the mean average scores and the particular scores per each participant (Zabala, 2016).

Throughout the qualitative phase we explored the obstacles which had been identified and probed for a deeper understanding of the causes and consequences to be able to attribute the obstacles according to Weiner’s attribution theory. We also analysed the

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\(^5\) Both universities were founded at a similar time and both business schools have a large international student body. One of the differentiators is the location. Business School 1 is situated in the South East of England, while Business School 2 is situated north of London in the Midlands. One university is among the top 10 UK universities while the other is among the top 50 UK universities. The business schools were chosen because they offer networking opportunities versus actually attending the

\(^6\) As we approached students during core lectures, the student response rate was slightly higher than other school-internal surveys, such as the student barometer in Business School 1. While a student barometer in the same year had a response rate of 19%, we had a response rate of 31% of the total eligible population. As for student demographics, in the quantitative survey for Business School 1, 56% of students were international, while 54% of students were international in Business School 2. For Business School 1 this is smaller than the eligible population (61%) while for Business School 2 this is larger than the eligible population (45%). As for gender, in the quantitative survey for Business School 1, 53% of students were female, while 58% of students were female in Business School 2. For both business schools, female participants were larger than the eligible female population (46% for both).

\(^7\) We followed the guidelines of the Journal in terms of sex-and gender-based analyses and recognise that there is ‘no single, universally agreed-upon set of guidelines for defining sex and gender’ (Elsevier, 2023, p. 5). While sex generally refers to a set of biological attributes with a binary sex categorisation designated at birth, gender generally refers to socially constructed identities that may vary across societies and time (Elsevier, 2023). We asked students how they self-identify in terms of their gender. The survey instrument offered participants four options. No participant chose ‘gender fluid’ and only three students selected ‘prefer not to disclose’ for gender. As the research environment provided anonymity to students, with entire student cohorts being invited to participate in our study, we do not question or add to the debate whether the number of gender fluidity is underreported or underrepresented in our student sample and merely report the results.
Table 2
The number of participants per segment.

<table>
<thead>
<tr>
<th></th>
<th>Female</th>
<th>Male</th>
<th>Prefer not to disclose</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>British White</td>
<td>British ethnic minorities</td>
<td>EU</td>
<td>Internat.</td>
</tr>
<tr>
<td>Students Quan</td>
<td>25</td>
<td>4</td>
<td>6</td>
<td>52</td>
</tr>
<tr>
<td>Students Qual</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Total BS 1 Quan</td>
<td>6</td>
<td>8</td>
<td>38</td>
<td>64</td>
</tr>
<tr>
<td>Students Qual</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total BS 2 Quan</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Total Students</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

Legend: Quan = Quantitative Survey, Qual = Qualitative Focus Group Discussions, BS = Business School, Internat. = International.
findings based on the demographic characteristics of the students. We sought to understand how categories and subcategories relate to each other, allowing us to construct linkages between data (Creswell & Clark, 2017), such as linking female students with a perceived lack of confidence. The thematic analysis of the identified obstacles revealed themes related to various skillsets that were seen as either innate or learnable, and as a subset of the latter, learnable in a business school setting. We also compared results between the two business schools, which revealed the similarities in the findings both in the quantitative and qualitative stages.\(^8\)

3.5. Ethics and mitigating risks of biases

Throughout the research we ensured that we adhered to the ethics and General Data Protection Regulation (GDPR) policies of both institutions, including applying for and receiving formal research ethics approval for this project from both universities. Personal data was kept private and confidential. Transcripts of focus group discussions were pseudonymized and stored on password protected devices and only available to the researchers. Every respondent participated on a voluntary and informed consent basis.

While there is always a risk of researcher and gender bias, we attempted to mitigate the risk by having a diverse research team (along various criteria including gender), which allowed for reflexivity and space to challenge each other. Though we can never fully understand the lived experience of participants, by using mixed methods we tried to capture the participants’ perceptions both quantitatively and verbatim. Throughout the focus group discussions, we continuously queried meanings\(^9\) and tried as far as possible to position ourselves as observers of the discussion between students. Furthermore, we implemented clear protocols for the data collection and evaluation and documented all our procedures.

4. Findings

The findings section is split into three parts. We first start with reviewing the overarching findings in a wider context before moving into the detailed quantitative and then qualitative findings.

4.1. Overarching findings

Using a simplified framework (Fig. 1) we summarise our findings of students’ attribution of factors influencing their academic and professional success and how gender manifested in the results. We frame these findings using attribution theory, allowing for the exploration of both stable and unstable factors and those related to an internal versus external locus of control. Our findings have wider ramifications in terms of how gender inequalities then emerge which we pursue further below.

Fig. 1 illustrates the potential macro-level impact of gendered manifestation of students’ attribution of factors influencing academic and professional success and the interdependency of these factors. At the outset, the figure highlights that female students often outperform their male counterparts academically (as shown in the text box at the top). However, further analysis (represented by the next box) reveals a gender difference in how students perceive planning and time management skills. Female students tend to view planning and time management skills as their strengths, while male students tend to see these skills as their weaknesses. In the bottom box we have the gender pay gap, where men earn more than female graduates already within five years of graduating, with young female graduates possibly continuing the traits that helped them succeed in their studies, i.e. planning and organising rather than confident oral communication.

Deploying attribution theory (outer circle in the figure) to understand what is happening between the top and bottom boxes (academic performance versus pay gap) in terms of outcomes, highlights gendered differences emerging in the attributions, and suggests that students view gender as a stable (fixed) attribution. Yet, the two inner circles show that a significant gender disparity exists in perceived lack of (self-) confidence among female students, linked, in part, to a perceived lack of confidence in their own oral communication skills. The consequences of this are significant - we see that female students may deprivitise networking events due to their perceived communication weaknesses. This can be a major disadvantage, as networking (represented by the penultimate box) is important for career success.

Ultimately, the current cycle without purposeful interventions, culminates in a persistent gender pay gap (shown in the bottom box). In the right-hand box we illustrate the vital role that educators and universities can play in breaking this cycle by boosting students’ confidence (particularly in communication skills) and recognising gendered differences. Fig. 1 thus illustrates why it is important to address possible connections between the gendered degree awarding gap and the gender pay gap as well as the potential role of university education therein.

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\(^8\) An example of the similarities from the qualitative stage is evident in the following: A BS2 focus group statement of a male student, who said ‘Women find it more difficult to network’, aligns with a BS1 focus group comment of a female student who told us ‘[A] lot of girls […] have said that networking is not really useful because they think ‘I am not going to stand out in a crowd and I better work hard’.

\(^9\) To guarantee the authenticity of student voices in our research, we implemented a robust member checking process. This strategy aimed to bridge any potential gaps between our interpretations and the participants’ intended meanings. We achieved this by summarising our understanding of what was said, and explicitly seeking confirmation. Beyond individual confirmation, we encouraged open discussion to gauge whether what was being expressed represented individual perspectives or group consensus. We ensured every student had equal opportunity to express their unique viewpoints.
4.2. Quantitative findings

As outlined in the methods section, we purposefully conducted the quantitative surveys with management students from two universities separately to understand and to triangulate similarities and differences between different student bodies. The comparison of students’ understanding of factors influencing success showed that the gendered student voices across the two universities and across nationalities were very similar.

As per Fig. 1 (inner circles), the key findings of our research are that the quantitative survey results of our study show female students rank having a lack of confidence and a lack of oral communication skills substantially higher than their male counterparts; while male students rank a lack of planning and organisational skills, and a perception of not learning enough digital and IT skills substantially higher than female students. Out of all the obstacles, the difference between male and female students on the issue of confidence emerged strongest, with a lack of confidence being, on average, the highest ranked obstacle by female students. No male categories across any of the intersectionalities or business schools ranked a lack of confidence as their perceived most important obstacle. Table 3 provides the comparison of the average ranking of obstacles by gender.

4.3. Qualitative findings

When analysing and mapping the student perceptions of the obstacles to success on Weiner’s (2010) attribution quadrants in the qualitative phase of the research we found that the majority of student participants, independent of gender, believe in their own agency. Students tend to focus on the internal rather than external locus of control, with an emphasis on unstable rather than stable attribution of the causes of events - success is mainly attributed to effort.

The differences in responses in terms of gender were unpacked further and focus group discussions reinforced the picture of male students claiming to be generally confident but having poor planning skills, while female students see themselves as excellent in planning but lacking confidence generally, and in particular, lacking confidence in expressing their own opinions.10 In one of the

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10 Students seem to understand the concept of confidence in quite a binary manner, i.e., either a student seems to have confidence or not, with female students, on average, feeling less confident than their male counterparts.
conflate networking events with employers if they are not part of a group of friends that attends such events. A female student commented: ‘I tend to focus more on networking for their career advancement than female students who were perceived to focus more on getting good grades. For example, a female student stated:

Also, student responses indicate that relatively more female students seem to be seeking the approval of peers and avoiding networking events with employers if they are not part of a group of friends that attends such events. A female student commented: ‘If I’d go to [networking] events by my own, I would be worried about it. It is worthwhile noting that both female and male students seem to conflate confidence with confidence in oral communication skills, which in turn impacts networking skills. This confirms earlier findings of correlations between gender and confidence and achievement in oral communication (Al-Hebaish, 2012; Sterling et al., 2020). Students’ statements indicated support for learning skills that would enhance their confidence and particularly their confidence needed for the future workplace. We explore these findings and how they link to extant literature further in the next section.

5. Discussion

Similar to literature that points towards the importance of gender in influencing academic and professional success (Santos-Jaén et al., 2022; Smith & White, 2015) and to a gendered confidence gap (Rosa & Clavero, 2022), among our study participants, independent of gender, there was a consensus that female students seem less confident than their male counterparts. We add to this literature by providing a more nuanced understanding by showing that female students tend to attribute their own lack of success to a ‘stable and non-changeable’ lack of confidence in general, and to an equally ‘stable and non-changeable’ lack of confidence of oral communication skills in particular.

Table 3
A comparison of the average ranking of obstacles by gender.

<table>
<thead>
<tr>
<th>Perceived obstacles to academic and professional success</th>
<th>Female</th>
<th>Male</th>
<th>Difference</th>
</tr>
</thead>
</table>
| Lack of confidence                                     | 3.08   | 4.75 | (1.67)
| Poor writing skills                                    | 4.31   | 4.54 | (0.23)     |
| Poor oral communication skills                         | 5.19   | 5.81 | (0.62)     |
| Lack of planning/being disorganized                    | 5.34   | 4.49 | 0.84       |
| Lack of analytical skills                              | 5.43   | 6.732| (1.31)     |
| Choosing to being on Social Media/playing online games (procrastinating online) | 6.06   | 5.77 | 0.29       |
| Not networking/no personal connections/not attending networking events/clubs | 6.92   | 6.91 | 0.01       |
| Having poor lecturers and tutors                       | 7.60   | 7.55 | 0.05       |
| Not learning enough digital/IT skills (e.g., coding)    | 7.71   | 6.726| 0.99       |
| Not putting in effort                                  | 7.86   | 7.38 | 0.48       |
| Structural, societal or institutional inequalities or discrimination | 8.20   | 7.66 | 0.54       |
| Financial worries, having to find jobs that will not allow me to focus on my studies | 10.30  | 9.68 | 0.62       |

* Students were asked to rank what they perceive as obstacles to success - the biggest obstacle ranked first (‘1’), the second biggest obstacle second (‘2’), third biggest obstacle third (‘3’) etc. The obstacles with low averages are therefore seen, on average, by participants as more important compared to obstacles with high averages. The obstacles are sorted in the order of female students’ average perception of obstacles, with the most important obstacle listed first (confidence). If the female score is lower than the male score, then the obstacle is seen as relatively more important by female students than male students. In the final column we show the difference between female and male students – if it is shown in bold and in brackets then the obstacle is seen as more important by female students than male students, and if the reverse is true then it is displayed in italics.  

b When testing for significance using ANOVA and comparing Female and Male students and how they ranked lack of confidence by gender, the correlation between gender and lack of confidence has a p-value of 0.003 at BS1 and 0.0016 at BS2. This is lower than an alpha-level of 0.05, and so is statistically significant. Cohen’s d is 0.87 at BS1 and 0.46 at BS2, representing a large to medium effect size.

The problem is that many people waste a lot of time on planning and then give up on their plans ... Boys in my primary school were always told to revise more like girls, write things up, put colour coding in, be organised and so on. But that was for me too much effort. And still is.' Another male student linked planning and organisation to focus. ‘Perhaps we [male students] lack some focus. We can focus on things but if it’s boring we cannot focus. We don’t like memorising things. We like practical things. It takes me a long time to remember knowledge because I feel it is so boring. We focus more on the other things, like games. I get notifications for new games, and then I try it out, and then forget about time, planning or organisation.’

As for the perceived lack of confidence by female students, students outlined some possible causes as well as consequences. For example, a female student commented ‘I think girls are less confident in their own opinions, knowledge, and theories. They get better grades because they put the hours in. Maybe they are more afraid of failure’. The link between lack of confidence and a reluctance to express one’s own opinions was also echoed by this comment from a male student: ‘I think the main difference is risk-taking. [That is why] girls are less confident to express their own opinions.’

Being confident in expressing one’s own opinions was seen by some students as a prerequisite to effective networking. Prior literature shows the importance of networking as a career tool (e.g., Cullen-Lester et al., 2016). Our findings show that male students are more confident and think ‘I will look like such a good guy that I think this comes back to the confidence thing. I have spoken to a lot of girls who have said that networking is not really useful because they think ‘I am not going to stand out in a crowd and I better work hard, get a first on my degree which I can then put on my CV as part of my job application, which is going to be more useful’, whereas men are more confident and think ‘I’ll look like such a good guy that they want to remember my name and take me on’. 

Also, student responses indicate that relatively more female students seem to be seeking the approval of peers and avoiding networking events with employers if they are not part of a group of friends that attends such events. A female student commented: ‘Perhaps we [male students] lack some focus. We can focus on things but if it’s boring we cannot focus. We don’t like memorising things. We like practical things. It takes me a long time to remember knowledge because I feel it is so boring. We focus more on the other things, like games. I get notifications for new games, and then I try it out, and then forget about time, planning or organisation.’

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We also find that female students are more likely to prioritise planning and time management skills and less likely to attend networking events and group work activities, which can have a negative impact on their future career prospects. If we interpret the inclination towards 'deprioritising networking events' and 'disliking group work' as symbolic indicators of future workplace behaviour, women may find themselves engrossed and excelling in organisational and planning tasks but avoiding opportunities to shine through charismatic speeches or engaging in networking with decision-makers.

Female students may be less likely to attend networking events and to appreciate group work activities because they may have internalised the stereotype, reinforced by the daily interactions with peers and educators, as well as by the media, that women are seen as less confident in oral communication. Leveraging Weiner’s attribution theory and employing Butler’s terminology (outer circle of Fig. 1) enables us to deconstruct this phenomenon with enhanced clarity. Weiner’s attribution theory suggests that people attribute their successes and failures to different factors, such as ability, effort, and luck. Butler’s theory of gender performativity states that gender enactment is not a fixed or stable characteristic but is instead something that is constantly being performed through our actions and interactions. In the context of our research, we argue that gender performativity should be understood for its unstable characteristic. While understanding the external influences it should be seen as having an internal locus of control, similar to effort.

Building on the earlier Tables 1 and in Table 4, we propose gender not in Quadrant 2 (stable, internal) but in Quadrant 4, i.e., an unstable cause, continuously influenced through interactions of individuals within a multitude of communities since birth. Even though higher education represents just one of many such communities that the students interact with while studying, and have interacted with since birth, by raising awareness of the concept of gender as evolving and continuously influenced by interactions with its environment over which we have influence (Butler, 2009), educators might be able to contribute and give students agency and empower them. By so doing and affecting behaviour we may be able to move gender effectively to Quadrant 1 - the quadrant that students see as the most influential in terms of impacting their academic achievement and professional success.

At the core of this paper lies the proposition of gender performativity as an unstable, and therefore modifiable, factor influencing academic and professional success. In our study we observed the evasion of attributional capabilities, with management students perceiving gender as a stable factor and attributing success and failure to other unstable factors, in particular effort and planning. Students want to have agency (Naude et al., 2016) and do not want gender to matter; themselves exhibiting and encouraging their learning providers to exhibit gender blindness (Mavin & Bryans, 1999; Mavin et al., 2004; Wilson, 1996). Students want to see equality of input/treatment, believing that more effort will result in commensurate achievement rather than reflecting on the equity of lifetime outcomes. Female students attribute planning to achieving an excellent grade, while relatively poor planning by male students still.

A self-reported perception of a lack of confidence by female students, linked partly to a lack of confidence in certain types of skills, such as expressing one’s own opinion and oral communication more generally, remains undetected during the students’ studies and then, when the same perceptions and behaviours continue into the workplace, they may contribute to the gender pay gaps and other forms of inequality. It currently remains undetected in higher education because female students outperform male students when considering degree classifications. The challenge here is a lack of post-course consciousness (i.e., reflection of how behavioural patterns whilst at university impact on future professional success), and a lack of feedback loops from alumni and employers to educators to develop a post-course consciousness across the student body.

Some consequences of the lack of confidence reported by most female participants include them working harder to compensate and to achieve higher grades. However, by doing so, they do not take advantage of more long-term networking and career opportunities and also feel more stressed, which in turn further decreases confidence. This reinforces prior literature of a gender confidence divide (Arsenis & Flores, 2021; Carlin et al., 2018; OECD, 2015). It also confirms research showing the importance of addressing confidence particularly among students of Gen Z who appear less confident than millennials (Twenge, 2018).

Universities tend to teach most undergraduate students for three years, at a time when the majority of students are still young and habitual scripts could thus still be rewritten (Garrison, 1996). It now seems time for universities to create more opportunities to

Table 4
Attribution theory quadrants with a focus on gender.

<table>
<thead>
<tr>
<th>Internal locus of control</th>
<th>External locus of control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quadrant 2: Ability</td>
<td>Quadrant 3: Task difficulty</td>
</tr>
<tr>
<td>Gender now</td>
<td></td>
</tr>
<tr>
<td>Quadrant 1: Effort</td>
<td>Quadrant 4: Luck</td>
</tr>
<tr>
<td>Agency to adapt</td>
<td>Awareness</td>
</tr>
</tbody>
</table>

Source: Adapted from Weiner (2010)
practice confident communication, especially relevant considering that ‘the best way to build confidence in a given area is to invest energy in it and work hard at it … [with] deliberate practice almost always trump [ing] natural aptitude’ (Schwartz in Gallo, 2011, para. 2&3).

Contemporary society seems to value assertiveness and ambition, and studies show that these attributes have positive effects on job performance evaluations (Hirschi & Spurk, 2021). Anderson et al. (2012) evidenced that confident and overconfident individuals are perceived by others as more competent. In addition, certain features of narcissism, namely those associated with leadership, authority and self-promotion, are consistently positively associated with self-enhancement (Watts, 2018). Whilst we do not endorse this ‘prototype’ of an ideal charismatic leader/savior (Jacquart & Antonakis, 2015, p. 1053), the reality is that this is the world that young graduates are entering with the associated gender inequalities. Whilst we need to foster leadership skills associated with authentic communication and empathy (Nakamura et al., 2022), in the short-term structural inequalities persist and these are often associated with the gender-confidence-gap. This has resulted in growing calls to address the gender confidence gap especially since confidence seems self-perpetuating (Arsenis & Flores, 2021; Carlin et al., 2018; Estes & Felker, 2012). Sterling et al. (2020) argues that addressing the confidence gap is a prerequisite to reducing the gender pay gap. In addition, it is worth noting that the right level of confidence is recognised as important for general mental wellbeing (Mind, n.d.).

Universities cannot continue to ignore the potential impact that they have on gender pay gaps, relying on the fact that female students in the UK, on average, outperform their male counterparts academically whilst at university. There has been an increasing focus on whether universities are sufficiently delivering value for money and the requisite skills for employment (OfS, 2022). This is a worldwide concern that extends beyond the UK (see Clarke, 2018; Moore & Morton, 2017; Williams, 2019). In the UK, the Office for Students (OfS, 2022) explicitly seeks to ensure that ‘every student, whatever their background, has a fulfilling experience of higher education that enriches their lives and careers.’ Yet there is growing unease around academic achievement and career outcome disparities among student segments, and educators therefore need to assume some agency in this regard.

Our findings have important implications for educators, businesses and policymakers. Businesses and policymakers need to create an environment where women are encouraged to take on leadership roles and to be assertive in their careers. Educators need to be aware of the gender confidence gap and take steps to address it and we make suggestions in this regard in the next section.

6. Recommendations for educators

To address the gender confidence gap educators might want to refer to attribution theory as a lens to shape their teaching, aiming to nurture academic and professional success within diverse learning environments. Educators can help students visualise the difference between internal and external forces, as well as stable and unstable attributions, and by doing so encourage moving attributions that are currently seen as stable and/or external, to the ‘unstable and internal’ attribution quadrant. Moving gender, confidence, and oral communications into the ‘unstable and internal’ quadrant raises awareness of the agency that all students have to develop confidence and oral communication skills.

The optimal approach to help students move towards the ‘unstable and internal’ quadrant depends upon the possibilities presented in particular classroom environments, which are affected by different factors including class sizes and class delivery modes (e.g., in person, remote synchronous, remote asynchronous).

Within the in-person setting of smaller classes, instruction can be tailored to individual needs, fostering a sense of ownership and control over the learning journey. In-person smaller class sizes also allow for more topic and disciplinary-related impromptu public speaking/communication skills exercises in class, such as guided role-plays including imitating press-conferences, practicing chairing meetings and/or having your voice heard as a subject-matter expert when participating in meetings. Furthermore, small class sizes, independent if in person or remote, facilitate keeping track of individual contributions, making it easier for educators to encourage all students to develop their oral communication skills. Small classes also allow for more extensive tailored feedback, illuminating strengths and weaknesses, with an aim to lead to self-directed goal setting, and thus further strengthening students’ agency in the learning process.

Scaling up to large classes requires embracing strategies and tools that resonate with a wider audience. Technology-aided learning platforms might support learning especially in large class teaching. Moreover, dividing the class into peer groups might foster peer-to-peer support, and personalised attention within the broader setting. Peer groups in conjunction with clear messaging about the importance of networking also offers an opportunity to practice networking and building a supportive community where students learn from and motivate one another.

Regardless of the number of students and delivery mode, emphasising effort and a personal growth mindset, especially in the

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11 A particular exercise we have adopted and can recommend for boosting confident communications and expression of ideas across all genders, is to imitate a press conference, including the use of microphones. Some students can take the role of CEOs of companies, others as reporters from different media outlets or spokespersons from consumer groups, and again others the roles of government officials and regulators. By playing different roles from their usual ones, students can adopt different stances in a new management environment which, in turn, seems to encourage student agency and voice.

12 Hsiao (2021) found that experiential education with virtual reality can positively affect confidence. An exercise we have adopted to boost confident communications and expression of ideas across all genders, is linked to the inclusion of virtual reality technology in the classroom which allows students to visualise themselves in a 3D setting where they deliver speeches; with students receiving feedback on their speed of speaking, intonation, etc. and then being able to repeat the exercise, including receiving feedback, as often as they want.
context of what seems to be a gendered lack of confidence, is crucial. Educators and potentially also guest speakers from different genders could explicitly or implicitly contribute through synchronous and/or asynchronous material, to framing challenges as opportunities for learning and growth fostering resilience and perseverance, and empowering students to navigate their academic and professional journeys. A shared acknowledgement of external challenges such as societal expectations and structural inequalities allows for open dialogue and validation. However, alongside this acknowledgement lies the crucial task of empowering students by highlighting the controllable aspects of their learning, emphasising that aspects such as confidence and oral communication can be strengthened through purposeful effort in that area, with students and educators embracing experimentation, adaptation, and ongoing reflection.

7. Limitations

The research has several limitations which also provide opportunities for future research. Firstly, research could better evaluate the intersection of gender, ethnicity, and nationality among other dimensions (see Luiz & Terziev, 2022). We had a small cohort of participating British ethnic minority students, and this limitation was partly an outcome of the fact that across the university sector they remain underrepresented, and our setting was thus constraining.

Secondly, our research takes place in an environment in which tremendous changes are taking place of a structural nature to economic and management systems and the associated disruptions linked to technological changes and increased digitalisation. This will undoubtedly affect the type of skills required and the gendered impact of this needs more work.

Lastly, our study is cross-sectional. A longitudinal study is needed to fully explore and account for the dynamics of how higher education and experience translates into future professional success and earnings. Interviewing alumni would provide further insights into such a study and would allow for a better understanding of the dynamics and interlinkages.

8. Conclusions

This paper makes several contributions. It contributes towards how attribution theory (Weiner, 2010) manifests currently within higher education. We show that out of the attribution theory dimensions, Gen Z students tend to believe in agency and focus on the internal rather than the external locus of control, with an emphasis on unstable rather than stable attribution of causes. Gender and gender-related attributes are seen by students as a stable attribution and are thus perceived as unimportant for their academic and professional success. This contrasts with Butler’s (2009) concept of gender as evolving and unstable, being continuously constructed through compliance with dominant societal norms. We suggest that instead of students and educators accepting gender as stable and internal, they should consciously embrace gender as a contributing factor with the potential to evolve in any direction. Only by recognising this can educators disrupt the reproduction of norms in students’ education. By purposefully embracing the conceptualisation of gender as unstable, educators can change the process of performativity where students are ‘being acted on in ways [they] do not always fully understand, and of [educators] acting, [unaware and unintentionally] in politically consequential ways’ (Butler, 2009:xii).

At a practical level, especially as there are now more female students than male students in many countries, we call for gender, including what seems to be a gender confidence gap, to be put more prominently on the agenda in business schools. We provided insights into the perceptions of Gen Z students that may assist us in advancing the process of building effective higher education that addresses students’ learning needs in preparation for their future employment. We demonstrated possible mismatches between the knowledge focus of business schools and the skills required in the workplace and that these need to be addressed (Ritter et al., 2018). The research illustrates that there are gendered effects regarding skills and confidence, and how these materialisations are likely to impact long-term professional success and may translate into future earning gaps.

As higher education has become more accessible to a wider range of student demographic (Bhopal et al., 2020; Santos & Horta, 2018), it is important for business schools to address the potential for unintentional gender bias in their programs and policies. This is essential to laying the foundation of disrupting the cycle of gender inequality in the workforce and to ensuring that all students have the opportunity to succeed. For business schools, this also means focusing on an education that embraces boosting students’ long-term confidence needed in the workplace. Confidence is also developed outside education through social and cultural contexts (Erikson, 2007), but nonetheless, if educators and business schools do not want to be seen as complicit in the consequences of gendered attributional disparities, they should recognise their responsibility in helping students overcome their perceived obstacles to academic and professional success.

Declarations

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CRediT authorship contribution statement

Isabel Fischer: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Formal analysis, Data curation, Conceptualization. John M. Luiz: Writing – review & editing, Writing – original draft, Validation, Methodology, Investigation, Formal analysis, Data curation.
Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.ijme.2024.100989.

References


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