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Academic Behavioural Confidence: The Role of Demographic, Institutional, Psychosocial, and Behavioural Factors Across Diverse University Students in England

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Abstract: Background: research shows that university students' academic engagement and performance can be usefully predicted by academic behavioural confidence (ABC), a set of self-beliefs in study-focused behaviours. While demographic and institutional variations in ABC are often reported, less is known about its psychosocial or behavioural correlates. Methods: A total of 328 students in 16 English universities completed an online survey with measures of ABC, self-esteem, ethnic identity, peer pressure, social support, and substance dependence and theirs and their tutor's demographics. Results: Aspects of ABC differed by student gender (ps < 0.01), university (modern/traditional; ps < 0.01), and degree (nonvocational/vocational; p < 0.01) types and correlated with self-esteem, social support, peer pressure, drug dependence, and, for ethnic minority students, ethnic identity. Hierarchical regression analyses identified gender (β = 0.14–0.25), age (β = −0.16–0.12), self-esteem (β = 0.22–0.46), peer pressure (β = −0.15–−0.17), and drug dependence (β = −0.15–−0.21) as consistent predictors across ABC components. Conclusions: The findings highlight the importance of individual factors and social networks for academic self-efficacy. Recommendations for monitoring ABC and its contributors for targeted study and pastoral support are made.

Keywords: academic behavioural confidence; gender; self-esteem; substance dependence; peer pressure

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1. Introduction

As a global construct and psychometric measure, academic behavioural confidence (ABC) refers to the study-focused self-efficacious behaviour that university students possess to varying degrees, with its scale being a key tool for reporting such behaviour (Sander, 2009). Since its seminal launch as 'academic confidence' by Sander and Sanders (2003), iterative studies and revisions have refined both the concept and measure to focus on 'actions and plans' (Sander & Sanders, 2006). ABC spans from confidence in independent study, through obtaining good grades and articulating ideas, to simply attending classes (Sander & Sanders, 2007). This widely used scale has good discriminative and predictive powers. It has differentiated students studying different degrees (Sander & Sanders, 2009) and from different countries (Ochoa & Sander, 2012) and socioeconomic statuses (Gellisch et al., 2024), male and female students (Sanders et al., 2009; Sander & de la Fuente, 2020), and those with and without dyslexia (Sander, 2009). In addition, ABC can predict marks over time (Putwain et al., 2013), procrastination (de la Fuente et al., 2021), test anxiety and resilience (Gellisch et al., 2024), and career decision self-efficacy (Arjanggi et al., 2020).

Despite its clear utility, relatively less is known about the psychosocial factors contributing to variations in ABC. Heavily influenced by both self-efficacy (Bandura, 1977) and expectancy–value (Wigfield & Eccles, 2000) theories, as a construct ABC was premised on the belief that one has both the ability and preparedness (self-efficacy) to perform an activity, with the likelihood of engagement determined by the activity's perceived value (expectancy–value). While expectancies and values are results of complex developmental and environmental forces, belief in the self as a competent learner is often context-specific and malleable based on the judgments from a learner's dynamic relationship with their environment (Sander & Sanders, 2006). Sander and Sanders therefore contend that ABC could change should experience impinge upon expectations, and research has shown that ABC can develop over the course of studying (Putwain & Sander, 2014). Recent evidence further reports that, apart from personality traits (Sander & de la Fuente, 2020, 2022), both self-regulation (an internal learning process) and regulatory teaching (an external process) have positive effects on ABC (de la Fuente et al., 2021).

Worthy of note is that current and previous academic outcomes, interpreted as successful or otherwise, invoke change in self-efficacy beliefs, and students' performance and work experience are strongly associated with ABC (Gellisch et al., 2024; Sander, 2009; Sander & Sanders, 2006). This premise gives room for exploring other potential predictors of ABC: appraisals of performance can depend on or reflect key internal or self-related and external social factors. Self-esteem is one, which refers to the sense of worth one has about oneself (Rosenberg, 1965). Despite being a broader, relatively stable global construct, it is closely linked to self-efficacy in the context of academic performance (Lane et al., 2004). A predictor of success in 'life' domains, including work and relationships (Orth & Robins, 2014), self-esteem—with ABC—predicts students' career-decision self-efficacy (Arjanggi et al., 2020) and well-being (Fuentes et al., 2020). With such important ties, the direct relationship between self-esteem and ABC should be further examined.

Another aspect of the self-concept that may contribute to ABC concerns one's identity in relation to social group memberships such as gender and race. For gender, similar to the pattern in self-esteem (Cascale, 2020), male students tended to report higher levels of ABC in earlier studies (Sander & Sanders, 2009; Sanders et al., 2009). With female attainment rising until the current phenomenon of female outperformance, recent research reports female students as scoring higher in most ABC dimensions at university, where they often outnumber male students (see Sander & de la Fuente, 2020). Sander and de la Fuente argue that these associated phenomena reflect a combination of socio-behavioural variables underpinning the salience of gender (ingroup/outgroup comparisons) across education systems, socialised gender differences in the orientation to academia, and both female and male awareness of their relative performance and study-approach differences.

The link of race to ABC is less clear, but there is reason to expect that in diverse societies with systemic inequalities, such as England, minority students may have a lower ABC. The 'attainment gap', based on the lower grades that Black, Asian or minority ethnic (BAME, vs. White) students achieve, has been a longstanding issue in the UK (Cotton et al., 2015). Also observed in the US, the gap is seen as a compound product of historical and institutional factors, including non-inclusive cultural socialisation (Del Toro & Wang, 2020) and educator discrimination (Civitillo et al., 2024), starting far back in the school system. These are echoed by qualitative findings from the UK, where lack of relatedness and perceived racism contribute to a loss of confidence and competence felt by BAME students (Bunce et al., 2019). Bunce et al. argue, based on the self-determination theory (Deci & Ryan, 2000), that such obstacles impeding students' fulfilment undermine their full learning potential.

While their minority status might compromise BAME students' ABC, research shows that a strong sense of belonging or affiliation, such as identification with one's race or ethnicity (Phinney, 1992), can contribute to academic self-efficacy and achievement (Miller-Cotto & Byrnes, 2016; O'Brien et al., 1999). The findings indicate that ethnic identity enables a developed sense of self that serves as a buffer against the effects of discrimination and steers the individual towards positive life (including study) decisions. Minority young people with a strong ethnic identity in diverse, inclusive school cultures tend to perform better academically (Del Toro & Wang, 2020).

Apart from the factors influencing the self, those on the 'social layer' around it can potentially contribute to ABC. Social support from significant others such as family and friends has attracted interest as a coping resource against stressors for a long time (Zimet et al., 1988). Studies show that perceived social support is associated with an academic locus of control (accounting for successes or failures; Arslan et al., 2013; Tinajero et al., 2020) and achievement (Mackinnon, 2012), particularly among minority students in higher education (Mishra, 2020). With links to both efficacy and outcomes, social support is a likely contributor to ABC, and research should examine this relationship more directly. It should also be noted that students are more likely to seek extra support from others if they perceive a lack of it from their university (Arslan et al., 2013; Bunce et al., 2019). Therefore, students' peer and pastoral situations in relation to ABC should also be explored.

An integral part of the support network, peers are critical as students move towards academic and personal independence. However, while peer academic support (e.g., by studying together or reducing exam stress) has an important place in academic efficacies (Arslan et al., 2013), a negative peer influence can be highly disruptive. Peer pressure refers to the experience of feeling pressured, urged, or dared by peers to do certain things or actually doing them due to such pressure (Santor et al., 2000). It is negatively associated with academic self-efficacy, as observing others similar to oneself can impair the observer's efforts in self-control (Kiran-Esen, 2012) and academic engagement associated with burnout in university (Marôco et al., 2020). Many ill effects of peer pressure involve maladaptive behaviour; for instance, peer-induced alcohol consumption as excessive drinking is associated with poor class attendance and impaired academic judgment (Knee & Neighbors, 2002). It has long been known that excessive consumption of other substances such as tobacco (Fagerström, 1978) and illicit drugs (Skinner, 1982) has similar effects, with peer impact on consumption being well-established (Pearson & Michell, 2000). Recent reviews further identify the long-term effects of peer pressure in adolescence to emerging adulthood, from binge drinking and tobacco use to lifetime alcohol or substance dependence (Henneberger et al., 2021; Keyzers et al., 2020). Drawing on the pervasive impact of substance use on self-control and judgment, and in recent studies its direct relationships with academic self-esteem and study exhaustion (Allen et al., 2022; Fuentes et al., 2020), its contribution as maladaptive behaviour to ABC should be further investigated.

While not specifically examined in relation to ABC or academic efficacy, mentoring research has shown that having an advisor of one's own sex or race is felt to be important, by female and BAME students particularly (Blake-Beard et al., 2011). Considering the attainment gap, this 'match' is said to offer role modelling and rapport, even if that may not affect academic outcomes. More recently, same-sex pairs have been associated with a higher student retention and GPA (Kato & Song, 2018), and BAME students perceive same-race professors as more credible on diversity issues (Moore et al., 2022). However, a perceived rapport with staff may enact differently across institutional contexts. For instance, Sander and Sanders (2007; Sanders & Sander, 2007) have reported higher ABC in students studying medical or healthcare courses with stronger ties to specific jobs or industries (vocational degrees; Giret, 2011) than those on courses with less obvious ties (e.g., Psychology). In

addition, staff teaching nonvocational subjects express less knowledge of employability and confidence in career advising (Amiet et al., 2021). Variations in ABC may also simply reflect admissions criteria. Sander and Sanders (2007) studied the 'traditional' (established prior to 1992) and 'modern' (post-1992 transformed ex-polytechnics and teaching colleges) universities, noting that the former tend to demand higher entry grades. Also, there have been reports of an inadequate staff awareness of non-traditional students' needs or underdeveloped support systems (Cotton et al., 2015), but a more inclusive culture in modern universities has been observed more recently (Sumner, 2020). More research should therefore examine variations in ABC by institutional factors across English universities.

Considering the utility of ABC in forecasting student engagement and attainment, reflecting academic efficacies and needs, a greater understanding of the factors that underpin group and individual differences in this construct is warranted. We ask these questions: (RQ1) As key demographic differences, do male and female students or those from racial majority and minority (BAME) groups differ in their ABC? (RQ2) As institutional forces, do students enrolled in traditional and modern universities, those in vocational and non-vocational degrees, or those assigned a same-gender or race versus other-gender or race tutors, differ in levels of ABC? (RQ3) Are psychosocial factors, including self-esteem, ethnic identity, social support, and peer pressure, directly related to ABC? (RQ4) How may maladaptive behaviour in the form of substance dependence contribute to ABC?

The present study explored the relative contributions of those factors to ABC among diverse university students in England. These encompass demographic (student age, gender, and race), institutional (university and degree types, tutor–student gender/race composition), psychosocial (self-esteem, ethnic identity, peer pressure, and social support), and (maladaptive) behavioural (alcohol, smoking, and illicit drug dependence) variables. Drawing on existing research, we hypothesise the following: (H1) female and White students would report higher levels of ABC versus male and BAME students, respectively; (H2) students enrolled in traditional universities, on vocational degrees, or allocated a same-sex or same-race tutor, would report higher levels of ABC than those in modern universities, on nonvocational degrees, or with an other-sex or other-race tutor, respectively; the latter would apply particularly for female and BAME students; (H3) higher self-esteem, ethnic identity (particularly for BAME students) and perceived social support, and lower peer pressure would be correlated with higher ABC; (H4) higher levels of substance (alcohol, smoking, and illicit drug) use would predict lower ABC.

2. Materials and Methods

2.1. The Sample

The data came from 328 students in 16 universities (10 modern, 6 traditional; including 3 from the Russell Group, 2025) with student populations ranging from over 12,000 to over 30,000, across England, including London and the southern counties, Midlands, and the north. Participants were recruited using the team's personal, professional, and study networks and snowballing via other colleagues and students from across undergraduate levels. Students participated voluntarily by completing an online survey that was open for two semesters. The sample's key characteristics are listed in Table 1.

Table 1. Sample characteristics.

Total Sample N = 328		
Student age	Range 18–60 years	Mean = 26.47 (SD = 9.13)
Student gender	Female 74% (N = 243)	Male 26% (N = 85)
Student race	White 47% (N = 155) Black 23% (N = 75)	Asian 20% (N = 66) Other minorities 10% (N = 32)
University type	Modern 78% (N = 257)	Traditional 22% (N = 71)
Degree type	Vocational 22% (N = 50)	Nonvocational 78% (N = 237)
Student/tutor match		
Student/tutor gender (N = 327)	Same 70% (N = 228: 176 female; 52 male)	Different 30% (N = 99: 66 female; 33 male)
Student/tutor race (N = 317)	Same 45% (N = 146: 124 White; 22 BAME)	Different 55% (N = 171: 28 White; 143 BAME)

While the age range spans 42 years, a majority (73%) of students were under the age of 30. Female students occupied nearly three-quarters of the sample, and just over half (53%) were BAME, mainly Black (Caribbean or African) and Asian (mostly South Asian), with a few other (mostly mixed race) backgrounds. Although a majority of the students were enrolled in modern universities, they studied a range of subjects, mostly Social Sciences (e.g., Geography, Psychology, Sociology) or Arts and Humanities (e.g., English, History, Linguistics) categorised as nonvocational, with fewer in vocational courses (e.g., Accounting, Engineering, Nursing). All the students, except one, reported having an academic faculty for pastoral support. Of those that reported tutor demographics, the majority had a same-sex (female) tutor, and over half (mostly BAME) had a different-race (mostly White) tutor.

2.2. Measures

All measures were created and administered using the surveying platform Qualtrics. The form requested their and their personal tutor's demographics before the following sections containing the respective measures.

2.2.1. Academic Behavioural Confidence

The 17-item ABC Scale (Sander & Sanders, 2009) was used to assess ABC, with statements starting as 'How confident are you to'), while previous and recent research (e.g., Sander & de la Fuente, 2020, 2022) has upheld four subscales: Grades, pertaining to confidence for attainment (6 items; e.g., 'attain good grades in your work?'); Studying, as engaging in independent study (4 items; 'study effectively on your own?'); Verbalising, related to presenting or discussing work with staff and peers (4 items; 'give a presentation to fellow students?'); and Attendance in classes (3 items; 'attend most taught sessions?'). Each item was assessed on a 1–5 scale from 'not at all confident' to 'extremely confident'. Confirmatory factor analysis (AMOS v.29) showed a good fit with the four-factor structure; χ^2 = 321.48, df = 113; RMSEA = 0.065, CFI = 0.91, TLI = 0.87. The item scores for each subscale were averaged to form Grades, Studying, Verbalising, Attendance, and overall ABC scores, with Cronbach alpha reliabilities (Grades α = 0.83, Studying α = 0.75, Verbalising α = 0.80, Attendance α = 0.74, overall scale α = 0.89) comparable to studies with similar or larger samples (e.g., Putwain et al., 2013; Putwain & Sander, 2014; Sander & de la Fuente, 2020).

2.2.2. Self-Esteem

Rosenberg's (1965) Self-Esteem Scale (10 items), a widely used and reliable measure, was used to gauge respondents' global self-esteem, including five items that required reverse scoring (e.g., 'I feel I do not have much to be proud of'). Responses were measured on a 1-4 scale from 'strongly disagree' to 'strongly agree'. As with most existing studies (e.g., Arjanggi et al., 2020), the item scores, including reversed scores, were averaged to form the self-esteem score (Cronbach's $\alpha = 0.90$).

2.2.3. Ethnic Identity

The Multigroup Ethnic Identity Measure (Phinney, 1992) was chosen as a highly reliable and widely used scale to measure the respondents' degree of affiliation with, and belonging to, their respective self-identified ethnic group(s). The measure began by asking participants to describe (in their own words) their ethnicity, followed by 12 statements (e.g., 'I have a clear sense of my ethnic background and what it means for me') to which they rated their level of agreement on a 1–4 (from strongly disagree to strongly agree) scale. The twelve item scores were averaged to form the ethnic identity score (Cronbach's $\alpha = 0.91$, in line with existing research, e.g., Del Toro & Wang, 2020).

2.2.4. Peer Pressure

Peer pressure perceived by respondents was assessed by Santor et al.'s (2000) 11-item vignette-based measure on peer pressure, conformity, and popularity used with adolescents. Each item described a 'situation in which young people might find themselves' (e.g., 'Imagine that you have a major test tomorrow that you must pass. However, your friend who also has the same test calls you to say that he/she has one extra free ticket to see a really good band for that night. What would you do?'). They were asked to respond with one of two options, one corresponding to conforming with peer pressure ('You go to the concert') scored 1, and the other not ('You stay home and study') scored 0. Eight items were averaged to form the peer pressure score for analysis after the full scale first yielded a dissatisfactory reliability (Kuder–Richardson; KR-20 < 0.5). Dropping three items improved it to a more acceptable level (KR-20 = 0.63) close to the original (Santor et al., 2000).

2.2.5. Social Support

The Multidimensional Scale of Perceived Social Support (Zimet et al., 1988) was used to assess the level of support from family, peers, or in the general sense (e.g., 'There is a special person who is around when I am in need') perceived by the respondents. The scale, containing 12 items, was rated on a 1–7 scale (strongly disagree to strong agree). All item scores were averaged to form the social support score ($\alpha = 0.93$; in line with the original and other research; Arslan et al., 2013).

2.2.6. Alcohol Dependence

The CAGE (for Cutting down, Annoyance by criticism, Guilty feeling, and Eye-openers) questionnaire (Ewing, 1984), widely used in research and clinical screening for problem drinking and alcoholism diagnosis, was used to assess alcohol dependence. Four binary items asking for agreement (Yes 1, No 0) on drinking issues (e.g., 'Have you ever felt you should cut down?') yielded a moderate reliability (KR-20 = 0.60) and were summed, per the CAGE instructions, to form the alcohol dependence score.

2.2.7. Smoking Dependence

This was measured by the widely used Fagerström Tolerance Questionnaire (FTQ; Fagerström, 1978) for tobacco smoking and nicotine dependence. Four of the six items, on smoking-related symptoms and difficulty of abstaining, were binary (e.g., 'Is it hard to

refrain when it is forbidden'; KR-20 = 0.71). Two, smoking amount and time, had multiple choices (α = 0.58); while the reliability seemed low, as Field (2018) states, it is dependent on the number of items (which were significantly correlated, r = 0.471, $p < 0.001$), and the full set's reliability was higher (α = 0.68). All the item scores were summed to form the smoking dependence score.

2.2.8. Drug Dependence

The Drug Abuse Screening Test (DAST-10), a brief self-report (Skinner, 1982), was used to measure drug dependency. Ten binary items rated the amount, frequency, symptoms, and guilt around using drugs 'beyond those prescribed for medical reasons' (e.g., 'Are you able to stop using when you want to?'). The item scores (α = 0.76) were summed, per the DAST instructions, to form the drug dependence score.

2.3. Procedure

Ethics approval was obtained from the ethics subcommittee at the university school where this study was instituted (ref u1720631). Potential participants were sent invitations through course intranets, group mailings, or social media with a link to the survey. It began with a short briefing about researching the topic of '"academic behavioural confidence" among students, with individual, university, psychosocial, and behavioural factors related to studying'. After demographic and institution questions, the measures appeared in the order described in Section 2.2. A debrief page appeared after the final section, giving details of the study and support agencies. The survey took between 20 and 30 min to complete.

2.4. Data Analysis

The Qualtrics data were exported to IBM SPSS (v.28.0) for analysis. The sample was finalised at N = 328 after deleting cases with incomplete data (over 5% of items omitted). The distributions of all measures were first inspected, with most found to breach the assumptions of normality (Shapiro–Wilk, ps < 0.01), except for ABC overall (p = 0.06). All ABC aspects were slightly negatively skewed (−0.20 to −0.69), and so were self-esteem (−0.42), ethnic identity (−0.35), and social support (−0.99), but they had kurtosis within levels of acceptability (−0.55 to 0.72). Peer pressure was positively skewed (1.21) and slightly platykurtic (kurtosis = 1.32).

With a moderate-sized sample where no further data were obtainable, and potentially different distributions among variables, bootstrapping was chosen as a suitable additional parameter estimation in our analyses (Field, 2018). We used bias-corrected and accelerated (BCa) confidence intervals (95% CIs) or noncentrality parameters and observed power in addition to p values in judgments of significance. For examining group (gender, race, university and degree types, or tutor–student matches) differences in ABC (hypotheses H1 and H2) and other measures, tests of differences (Analyses of Variance; Analyses of Covariance) were used. For predicting ABC (hypotheses H3 and H4), correlations were first used to observe patterns between ABC and the psychosocial or behavioural measures. Then, multiple regressions were conducted to examine the relative contributions of those measures as predictors for ABC. The required alpha levels, based on the sample size, from G*Power 3.1 (power/1-β 0.80), were computed as 0.017 to 0.0015 for tests of differences (effect size f 0.25), 0.013 for correlations, and 0.015 for linear regressions.

3. Results

3.1. Student Demographic and Institutional Group Differences

Initial exploratory analyses found that several of the measures, including ABC Verbalising, self-esteem, ethnic identity, and smoking dependence, were positively correlated with

participants' age (ps < 0.01), thus age was entered as a covariate in the tests of differences (ANCOVA). Tables 2 and 3 show the group means by key student demographics and institutional features, respectively, for each ABC component, overall ABC, and psychosocial and behavioural measures.

Table 2. Group means (and standard deviations) for ABC components and psychosocial and behavioural measures by student demographics.

	Student Gender			Student Race				
	Female N = 243	**Male N = 85**	**F, η^2, 1-β**	**Black N = 75**	**Asian N = 66**	**Other N = 32**	**White N = 155**	**F, η^2, 1-β**
ABC								
Grades	**3.49 (0.70)**	**3.77 (0.56)**	10.94 **, 0.03, 0.90	3.60 (0.63)	3.48 (0.69)	3.40 (0.77)	3.61 (0.67)	1.38, 0.01, 0.37
Studying	3.59 (0.77)	3.71 (0.58)	1.69, 0.01, 0.25	3.62 (0.75)	3.59 (0.69)	3.41 (0.79)	3.68 (0.71)	1.29, 0.01, 0.35
Verbalising †	**2.89 (0.94)**	**3.53 (0.69)**	38.26 **, 0.11, >0.99	3.17 (0.87)	3.03 (1.00)	2.74 (0.94)	3.08 (0.91)	1.64, 0.02, 0.43
Attendance	3.92 (0.82)	3.91 (0.72)	0.00, 0.00, 0.05	3.78 (0.85)	3.95 (0.72)	3.92 (0.77)	3.98 (0.81)	1.11, 0.01, 0.30
Overall	**3.45 (0.64)**	**3.72 (0.45)**	14.17 **, 0.04, 0.96	3.54 (0.62)	3.48 (0.57)	3.34 (0.68)	3.57 (0.60)	1.17, 0.01, 0.31
Self-esteem †	2.96 (0.65)	3.10 (0.47)	4.67, 0.01, 0.58	3.16 (0.54)	2.82 (0.54)	3.07 (0.64)	2.98 (0.65)	3.42, 0.03, 0.77
Ethnic identity †	2.84 (0.63)	2.83 (0.67)	0.05, 0.00, 0.06	**3.20 [a] (0.47)**	**3.07 [a] (0.58)**	2.78 (0.59)	**2.58 [b] (0.63)**	22.41 **, 0.17, >0.99
Peer pressure	**0.13 (0.14)**	**0.27 (0.22)**	45.54 **, 0.12, >0.99	0.16 (0.16)	0.12 (0.14)	0.14 (0.14)	0.19 (0.20)	3.45, 0.03, 0.77
Social support	5.54 (1.25)	5.30 (1.11)	2.69, 0.01, 0.37	5.49 (1.06)	5.26 (1.32)	5.54 (1.30)	5.55 (1.23)	0.98, 0.01, 0.27
Alcohol	**0.35 (0.74)**	**0.67 (1.01)**	9.78 *, 0.03, 0.88	0.43 (0.86)	**0.14 [b] (0.43)**	0.31 (0.64)	**0.59 [a] (0.93)**	5.06 *, 0.04, 0.91
Smoking †	0.42 (1.29)	0.55 (1.69)	0.81, 0.00, 0.15	**0.12 [b] (0.84)**	**0.18 [b] (0.80)**	0.25 (0.95)	**0.78 [a] (1.78)**	5.47 **, 0.05, 0.94
Drugs	0.56 (1.20)	0.89 (1.39)	4.27, 0.01, 0.54	**0.68 [a] (1.28)**	**0.11 [b] (0.40)**	0.47 (0.88)	**0.89 [a] (1.48)**	6.53 **, 0.06, 0.97

Significantly different group means in bold; * p < 0.01, ** p < 0.001, bootstrapped with BCa. Multiple comparisons a > b (using Bonferroni-corrected alphas). † With age as a covariate.

Table 3. Group means (and standard deviations) for ABC components and psychosocial and behavioural measures by institutional factors.

	Student–Tutor Gender			Student–Tutor Race			University			Degree		
	Other-Sex	**Same-Sex**	**F,**	**Other-Race**	**Same-Race**	**F,**	**Modern**	**Traditional**	**F,**	**Nonvocational**	**Vocational**	**F,**
	N = 99	**N = 228**	**η^2, 1-β**	**N = 171**	**N = 146**	**η^2, 1-β**	**N = 257**	**N = 71**	**η^2, 1-β**	**N = 237**	**N = 91**	**η^2, 1-β**
ABC												
Grades	3.52 (0.69)	3.58 (0.67)	0.40, 0.00, 0.10	3.48 (0.67)	3.64 (0.67)	4.27, 0.01, 0.54	3.52 (0.69)	3.71 (0.62)	4.53, 0.01, 0.56	3.54 (0.68)	3.62 (0.67)	1.07, 0.00, 0.18
Studying	3.50 (0.74)	3.67 (0.71)	3.72, 0.01, 0.49	3.54 (0.69)	3.69 (0.76)	3.21, 0.01, 0.43	3.61 (0.71)	3.65 (0.77)	0.20, 0.00, 0.07	3.62 (0.74)	3.62 (0.68)	0.01, 0.00, 0.05
Verbalising †	3.13 (0.95)	3.01 (0.91)	0.63, 0.00, 0.13	2.98 (0.89)	3.10 (0.96)	0.48, 0.00, 0.11	**2.94 (0.89)**	**3.49 (0.91)**	22.95 **, 0.07, >0.99	**2.96 (0.95)**	**3.30 (0.80)**	6.02 *, 0.02, 0.70
Attendance	3.95 (0.81)	3.92 (0.80)	0.06, 0.00, 0.06	3.83 (0.79)	4.01 (0.81)	3.46, 0.01, 0.46	3.90 (0.80)	4.01 (0.78)	1.26, 0.00, 0.20	3.88 (0.82)	4.04 (0.73)	1.65, 0.01, 0.25
Overall	3.50 (0.65)	5.53 (0.59)	0.20, 0.00, 0.07	3.44 (0.58)	3.59 (0.64)	4.94, 0.02, 0.60	**3.47 (0.60)**	**3.70 (0.62)**	7.93 *, 0.02, 0.80	3.48 (0.63)	3.62 (0.54)	2.34, 0.01, 0.33
Self-esteem †	2.93 (0.55)	3.03 (0.64)	2.23, 0.01, 0.32	2.95 (0.61)	3.04 (0.61)	0.92, 0.00, 0.16	**2.96 (0.63)**	**3.16 (0.51)**	6.94 *, 0.02, 0.75	2.96 (0.65)	3.11 (0.50)	2.10, 0.01, 0.30
Ethnic identity †	2.94 (0.61)	2.80 (0.65)	3.89, 0.01, 0.50	**2.99 (0.58)**	**2.68 (0.67)**	17.19 **, 0.05, 0.99	**2.78 (0.62)**	**3.06 (0.68)**	10.13 *, 0.03, 0.89	2.80 (0.65)	2.93 (0.60)	5.18, 0.02, 0.62
Peer pressure	0.18 (0.17)	0.16 (0.18)	0.70, 0.00, 0.13	0.15 (0.16)	0.18 (0.20)	3.08, 0.01, 0.42	**0.15 (0.16)**	**0.21 (0.21)**	6.58 *, 0.02, 0.71	0.15 (0.16)	0.19 (0.21)	2.68 0.01, 0.37
Social support	5.40 (1.25)	5.51 (1.21)	0.49, 0.00, 0.11	5.38 (1.23)	5.58 (1.23)	2.25, 0.01, 0.32	5.46 (1.25)	5.56 (1.10)	0.40, 0.00, 0.10	5.47 (1.27)	5.50 (1.10)	0.08, 0.00, 0.06
Alcohol	0.59 (0.88)	0.37 (0.80)	4.84, 0.91, 0.56	0.36 (0.79)	0.54 (0.88)	3.70, 0.01, 0.48	0.41 (0.82)	0.52 (0.84)	1.00, 0.00, 0.17	0.37 (0.76)	0.59 (0.97)	4.82, 0.02, 0.59
Smoking †	0.52 (1.46)	0.43 (1.39)	0.09, 0.00, 0.06	0.28 (1.10)	0.70 (1.71)	5.15, 0.02, 0.62	0.46 (1.36)	0.45 (1.58)	0.00, 0.00, 0.05	0.41 (1.31)	0.57 (1.63)	0.22, 0.00, 0.08
Drugs	0.60 (1.29)	0.67 (1.25)	0.14, 0.00, 0.07	0.54 (1.04)	0.78 (1.51)	3.54, 0.01, 0.47	0.62 (1.22)	0.73 (1.39)	0.40, 0.00, 0.10	0.62 (1.20)	0.71 (1.41)	0.78, 0.00, 0.14

Significantly different group means in bold; * p < 0.01, ** p < 0.001, bootstrapped with BCa. † With age as a covariate.

In Table 2, gender differences can be seen across several measures, with male students scoring higher than female students on Grades, Verbalising, and ABC overall, as well as on peer pressure and alcohol dependence. The race groups did not differ on ABC, but Black and Asian students scored higher on ethnic identity than did White students. White students also scored higher than Asian students on dependence on all substances and higher than Black students on dependence on smoking and drugs. Further analyses that

included both gender and race did not identify any interaction (*p*s > 0.1). The results reject H1 due to male students scoring higher than female students on aspects of ABC and the lack of race differences in any aspect of ABC.

In Table 3, ABC did not differ by student–tutor gender match or race match. Students with a same-sex tutor and those with an other-sex tutor also did not differ on the other measures, but students with a same-race tutor scored lower than those with an other-race tutor on ethnic identity. Additional analyses, which included student gender or race as an independent variable, in addition to the relevant student–tutor match, did not find any interaction between student gender or race and tutor–student match (*p*s > 0.1).

Verbalising and ABC overall differed by university type, with students in traditional universities scoring higher than those in modern universities. Also, students studying vocational degrees scored higher on Verbalising than those studying nonvocational degrees. Students in traditional universities further scored higher on self-esteem, ethnic identity, and peer pressure than those in modern universities. Additional analyses, exploring both university and degree types as independent factors, did not find any interaction between them on the measures (*p*s > 0.1). These results partially support H2, as aspects of ABC differed by university and degree types but not by student–tutor matches.

3.2. ABC Correlates: Psychosocial and Behavioural Factors

With age entered as a covariate where relevant, correlations between ABC and psychosocial and behavioural measures are shown in Table 4. Self-esteem was positively correlated with all components and ABC overall, and the same (except Attendance) holds, if more weakly, for social support, which was also positively correlated with self-esteem and ethnic identity. Ethnic identity was not significantly correlated with ABC but with self-esteem. Peer pressure was negatively correlated with Studying and Attendance and positively with dependence on all three substances. In turn, drug dependence was negatively correlated with Studying, Attendance, and ABC overall. Separate analyses conducted for BAME and White students found that ethnic identity was positively correlated with Verbalising (r = 0.183, CI = 0.021–0.333; $p = 0.008$) and Attendance (r = 0.171, CI = 0.010–0.341; $p = 0.01$) for BAME students but not significantly with any ABC component for White students (*p*s > 0.1). H3 is supported, as self-esteem, social support, and peer pressure were associated with aspects of ABC, and ethnic identity was associated with ABC specifically for BAME students.

Table 4. Correlations between psychosocial and behavioural factors and ABC components.

	Self-Esteem †	**Ethnic Identity** †	**Peer Pressure**	**Social Support**	**Alcohol**	**Smoking** †	**Drugs**
ABC Grades	**0.448** **	0.021	−0.028	**0.166** *	0.007	0.009	−0.109
ABC Studying	**0.436** **	0.046	**−0.161** *	**0.159** *	−0.039	0.049	**−0.146** *
ABC Verbalising †	**0.415** **	0.134	0.086	**0.168** *	0.052	0.115	−0.049
ABC Attendance †	**0.241** **	0.091	**−0.163** *	0.080	−0.017	0.026	**−0.200** **
ABC overall	**0.502** **	0.090	−0.072	**0.185** **	0.008	0.064	**−0.153** *
Self-esteem †	-	**0.196** **	−0.070	**0.368** **	−0.108	0.048	−0.026
Ethnic identity †		-	−0.076	**0.210** **	−0.099	0.033	−0.094
Peer pressure			-	−0.046	**0.345** **	**0.185** *	**0.361** **
Social support				-	−0.016	0.043	0.055
Alcohol					-	**0.274** **	**0.328** **
Smoking †						-	**0.216** **

† With age as a covariate. Significant correlations in bold; * $p < 0.01$, ** $p < 0.001$, bootstrapped with BCa.

3.3. Predicting ABC: Demographic to Behavioural Factors

To examine the relative contributions of the above factors to ABC, hierarchical regression analyses were performed, with the ABC component or overall ABC as a dependent variable. The factors were entered in separate blocks: demographic (student age; gender coded female 0, male 1; race BAME 0, White 1); institutional (student–tutor matches coded other 0, same 1; university modern 0, traditional 1; degree nonvocational 0, vocational 1); psychosocial (self-esteem, ethnic identity, peer pressure, and social support); and behavioural (alcohol, smoking, and drug dependences). The collinearity statistics (tolerance = 0.44–0.93; VIF = 1.08–2.29) suggested that multicollinearity was not a concern. Breusch–Pagan tests performed using squared residuals did not indicate heteroscedasticity (ps > 0.15–0.57).

Table 5 shows the contributions of each block and its predictor variables to each ABC component and overall ABC. Each model explained a significant amount of its ABC variance (from the lowest for Attendance, 15%, to the highest for overall ABC, 33%). The demographic block accounted for a significant amount of variance in Grades, Verbalising, and overall ABC. Within the block, only age and gender emerged as unique predictors. While (higher) age individually predicted a lower confidence in Grades and overall ABC, it predicted higher confidence in Verbalising. Gender (male) predicted a higher confidence in Grades, Verbalising, and overall ABC. Neither the institutional block nor its constituent factors accounted for a significant amount of variance of any ABC component.

While the psychosocial block explained the majority of each model's variance, self-esteem was the consistent, strongest unique predictor across all models. Peer pressure also uniquely negatively predicted confidence in Studying and Attendance. The behavioural block explained a significant amount of variance in Attendance and overall ABC, but drug dependence was the sole unique predictor across models (except Verbalising).

As we found gender differences in ABC as well as peer pressure, which predicted ABC, a gender × peer pressure term was created to explore its contribution, but it did not predict any ABC component (ps > 0.1). The same was performed for peer pressure × drug dependence due to their correlation, and the interaction uniquely predicted overall ABC (B = 0.267, CI = 0.040, 0.385, β = 0.236, SE = 0.097; $t = -2.58$, $p = 0.01$). Drug dependence and peer pressure increased with one another, which contributed to lower ABC.

These results partially support H4, as a higher substance dependence predicted a lower attendance and overall ABC, but this can be attributed to drug dependence, which uniquely predicted most components, particularly if combined with peer pressure for overall ABC.

Table 5. Regression models for ABC components and overall, with demographic, institutional, psychosocial, and behavioural predictors.

	Grades				Studying				Verbalising				Attendance				ABC Overall			
Block	**B**	**SE**	**β**	**T**	**B**	**SE**	**β**	**T**	**B**	**SE**	**B**	**T**	**B**	**SE**	**β**	**T**	**B**	**SE**	**β**	***t***
Demographic	**$R^2\Delta = 0.04$, $F\Delta = 4.30$ ****				$R^2\Delta = 0.01$, $F\Delta = 1.36$				**$R^2\Delta = 0.14$, $F\Delta = 16.73$ ****				$R^2\Delta = 0.01$, $F\Delta = 1.19$				$R^2\Delta = 0.05$, $F\Delta = 5.68$ **			
(Constant)	2.34	0.26	–	8.52 **	2.16	0.09	–	7.36 **	0.51	0.35	–	1.42	2.85	0.35	–	8.17 **	1.96	0.24	–	8.38 **
Age	**−0.01**	**0.00**	**−0.16**	**−2.90 ***	−0.01	0.00	−0.10	−1.79	**0.01**	**0.00**	**0.12**	**2.29 ***	−0.00	0.01	−0.02	−0.34	−0.00	0.00	−0.05	−1.00
Gender †	**−0.21**	**0.08**	**0.14**	**2.30 ***	0.19	0.08	0.11	1.92	**0.52**	**0.12**	**25**	**4.39 ****	0.04	0.11	0.02	0.32	**0.25**	**0.07**	**0.18**	**3.19 ***
Race †	0.15	0.10	0.11	1.50	0.21	0.11	0.14	1.92	0.18	0.13	0.10	1.37	0.18	0.13	0.11	1.38	0.18	0.09	0.15	2.04
Institution	$R^2\Delta = 0.01$, $F\Delta = 0.97$				$R^2\Delta = 0.02$, $F\Delta = 1.32$				$R^2\Delta = 0.03$, $F\Delta = 2.37$				$R^2\Delta = 0.02$, $F\Delta = 1.11$				$R^2\Delta = 0.02$, $F\Delta = 1.31$			
ST gender ††	0.04	0.07	0.03	0.58	0.14	0.08	0.09	1.78	−0.04	0.10	−0.02	−0.37	0.00	0.10	0.00	0.02	0.04	0.07	0.03	0.64
ST race ††	0.03	0.10	0.02	0.31	0.01	0.11	0.01	0.08	−0.15	0.13	−0.08	−1.20	0.10	0.11	0.06	0.81	0.01	0.08	0.00	0.07
University †	0.04	0.09	0.02	0.39	−0.06	0.10	−0.03	−0.56	0.25	0.13	0.11	1.96	0.01	0.12	0.01	0.09	0.06	0.08	0.04	0.73
Subject †	0.00	0.08	0.00	0.04	−0.03	0.08	−0.02	−0.30	0.06	0.10	0.03	0.53	0.12	0.11	0.07	1.10	0.03	0.07	0.02	0.40
Psychosocial	**$R^2\Delta = 0.18$, $F\Delta = 17.96$ ****				**$R^2\Delta = 0.20$, $F\Delta = 20.12$ ****				**$R^2\Delta = 0.14$, $F\Delta = 15.18$ ****				**$R^2\Delta = 0.09$, $F\Delta = 7.87$ ****				**$R^2\Delta = 0.23$, $F\Delta = 25.24$ ****			
Self-esteem	**0.48**	**0.07**	**0.43**	**7.55 ****	**0.48**	**0.07**	**0.41**	**7.11 ****	**0.53**	**0.09**	**0.35**	**6.42 ****	**0.29**	**0.10**	**0.22**	**3.60 ***	**0.46**	**0.06**	**0.46**	**8.53 ****
Ethnic identity	0.03	0.06	0.03	0.54	0.03	0.07	0.02	0.37	0.07	0.10	0.05	0.91	0.11	0.08	0.08	1.35	0.03	0.06	0.03	0.57
Peer pressure	−0.17	0.23	−0.05	−0.77	**−0.69**	**0.23**	**−0.17**	**−2.86 ***	−0.10	0.32	−0.02	−0.35	**−0.70**	**0.32**	**−0.15**	**−2.45 ***	−0.32	0.20	−0.10	−1.69
Social support	0.01	0.03	.02	0.42	0.01	0.04	0.01	0.17	0.04	0.04	0.05	0.93	−0.01	0.04	−0.02	−0.30	0.01	0.03	0.03	0.47
Behavioural	$R^2\Delta = 0.02$, $F\Delta = 2.78$				$R^2\Delta = 0.02$, $F\Delta = 2.84$				$R^2\Delta = 0.02$, $F\Delta = 2.39$				**$R^2\Delta = 0.04$, $F\Delta = 4.41$ ***				**$R^2\Delta = 0.03$, $F\Delta = 4.87$ ***			
Alcohol	0.06	0.05	0.07	10.29	0.06	0.04	0.07	1.27	0.05	0.06	0.05	0.84	0.08	0.07	0.09	1.45	0.06	0.04	0.09	1.60
Smoking	−0.01	0.03	−0.02	−0.31	0.02	0.03	0.05	0.85	0.06	0.04	0.08	1.63	0.02	0.03	0.04	0.62	0.02	0.02	0.05	0.88
Drugs	**−0.08**	**0.03**	**−0.15**	**−2.75 ***	**−0.09**	**0.03**	**−0.15**	**−2.71 ***	−0.08	.03	−0.11	−2.13	**−0.13**	**0.05**	**−0.21**	**−3.53 ****	**−0.09**	**0.03**	**−0.19**	**−3.64 ****
Model total	$R^2 = 0.25$, $F(14,302) = 7.30$ **				$R^2 = 0.25$, $F(14,302) = 7.31$ **				$R^2 = 0.32$, $F(14,302) = 10.10$ **				$R^2 = 0.15$, $F(14,302) = 3.91$ **				$R^2 = 0.33$, $F(14,302) = 10.71$ **			

† Binary, codes as 0 (female, BAME, different, modern, nonvocational) and 1 (male, white, same, traditional, vocational). †† Student–tutor match. Significantly different group means in bold; * $p < 0.01$, ** $p < 0.001$, bootstrapped with BCa.

4. Discussion

This study explored the role of student demographic, institutional, psychosocial, and behavioural factors in ABC, a set of self-beliefs for competent study-focused behaviours, in diverse university students. The results showed that aspects of ABC varied as a function of student demographics and institutional features, and they were associated with psychosocial factors and predicted by maladaptive behaviour. This discussion will unpack these results in turn, leading to a conclusion that addresses our research questions.

4.1. Demographic and Institutional Differences in ABC and Psychosocial Outcomes

Rejecting H1, we found gender and not race differences in ABC, with male students reporting a higher confidence in attaining good grades, verbalising ideas, and overall ABC than female students did. However, ABC did not differ by student–tutor gender or race match. Instead, students in traditional universities or vocational courses reported a higher confidence in verbalising ideas compared with those in modern universities or vocational courses. These partially supported H2, but it should be noted that compared with psychosocial factors, demographics contributed far less to ABC (with gender and age as key factors), and institutional factors did not uniquely contribute to ABC.

The gender differences in ABC are in line with earlier findings by Sander and Sanders (2007, 2009; Sanders et al., 2009) but not Sander's recent findings (Sander & de la Fuente, 2020), except for male students' higher verbalising confidence. This might be due to the earlier samples and this one being from England, while recent studies have been based in Spain (de la Fuente et al., 2021; Sander & de la Fuente, 2020, 2022), but cultural variations need empirical support (Ochoa & Sander, 2012). Within the English higher education context, despite being a minority, male students have reported less preoccupation with failure or anxiety about speaking in class and rated their own academic abilities more highly (Sander & Sanders, 2009; Sanders et al., 2009). These may underpin their higher confidence in verbalising ideas and gaining good grades. Higher male self-esteem (associated with ABC in this study) or general confidence (Cascale, 2020) may also bear on their tendency to have a more optimistic view of their own capabilities, a more cavalier approach to studies, and riskier strategies to student life (Sanders et al., 2009). These correspond with higher peer pressure and alcohol use reported by male students in this study, matching the established literature (Santor et al., 2000; Knee & Neighbors, 2002) and research on academic procrastination (see de la Fuente et al., 2021). However, these may also reflect gender differences in wider personality traits (Sander & de la Fuente, 2020), where females tend to report higher conscientiousness, agreeableness, and neuroticism. Conscientiousness is the 'Big Five' trait most predictive of ABC, but neuroticism affects it negatively (Sander & de la Fuente, 2022). It might be that such traits impacted the female and male ABC differently in our sample.

The race groups did not differ on ABC, unlike what recent studies suggest (Bunce et al., 2019; Civitillo et al., 2024). However, BAME students reported a stronger ethnic identity, and less substance use, than White students. The former being in line with the established literature (Phinney, 1992; Miller-Cotto & Byrnes, 2016) and the latter adding to the volumes on student substance use (Fuentes et al., 2020; Keyzers et al., 2020) are revealing, as ABC was associated with ethnic identity for BAME students and with drug dependence for the sample (see later). Yet, having a same-race (or sex) tutor did not impact ABC, contrary to what is suggested by research (Kato & Song, 2018; Moore et al., 2022), while those with an other-race tutor reported a stronger ethnic identity. The salience of ethnicity for minorities within the study context (Civitillo et al., 2024) may partly account for this interesting finding, apart from the relative importance of the support figure (Blake-Beard et al., 2011).

The findings that students studying in traditional universities and vocational courses reported more confidence in verbalising might reflect their rigorous admissions criteria (Russell Group, 2025; Sander & Sanders, 2007), where those students also reported a higher self-esteem, as well as industry-focused skills learning and careers advising (Giret, 2011; Amiet et al., 2021). The stronger ethnic identity of traditional university students is intriguing, as no prior research has compared students in this way. The more developed academic systems (Cotton et al., 2015) might afford more opportunities for traditional students to explore identities, perhaps aided by their higher confidence in verbalising ideas. However, students in these universities also reported a higher peer pressure. Perhaps better resourced, but also more competitive, these institutions can mean academically more confident, but not necessarily more well-adjusted, students (Kiran-Esen, 2012), and a perceived lack of support may result in the reliance on peers (Arslan et al., 2013; Bunce et al., 2019).

While not hypothesised, student age uniquely contributed to ABC, predicting a higher confidence in verbalising and lower confidence in grades. While the extant research has not examined age effects on ABC, higher ages have been a risk factor in student retention (see Sander, 2009). It may be that, as older students have had a gap in formal education before joining university, that reduces the belief in academic attainment. However, their work experience may promote confidence in presenting and discussing ideas (Gellisch et al., 2024). Congruent with the longstanding literature (Orth & Robins, 2014; Phinney, 1992), age was also related to higher self-esteem and ethnic identity, positive correlates of ABC.

4.2. Psychosocial Correlates of ABC

Supporting H3, all ABC dimensions were associated with students' self-esteem, some with social support or peer pressure, and, for BAME students specifically, ethnic identity. This study threw further light on the role of psychosocial factors in ABC, as these factors together made the strongest contributor to each component, with self-esteem the strongest and most consistent unique predictor. As Sander and Sanders' work did not tend to find associations between ABC and self-esteem (see Sander, 2009), our results are more in line with other findings (Arjanggi et al., 2020; Lane et al., 2004). With ABC stemming from the parent concept self-efficacy (Bandura, 1977), which has clear links with self-esteem, ABC and self-esteem seem to be 'different but related' constructs. Self-esteem pertains to more global self-evaluations, while ABC pertains to self-beliefs in study-specific competence for university challenges (Sander & Sanders, 2009), but the two likely share a bidirectional relationship pivoted on students' performance and adjustment (Fuentes et al., 2020).

The result that BAME students' ethnic identity was associated with verbalising and attendance supports the notion that a strong identification with one's ethnicity can enhance academic self-efficacy (here, speaking about studies) and steers students towards positive decisions, such as attending classes (Miller-Cotto & Byrnes, 2016; O'Brien et al., 1999). The fact that this was specific to BAME students indicates that this sense of self might act as a buffer against issues that may be discerned more by them, such as a non-inclusive study environment and discrimination (Civitillo et al., 2024; Del Toro & Wang, 2020).

Social support was associated with most ABC dimensions (except attendance). This indicates the role of significant others as a coping resource, in the form of social networks and capital, in academic self-efficacy (Arslan et al., 2013; Tinajero et al., 2020). This can be particularly so for under-represented groups (Mishra, 2020), not only BAME, but also those from the lower socioeconomic strata and first-generation students, who are more likely to study in modern universities (Sumner, 2020), which formed a majority in our sample.

While ethnic identity and social support lacked a unique prediction for ABC, it is useful to note the relationships among them and self-esteem. The one between ethnic identity

and self-esteem is long established (Phinney, 1992), but that between ethnic identity and social support points to the sense of belonging or affiliation in a strong identity, which is often fostered in a social network with significant others that can protect against stressors, the original conceptualisation of social support (Zimet et al., 1988). Its relationship with self-esteem further highlights the link between such social capital and a sense of self-worth. These 'positive correlates', in essence, share certain conceptual ties among them.

Despite its weak correlations with ABC, peer pressure is the only psychosocial factor uniquely predicting confidence in studying and attendance, apart from self-esteem. These results fit with established findings on peer pressure (Santor et al., 2000; Knee & Neighbors, 2002); higher scores mean succumbing more to negative influence, which predicts impaired efforts for independent study and attending classes, integral parts of academic self-efficacy and engagement (Kiran-Esen, 2012; Marôco et al., 2020). Peer pressure further combines with substance dependence (see below), predicting lower ABC. Such a spiralling impact can carry into the long term (Henneberger et al., 2021; Keyzers et al., 2020).

4.3. Maladaptive Behaviour: Substance Dependence

Partially supporting H4, maladaptive behaviour in the form of substance dependence predicted confidence in attendance and overall ABC. In particular, dependence on illicit drugs uniquely predicted a lower confidence across components, except verbalising. Yet, it should be noted that dependence on each substance was correlated with the others. These findings correspond with the extant literature documenting how such a dependence, often in the peer context, has damaging effects on students' self-control and efficacy, with a range of outcomes from poor class attendance and academic judgment to study exhaustion (Allen et al., 2022; Fuentes et al., 2020; Knee & Neighbors, 2002).

4.4. Limitations

This study examined group and individual differences in ABC with multiple factors. Due to this, our relatively prudent approach to analysis and interpretation may mean that some effects are not reported (a type II error). This was preferred, since several factors (race, student–tutor match, ethnic identity, peer pressure, social support, and substance dependence) were new to the study of ABC, particularly in our convenience sample of a moderate size with a preponderance of younger or female students studying nonvocational courses in modern universities. The latter may explain the relative lack of significant findings in relation to institutional factors, while the uneven sample also calls into question the generalisability of the findings. Increasingly, there is no simple way to distinguish nonvocational courses, with many institutions promoting vocational links (Amiet et al., 2021).

The limitations also include measurement issues, applicable to peer pressure and alcohol dependence due to lower reliability. For the former, the vignette measure was used based on dilemmas that most students face, instead of a longer scale of general statements, while both predicted risky behaviour (Santor et al., 2000), but the scaled measure might have delivered better reliability. Similarly, the reliability of CAGE may have been compromised by binary items or the number of items, where internal consistency is not always reported. This and other substance dependence measures are also more prone to social desirability bias, even though an online anonymous format tends to obtain more genuine responses.

4.5. Future Directions and Applications

This study adds to the literature on ABC by introducing several new correlates, some of which directly contributed to ABC. As new relationships were explored, the study used a cross-sectional design. However, as a construct that is clearly not static and alterable by external regulation (de la Fuente et al., 2021), ABC can be studied longitudinally with

academic or adjustment outcomes. Previous studies with repeated measures in prospective designs (Putwain et al., 2013; Putwain & Sander, 2014) found changes over semesters that predicted later performance and learning emotions. Longitudinal studies with samples in a wider range of subjects over the duration of their course would be highly informative.

The study of ABC has practical applications. Being a primary model for behavioural confidence specific to university studies with good predictive powers, it in part accounts for how some students adapt or perform better than others. Possible interventions can then be data-driven and more targeted. For instance, if male students having higher ABC as well as peer pressure or substance use was a persistent trend within a setting, that may warrant offering incentives to female students to study more proactively (e.g., mentors and study groups) and pastoral guidance that is accessible to male students and sensitive to their peer dynamic and adaptation to university life. Such measures would require ABC and its contributors to be monitored to track changes and observe relationships with each other and academic performance, to identify learning and pastoral needs.

5. Conclusions

The original research questions can be addressed in the context of our study findings:

(1) Male and female students differed on ABC, where male students reported higher levels in some aspects, but ABC did not differ by student race;
(2) Students in traditional universities or on vocational courses reported a higher confidence in verbalising ideas than those in modern universities or nonvocational courses, but ABC did not differ between those with an ingroup tutor and those with an outgroup tutor;
(3) ABC was positively correlated with psychosocial factors of self-esteem and social support, and with ethnic identity for BAME students only, while peer pressure was negatively associated with ABC and dependence on all substances;
(4) Substance dependence predicted a lower attendance, but drug dependence uniquely predicted most aspects of ABC and, with high peer pressure, predicted lower overall ABC.

Studying ABC and its contributors can aid the efforts to improve study-specific self-efficacy and optimism towards more active student engagement and positive outcomes. Where universities cannot alter student demographics or their essential dispositions, a focus on alterable factors that can raise levels of ABC, such as study approach, self-confidence, adaptative behaviour, and support networks, is eminently practicable.

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Abbreviations

The following abbreviations are used in this manuscript:

ABC	Academic behavioural confidence
AMOS	Analysis of Moment Structures
BAME	Black, Asian, and minority ethnic
BCa	Bias-corrected and accelerated
CAGE	Cutting down, Annoyance by criticism, Guilty feeling, and Eye-openers
CFI	Comparative fit index
DAST	Drug abuse screening test
DF	Degrees of freedom
KR	Kuder–Richardson
RMSEA	Root mean square error of approximation
SPSS	Statistical Package for the Social Sciences
TLI	Tucker–Lewis index
UK	United Kingdom
US	United States
VIF	Variance Inflation Factor

References

Allen, H. K., Lilly, F., Green, K. M., Zanjani, F., Vincent, K. B., & Arria, A. M. (2022). Graduate student burnout: Substance use, mental health, and the moderating role of advisor satisfaction. *International Journal Mental Health Addiction*, *20*, 1130–1146. [CrossRef]

Amiet, D., Choate, J., Hoskin, J., & Dart, J. (2021). Exploring attitudes, beliefs and practices of academic staff towards undergraduate career development in non-vocational courses. *Higher Education Research & Development*, *40*(5), 885–900. [CrossRef]

Arjanggi, R., Hartono, H., Adnjani, M. D., & Sholihah, H. (2020, October 30–31). *The contribution of academic behavioural confidence, self-esteem and social anxiety to college student career decision making self-efficacy*. 13th International Interdisciplinary Studies Seminar, Malang, Indonesia. [CrossRef]

Arslan, S., Çardak, M., & Uysal, R. (2013). Student academic support as predictor of academic locus of control in Turkish university students. *Procedia Social & Behavioral Sciences*, *106*, 2460–2469. [CrossRef]

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, *84*(2), 191–215. [CrossRef] [PubMed]

Blake-Beard, S., Bayne, M. L., Faye, J., Crosby, F. J., & Muller, C. B. (2011). Matching by race and gender in mentoring relationships: Keeping our eyes on the prize. *Journal of Social Issues*, *67*(3), 622–643. [CrossRef]

Bunce, L., King, N., Saran, S., & Talib, N. (2019). Experiences of black and minority ethnic (BME) students in higher education: Applying self-determination theory to understand the BME attainment gap. *Studies in Higher Education*, *46*(3), 534–547. [CrossRef]

Cascale, S. (2020). Gender diffeences in self-esteem and self-confidence. In B. J. Carducci, C. S. Nave, A. Di Fabio, D. H. Saklofske, & C. Stough (Eds.), *The Wiley encyclopedia of personality and individual differences: Personality processes and individual differences* (pp. 185–189). John Wiley & Sons Ltd. [CrossRef]

Civitillo, S., Mayer, A.-M., & Jugert, P. (2024). A systematic review and meta-analysis of the associations between perceived teacher-based racial–ethnic discrimination and student well-being and academic outcomes. *Journal of Educational Psychology*, *116*(5), 719–741. [CrossRef]

Cotton, D. R. E., Joyner, M., George, R., & Cotton, P. A. (2015). Understanding the gender and ethnicity attainment gap in UK higher education. *Innovations in Education and Teaching International*, *53*(5), 475–486. [CrossRef]

Deci, E. L., & Ryan, R. M. (2000). The "what" anbbd "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268. [CrossRef]

de la Fuente, J., Sander, P., Garzón-Umerenkova, A., Vera-Martínez, M. M., Fadda, S., & Gaetha, M. L. (2021). Self-regulation and regulatory teaching as determinants of academic behavioral confidence and procrastination in undergraduate students. *Frontiers in Psychology*, *12*, 602904. [CrossRef]

Del Toro, J., & Wang, M. T. (2020). School cultural socialization and academic performance: Examining ethnic-racial identity development as a mediator among African American adolescents. *Child Development*, *92*(4), 1458–1475. [CrossRef] [PubMed]

Ewing, J. A. (1984). Detecting alcoholism. The CAGE questionnaire. *Journal of American Medical Association*, *252*(14), 1905–1907. [CrossRef]

Fagerström, K. O. (1978). Measuring degree of physical dependence to tobacco smoking with reference to individualization of treatment. *Addictive Behaviors*, *3*(3–4), 235–241. [CrossRef]

Field, A. (2018). *Discovering statistics using IBM SPSS statistics* (5th ed.). Sage Publications Ltd.

Fuentes, M. C., Garcia, O. F., & Garcia, F. (2020). Protective and risk factors for adolescent substance use in Spain: Self-esteem and other indicators of personal well-being and ill-being. *Sustainability*, *12*(15), 5962. [CrossRef]

Gellisch, M., Bablok, M., Brand-Saberi, B., & Schäfer, T. (2024). Social diversity in focus: Assessing the impact of socioeconomic backgrounds and work experience on psychological well-being and academic confidence among German first-year medical students. *Education Sciences*, *14*(11), 1173. [CrossRef]

Giret, J. F. (2011). Does vocational training help transition to work? The 'new French vocational bachelor degree'. *European Journal of Education, Research, Development & Policy*, *46*(2), 244–256. [CrossRef]

Henneberger, A. K., Mushonga, D. R., & Preston, A. M. (2021). Peer influence and adolescent substance use: A systematic review of dynamic social network research. *Adolescent Resesearch Review*, *6*, 57–73. [CrossRef]

Kato, T., & Song, Y. (2018). *An advisor like me: Does gender matter?* Research Paper Series, IZA DP No. 11575. IZA Institute of Labor Economics. Available online: https://repec.iza.org/dp11575.pdf (accessed on 11 May 2025).

Keyzers, A., Lee, S. K., & Dworkin, J. (2020). Peer Pressure and Substance Use in Emerging Adulthood: A latent profile analysis. *Substance Use & Misuse*, *55*(10), 1716–1723. [CrossRef]

Kiran-Esen, B. (2012). Analyzing peer pressure and self-efficacy expectations among adolescents. *Social Behavior & Personality*, *40*(8), 1301–1310. [CrossRef]

Knee, R. C., & Neighbors, C. (2002). Self-determination, perception of peer pressure, and drinking among college students. *Journal of Applied Social Psychology*, *32*(3), 522–543. [CrossRef]

Lane, J., Lane, A. M., & Kyprianou, A. (2004). Self-efficacy, self-esteem and their impact on academic performance. *Social Behavior & Personality*, *32*(3), 247–256. [CrossRef]

Mackinnon, S. P. (2012). Perceived social support and academic achievement: Cross-lagged panel and bivariate growth curve analyses. *Journal of Youth & Adolescence*, *41*, 474–485. [CrossRef]

Marôco, J., Assunção, H., Harju-Luukkainen, H., Lin, S. W., Sit, P. S., Cheung, K. C., Maloa, B., Stepanović Ilic, I., Smith, T. J., & Campos, J. A. D. B. (2020). Predictors of academic efficacy and dropout intention in university students: Can engagement suppress burnout? *PLoS ONE*, *15*(10), e0239816. [CrossRef]

Miller-Cotto, D., & Byrnes, J. P. (2016). Ethnic/racial identity and academic achievement: A meta-analytic review. *Developmental Review*, *41*, 51–70. [CrossRef]

Mishra, S. (2020). Social networks, social capital, social support and academic success in higher education: A systematic review with a special focus on 'underrepresented' students. *Educational Research Review*, *29*, 100307. [CrossRef]

Moore, A., Sonnentag, T. L., & Wadian, T. W. (2022). Explaining differences in Black and White students' expected academic success: Why professors' race matters. *Spring Nature Social Sciences*, *2*, 120. [CrossRef]

O'Brien, V., Martinez-pons, M., & Kopala, M. (1999). Mathematics self-efficacy, ethnic identity, gender, and career interests related to mathematics and science. *Journal of Educational Research*, *92*(4), 231–235. [CrossRef]

Ochoa, A. R. Á., & Sander, P. (2012). Contrasting academic behavioral confidence in Mexican and European psychology students. *Electronic Journal of Research in Educational Psychology*, *10*(2), 813–838. [CrossRef]

Orth, U., & Robins, R. W. (2014). The development of self-esteem. *Current Directions in Psychological Science*, *23*(5), 381–387. [CrossRef]

Pearson, M., & Michell, L. (2000). Smoke rings: Social network analysis of friendship groups, smoking and drug-taking. *Drugs: Education, Prevention & Policy*, *7*(1), 21–37. [CrossRef]

Phinney, J. S. (1992). The multigroup ethnic identity measure: A new scale for use with diverse groups. *Journal of Adolescent Research*, *7*(2), 156–176. [CrossRef]

Putwain, D., Sander, P., & Larkin, D. (2013). Academic self-efficacy in study-related skills and behaviours: Relations with learning-related emotions and academic success. *British Journal of Educational Psychology*, *83*(4), 633–650. [CrossRef]

Putwain, D. W., & Sander, P. (2014). Does the confidence of first-year undergraduate students change over time according to achievement goal profile? *Studies in Higher Education*, *41*(2), 381–398. [CrossRef]

Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton University Press.

Russell Group. (2025). Our universities. Available online: https://www.russellgroup.ac.uk/our-universities (accessed on 11 May 2025).

Sander, P. (2009). Current developments in measuring academic behavioural confidence. *Psychology Teaching Review*, *15*(1), 32–44. [CrossRef]

Sander, P., & de la Fuente, J. (2020). Undergraduate student gender, personality and academic confidence. *International Journal of Environmental Research and Public Health*, *17*(15), 5567. [CrossRef]

Sander, P., & de la Fuente, J. (2022). Modelling students' academic confidence, personality and academic emotions. *Current Psychology*, *41*, 4329–4340. [CrossRef]

Sander, P., & Sanders, L. (2003). Measuring confidence in academic study: A summary report. *Journal of Research in Educational Psychology & Psychopedagogy*, *1*(1), 1696–2095. Available online: https://1library.net/document/y8g4k082-measuring-confidence-academic-summary-sanders-university-institute-cardiff.html (accessed on 11 May 2025).

Sander, P., & Sanders, L. (2006). Understanding academic confidence. *Psychology Teaching Review*, *12*(1), 29–42. [CrossRef]

Sander, P., & Sanders, L. (2007). Gender, psychology students and higher education. *Psychology Learning & Teaching*, *6*(1), 33–36. [CrossRef]

Sander, P., & Sanders, L. (2009). Measuring academic behavioural confidence: The ABC scale revisited. *Studies in Higher Education*, *34*(1), 19–35. [CrossRef]

Sanders, L., & Sander, P. (2007). Academic behavioural confidence: A comparison of medical and psychology students. *Electronic Journal of Research in Educational Psychology*, *5*(3), 633–650.

Sanders, L., Sander, P., & Mercer, J. (2009). Rogue males? Approaches to study and academic performance of male psychology students. *Psychology Teaching Review*, *15*(1), 3–17. [CrossRef]

Santor, D. A., Messervey, D., & Kusumakar, V. (2000). Measuring peer pressure, popularity, and conformity in adolescent boys and girls: Predicting school performance, sexual attitudes, and substance abuse. *Journal of Youth and Adolescence*, *29*(2), 163–182. [CrossRef]

Skinner, H. A. (1982). The drug abuse screening test. *Addictive Behaviours*, *7*, 363–371. [CrossRef] [PubMed]

Sumner, B. (2020). Changing notions of risk: The realities of studying in a post-92 university. In B. Bartram (Ed.), *Understanding contemporary issues in higher education contradictions: Complexities and challenges* (pp. 9–20). Routledge. [CrossRef]

Tinajero, C., Martínez-López, Z., Rodríguez, M. S., & Páramo, M. F. (2020). Perceived social support as a predictor of academic success in Spanish university students. *Annals of Psychology*, *36*(1), 134–142. [CrossRef]

Wigfield, A., & Eccles, J. S. (2000). Expectancy-value theory of achievement motivation. *Contemporary Educational Psychology*, *25*(1), 68–81. [CrossRef]

Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The multidimensional scale of perceived social support. *Journal of Personality Assessment*, *52*(1), 30–41. [CrossRef]

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