

PERSONALITY FACTORS AS PREDICTORS OF DROPOUT TENDENCIES AMONG UNDERGRADUATES IN PUBLIC UNIVERSITIES IN CROSS RIVER STATE, NIGERIA

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ABSTRACT

Objective: This study examined whether extraversion, agreeableness, conscientiousness, negative emotionality and open-mindedness, individually and jointly, predict dropout tendencies among undergraduates in public universities in Cross River State, Nigeria.

Method: A cross-sectional survey was conducted with 400 undergraduates from the University of Calabar and the University of Cross River State (200 per institution) across 100 to 400 level. Personality was measured with the 30-item Big Five Inventory-2 Short Form and dropout tendencies with the six-item Dropout Tendency Scale (DTS). Data were analysed with descriptive statistics, Pearson correlations and multiple regression.

Results: The five factors jointly predicted dropout tendencies, $R^2 = .37$, $F(5, 394) = 46.51$, $p < .001$. Conscientiousness ($\beta = -.44$) and negative emotionality ($\beta = .35$) were the strongest predictors, and agreeableness made a smaller negative contribution ($\beta = -.12$, $p = .004$). Extraversion and open-mindedness did not predict dropout tendencies.

Conclusion: Lower conscientiousness and higher negative emotionality, and to a lesser extent lower agreeableness, are associated with stronger dropout tendencies in this sample. Counselling and student-support services in the state may use these factors as indicators for early support, alongside academic and economic considerations.

Keywords: personality factors; dropout tendencies; Big Five; undergraduates; Cross River State; Nigeria

Introduction

Leaving university before completing a degree is rarely a single event, since it usually follows a long decision-making process shaped by the national education system, the institution and the student (Behr et al., 2020). Empirical work has therefore treated the intention to leave as one phase of that process, in which students move from perceiving a poor fit to thinking about quitting, deliberating, and reaching a decision (Bäulke et al., 2021). A review of 14 studies found a positive relationship between dropout intention and actual dropout, although the strength of the relationship varied with context and type of dropout (Findeisen et al., 2024). Reviews of predictors group the evidence into psychological factors and factors of academic and social integration (Véliz Palomino & Ortega, 2023), and the first-year evidence links persistence with self-regulation, self-efficacy, academic goals, institutional attachment and institutional commitment (Reyes-González & Meneses-Báez, 2024).

Studies from different national systems show how varied the correlates of dropout are. In Hungary, a multinomial regression using data from former and current students examined how sociodemographic and institutional factors affect the chance of dropout and the risk of dropout (Pusztai et al., 2022). A Portuguese model combining background, academic, social, psychological and economic variables explained 51% of the variance in dropout intention, with academic exhaustion as the strongest predictor (Gonzalez et al., 2025). Dropout intention has also been related to self-efficacy, institutional commitment and academic integration among Italian students (Morelli et al., 2021), to satisfaction with institutional support in Luxembourg (Hadjar et al., 2022), and to motivation and academic engagement among first-year Italian students in science and engineering programmes (Passeggia et al., 2023).

Nigerian evidence within this source set concentrates on demographic and academic variables. A survival analysis at Modibbo Adama University, Yola, found that gender, cumulative grade point average and programme of study affected dropout (Ahmadu et al., 2024). Evidence on personality and persistence comes mostly from other settings and is mixed. Among 290 Canadian undergraduates, personality measured in the first semester did not predict later withdrawal once high school grades and gender were considered (Wilson et al., 2022), while conscientiousness emerged as a predictor of academic persistence among 754 final-year students at Makerere University (Kipuru et al., 2024). Big Five traits have also been linked to how well students integrate socially at university (Jusri & Lechner, 2024), and non-cognitive profiles have been associated with academic stress and intentions to persist in Singapore (Wong & Chapman, 2022).

Taken together, the Nigerian dropout studies reviewed here rely on demographic and academic predictors, whereas the personality and persistence studies were conducted in Canada, Uganda and Singapore and reach different conclusions about whether personality predicts persistence. Whether personality factors predict dropout tendencies among undergraduates in public universities in Cross River State has therefore not been tested in the evidence examined for this paper. Because dropout intention is a modifiable early signal that precedes withdrawal, a test of personality as a predictor of that signal can inform counselling before students leave.

The study examined whether personality factors predict dropout tendencies among undergraduates in public universities in Cross River State. Five objectives addressed extraversion, agreeableness, conscientiousness, negative emotionality and open-mindedness in turn, and a sixth addressed their joint prediction of dropout tendencies. Each objective corresponds to a research question on the extent to which the factor, or the five factors together, predict dropout tendencies. Five null hypotheses (H01 to H05) stated that extraversion, agreeableness, conscientiousness, negative emotionality and open-mindedness, respectively, do not significantly predict dropout tendencies, and a sixth (H06) stated that the five factors jointly do not predict them. All hypotheses were tested at $\alpha = .05$.

Literature Review

1 Dropout and dropout tendencies

Dropout is best understood as an outcome with several distinguishable stages, and studies of intention, risk and withdrawal answer different questions. Bäumle et al. (2021) separated the phases of non-fit perception, thoughts of quitting, deliberation, information search and decision, and also distinguished quitting studies entirely from changing majors. Qualitative evidence from a Turkish education faculty points the same way, since students who left described a process in which the outcome was either exit from the system or a change of department or university, and in which the reasons for leaving were interdependent (Yilmaz & Sarpkaya, 2022). The link between intention and behaviour is positive but not tight: among trainee chefs, dropout intention correlated with actual dropout at $r = .201$, and the review that accompanied that analysis reported effect sizes that differed between studies and types of dropout (Findeisen et al., 2024). A scoping review of studies published between 2019 and 2023 similarly concluded that many factors influence dropout and highlighted the effectiveness of predictive models and personalised interventions in retention (Alves dos Santos & Pilatti, 2024). Dropout tendencies in this paper follow the intention-based reading and are not treated as equivalent to withdrawal.

2 Factors associated with dropout tendencies

Reviews of the determinants of dropout point to motivation, academic performance and financial hardship as the most frequently reported, with emotional well-being and social integration also showing a substantial influence, while noting that most studies examine isolated variables without linking them to broader institutional frameworks (Valencia-Arias et al., 2026). A study at a STEM institution compared the social, economic and academic characteristics of entrants who left early with those who stayed (Vidal et al., 2022), and among 269 rural Colombian students dropout and permanence were related to the father's educational level, family and work obligations, the need to move residence, academic average and satisfaction with the choice of programme (Guzman et al., 2022). A Peruvian sample of 768 students from nine public and private universities showed that resilience and future orientation were associated with lower dropout intention, with higher intention among male students (Herrera et al., 2025). Among first-year students in Chile, a model linking social support, social self-efficacy and academic purposes with career satisfaction and dropout intention fitted the data adequately (López-Angulo et al., 2023).

Studies of psychological and study-related mechanisms report frustration, engagement and self-efficacy as recurrent influences on the intention to leave. At the University of Patras, frustration, absence from obligatory academic duties and dissatisfaction with the subject increased the tendency to drop out, whereas a sense of effectiveness in studies reduced it (Androulakis et al., 2022). In Spain, engagement directly explained intention to drop out, and the use of self-regulated learning strategies acted indirectly through engagement (Bernardo et al., 2022). Norwegian studies show that academic self-efficacy and students' integration mediate the association between academic skills and attrition intentions, with effects that differ across dropout, university transfer and field transfer (Nemtcen et al., 2020), and that procrastination partly mediates the link between self-efficacy and the same three intentions (Nemtcen et al., 2022). Self-efficacy was the strongest predictor of dropout intention among 790 Italian freshmen, followed by connectedness to the university (Buizza et al., 2024). Context also matters, because teacher education students in Germany reported lower dropout intentions and less social integration than other students, yet the relationships between predictors and intention were the same across programmes (Bohndick, 2020). Personality is one of the stable individual attributes whose contribution to dropout tendencies has received less attention than that of self-efficacy or engagement.

3 Personality factors and persistence

The Big Five framework describes personality through five broad domains, which the Big Five Inventory-2 Short Form labels extraversion, agreeableness, conscientiousness, negative emotionality and open-mindedness (Soto & John, 2017). Direct evidence linking these domains to persistence or dropout is limited and unevenly distributed. Conscientiousness predicted academic persistence among Ugandan final-year students (Kipuru et al., 2024), whereas personality measures did not predict withdrawal in the Canadian cohort once prior grades and gender were included (Wilson et al., 2022). In cooperative higher education programmes, personality and commitment to the training company were reported as key factors in dropout alongside cognitive skills (Wild & Schulze Heuling, 2020). Adjacent constructs point toward emotional stability: early dropout intentions were lower among first-year students with stronger academic identification, while high trait anxiety raised the risk when identification was low or average, and men were at higher risk than women (Bostan-Tofan et al., 2023). Mental toughness likewise reduced first-year dropout intentions, but not among students dissatisfied with their university (Rodrigues et al., 2026).

Indirect evidence comes from the larger literature on academic performance, which should be read as supporting rather than demonstrating a link with dropout. A meta-analysis of 267 independent samples found that conscientiousness was the strongest personality predictor of academic performance and that the contributions of openness, extraversion and agreeableness were larger at elementary and middle school level than later (Mammadov, 2021). A synthesis of 54 meta-analyses reported the strongest association for conscientiousness ($\rho = .19$ overall and $.28$ for academic performance) and near-zero associations of extraversion and neuroticism with academic performance (Zell & Lesick, 2021). School-level meta-analytic evidence shows that the associations vary with subject domain and type of achievement measure (Meyer et al., 2023), and a more recent meta-analysis has addressed university students specifically (Chen et al., 2025). Studies of university samples agree on the importance of conscientiousness. Openness and conscientiousness raised first-year grades among Italian freshmen (Corazzini et al., 2021), and conscientiousness predicted achievement across fields of study once high school performance was controlled (Verbree et al., 2021). In a sample of business students, extraversion and conscientiousness had positive total effects on achievement through self-efficacy and major identity, while the overall effect of agreeableness was negative (Wang et al., 2023). A Libyan study using partial least squares modelling reported that each personality variable affected performance (Shaninah & Noor, 2023), and among health sciences students in the United Arab Emirates conscientiousness and agreeableness correlated positively with performance, while neuroticism and extraversion were more common among unsuccessful students (Begum et al., 2021).

Theoretical framework

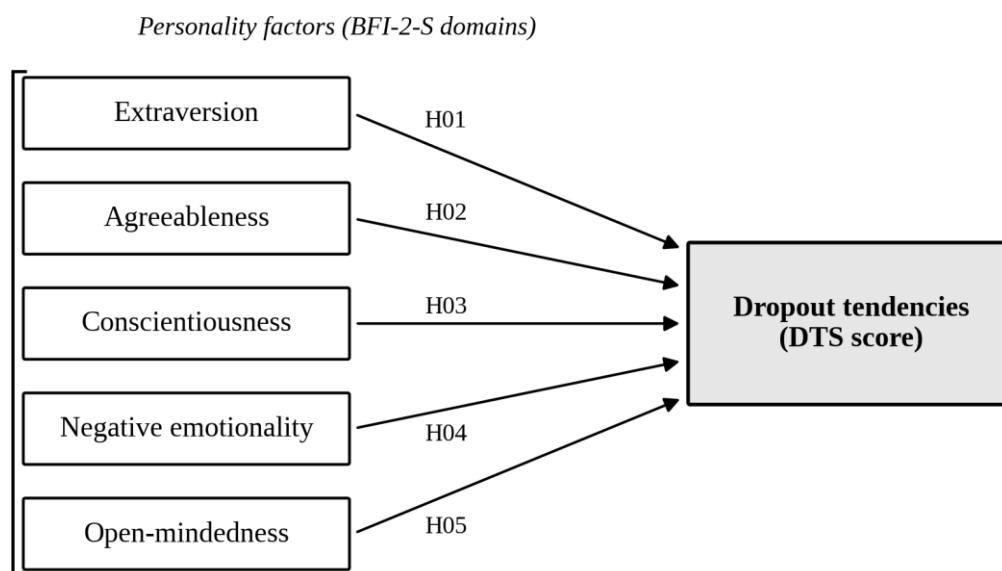
The study is guided by Tinto's (2024) account of persistence, which views retention through students' own perceptions of their engagement with others on campus and the meaning they draw from those engagements, and which places student motivation and networks at the centre of the decision to stay or leave. Tinto's model does not specify personality, but its emphasis on perception creates a place for it, because traits plausibly shape how students interpret and respond to academic demands and social contact. Personality traits have been shown to influence how students integrate with fellow students and teaching staff (Jusri & Lechner, 2024), which supports treating traits as antecedents of the perceptions Tinto describes. These pathways are interpretive and were not tested directly: conscientiousness may support sustained study effort, negative emotionality may amplify perceived strain, and agreeableness may ease relationships that support belonging.

Empirical synthesis and conceptual framework

Across the studies reviewed, conscientiousness is the personality factor with the most consistent link to persistence and achievement, emotional factors such as anxiety and low mental toughness recur in dropout intention research, and extraversion and openness show weak or context-dependent associations. The studies differ in outcome, since most personality evidence concerns achievement and most dropout evidence concerns motivation and integration, and few come from Nigerian public universities. The specific gap addressed here is the joint and separate prediction of dropout tendencies by all five factors in Cross River State. Figure 1 shows the relationships tested, in which each factor is linked to dropout tendencies by a single hypothesis and the five factors are considered jointly in the regression model.

Figure 1

Conceptual framework of personality factors and dropout tendencies



H06: the five factors jointly do not predict dropout tendencies

Methodology

1 Research design

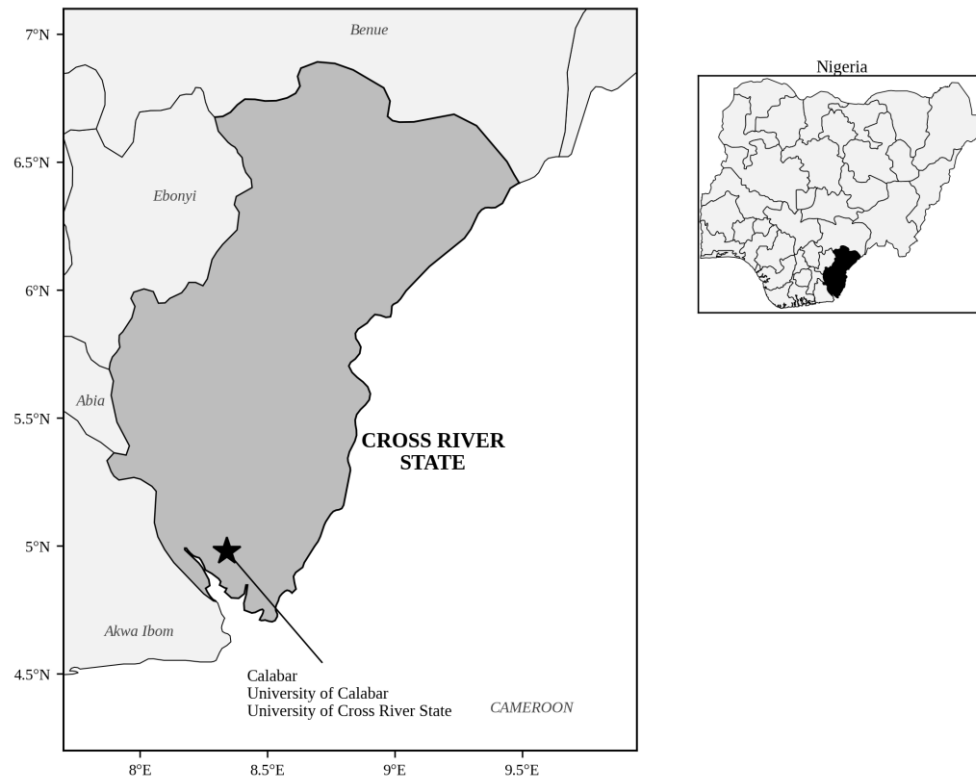
The study used a cross-sectional predictive survey design in which personality factors were the predictors and dropout tendencies were the outcome. The design allows associations to be estimated and tested but does not support causal claims, and it measures the intention to leave rather than actual withdrawal.

2 Study area, population, sample and sampling

The study was conducted in Cross River State, Nigeria, at two public universities: the University of Calabar and the University of Cross River State, a state-owned institution formerly known as the Cross River University of Technology. The main campuses of both are in Calabar (Figure 2). The target population comprised undergraduates enrolled in these universities at 100 to 400 level. The analysed sample contained 400 students, with 200 from each university. Within each university, the numbers at 100, 200, 300 and 400 level were fixed at 55, 55, 50 and 40, respectively, and all 400 questionnaires were complete, so no cases were excluded and no missing-data procedure was needed. Because respondents were allocated in fixed numbers by institution and level, the sample is not a probability sample.

Figure 2

Map of Cross River State and participating universities



Note. The star marks Calabar, where the main campuses of the University of Calabar and the University of Cross River State are located.

3 Measures

Personality was measured with 30 items from the Big Five Inventory-2 Short Form (Soto & John, 2017), which contains six items for each of five domains: extraversion, agreeableness, conscientiousness, negative emotionality and open-mindedness. Items were rated on a five-point scale, three items per domain were reverse-keyed and recoded before scoring, and domain scores were the mean of the six items. Dropout tendencies were measured with the six-item Dropout Tendency Scale (DTS), rated on the same five-point scale, with items 4 and 5 reverse-keyed and the score computed as the item mean, so that higher scores indicate stronger tendencies to leave. Internal consistency in the present sample was high for every scale (Table 1). For the DTS, inter-item correlations ranged from .43 to .56, and a single component accounted for 59.7% of the item variance, with loadings between .73 and .79.

Table 1
Study variables, measures, and scoring

Variable	Measure	Items	Scoring	α
Extraversion	BFI-2-S domain	6 (3 reverse-keyed)	Mean of items, 1 to 5; higher scores indicate stronger standing on the trait	.88
Agreeableness	BFI-2-S domain	6 (3 reverse-keyed)	Mean of items, 1 to 5; higher scores indicate stronger standing on the trait	.86
Conscientiousness	BFI-2-S domain	6 (3 reverse-keyed)	Mean of items, 1 to 5; higher scores indicate stronger standing on the trait	.89
Negative emotionality	BFI-2-S domain	6 (3 reverse-keyed)	Mean of items, 1 to 5; higher scores indicate stronger standing on the trait	.89
Open-mindedness	BFI-2-S domain	6 (3 reverse-keyed)	Mean of items, 1 to 5; higher scores indicate stronger standing on the trait	.87
Dropout tendencies	Dropout Tendency Scale (DTS)	6 (2 reverse-keyed)	Mean of items, 1 to 5; higher scores indicate stronger tendency to leave	.86

Note. BFI-2-S = Big Five Inventory-2 Short Form. α = Cronbach's alpha in the present sample ($N = 400$).

4 Data collection and ethics

Data were collected with a research questionnaire that combined the personality items, the DTS items and background questions on university, gender, age and level of study. Respondents gave consent before taking part and were assured of anonymity, and no names or other identifiers were recorded in the dataset.

5 Data analysis

Item scores were recoded where reverse-keyed, and domain and DTS scores were computed as item means. Descriptive statistics, Cronbach's alpha and Pearson correlations were computed for all study variables. H01 to H05 were tested through the individual coefficients of a multiple regression in which the five personality factors were entered simultaneously to predict the DTS score, and H06 was tested through the overall F test of the model, with a two-tailed significance level of .05. Assumptions were checked using variance inflation factors, the Shapiro-Wilk test on residuals, the Breusch-Pagan test and the Durbin-Watson statistic. Two sensitivity analyses were run, one using heteroscedasticity-consistent (HC3) standard errors and one adding age, level of study, gender and institution as covariates. Analyses were conducted in Python using the statsmodels library.

Results

1 Participant characteristics

Table 2 presents the demographic profile of the 400 participants, who came in equal numbers from the two universities, and who included 215 women (53.8%) and 185 men (46.3%), with ages from 18 to 27 years ($M = 21.81$, $SD = 1.86$).

Table 2
Demographic characteristics of participants

Characteristic	University of Calabar (<i>n</i> = 200)	University of Cross River State (<i>n</i> = 200)	Total (<i>N</i> = 400)
<i>Gender</i>			
Female	114 (57.0)	101 (50.5)	215 (53.8)
Male	86 (43.0)	99 (49.5)	185 (46.3)
<i>Level of study</i>			
100 level	55 (27.5)	55 (27.5)	110 (27.5)
200 level	55 (27.5)	55 (27.5)	110 (27.5)
300 level	50 (25.0)	50 (25.0)	100 (25.0)
400 level	40 (20.0)	40 (20.0)	80 (20.0)
Age in years, <i>M</i> (<i>SD</i>)	21.75 (1.81)	21.86 (1.91)	21.81 (1.86)

Note. Values are *n* (%) unless stated. Age ranged from 18 to 27 years.

2 Descriptive and preliminary findings

Table 3 reports the means, standard deviations, reliability estimates and correlations for the six study variables. The DTS mean was 3.10 (*SD* = 0.62). Dropout tendencies correlated negatively with conscientiousness ($r = -.47, p < .001$) and agreeableness ($r = -.17, p < .001$), and positively with negative emotionality ($r = .39, p < .001$). The correlations with open-mindedness ($r = -.10, p = .054$) and extraversion ($r = -.01, p = .843$) did not reach the .05 level. Dropout tendencies did not differ between universities (Welch $t = -0.27, p = .788$).

Table 3
Descriptive statistics, reliability estimates, and correlations for study variables

Variable	<i>M</i>	<i>SD</i>	α	1	2	3	4	5
1. Extraversion	3.12	0.73	.88					
2. Agreeableness	3.49	0.69	.86	.12*				
3. Conscientiousness	3.23	0.79	.89	.02	.08			
4. Negative emotionality	3.11	0.78	.89	-.04	-.05	-.07		
5. Open-mindedness	3.41	0.72	.87	-.02	.06	.03	-.03	
6. Dropout tendencies (DTS)	3.10	0.62	.86	-.01	-.17***	-.47***	.39***	-.10

Note. *N* = 400. All scores range from 1 to 5. * $p < .05$. ** $p < .01$. *** $p < .001$.

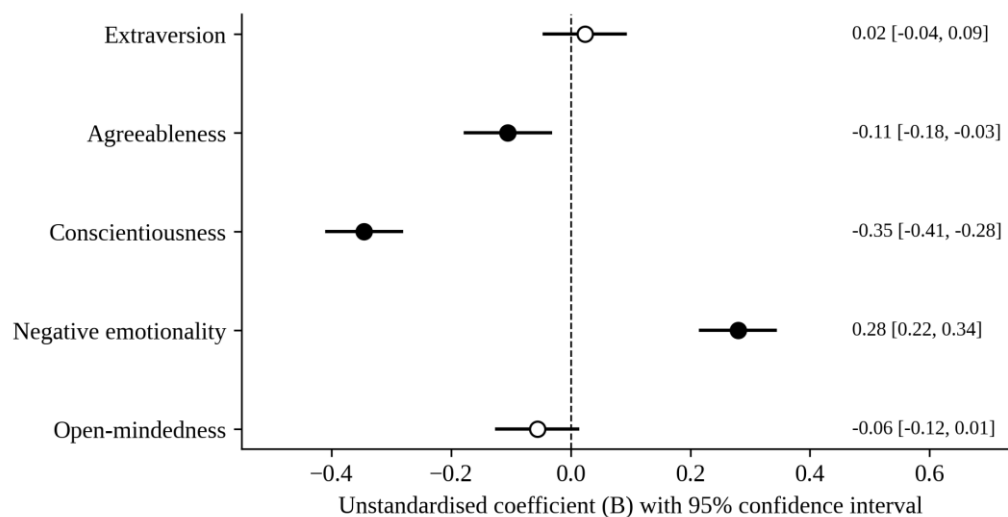
Tests of prediction

The regression model was statistically significant, $F(5, 394) = 46.51, p < .001$, and explained 37.1% of the variance in DTS scores (adjusted $R^2 = .363$). The assumption checks were satisfactory: variance inflation factors ranged from 1.01 to 1.03, residuals did not depart from normality (Shapiro-Wilk $W = .996, p = .383$), the Breusch-Pagan test was not significant ($\chi^2(5) = 5.30, p = .380$) and the Durbin-Watson statistic was 2.06. Table 4 and Figure 3 present the coefficients.

Table 4
Regression results for personality factors predicting dropout tendencies

Predictor	<i>B</i>	<i>SE B</i>	β	<i>t</i>	<i>p</i>	95% CI for <i>B</i>	<i>sr</i> ²
Constant	3.83	0.24		15.82	< .001	[3.36, 4.31]	
Extraversion	0.02	0.03	.03	0.69	.492	[-0.04, 0.09]	.001
Agreeableness	-0.11	0.04	-.12	-2.90	.004	[-0.18, -0.03]	.013
Conscientiousness	-0.35	0.03	-.44	-10.90	< .001	[-0.41, -0.28]	.190
Negative emotionality	0.28	0.03	.35	8.82	< .001	[0.22, 0.34]	.124
Open-mindedness	-0.06	0.03	-.07	-1.62	.105	[-0.12, 0.01]	.004

Note. *N* = 400. $R^2 = .371$, adjusted $R^2 = .363$, $F(5, 394) = 46.51$, $p < .001$. CI = confidence interval; sr^2 = squared semipartial correlation.

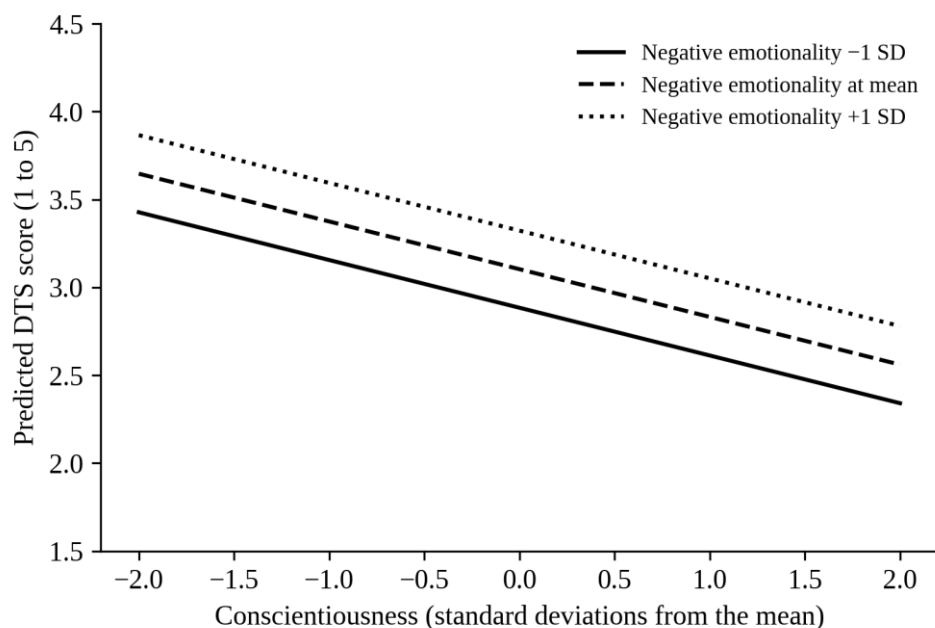
Figure 3
Regression coefficients for personality factors predicting dropout tendencies


Note. Points are unstandardised coefficients from Table 4 and bars are 95% confidence intervals. Filled points indicate $p < .05$.

Conscientiousness had the largest effect ($B = -0.35$, $\beta = -.44$, $p < .001$), followed by negative emotionality ($B = 0.28$, $\beta = .35$, $p < .001$) and agreeableness ($B = -0.11$, $\beta = -.12$, $p = .004$). Extraversion ($p = .492$) and open-mindedness ($p = .105$) were not significant. Conscientiousness and negative emotionality uniquely accounted for 19.0% and 12.4% of the variance in DTS scores, respectively, and agreeableness for 1.3%. Figure 4 shows predicted DTS scores across levels of conscientiousness and negative emotionality, ranging from 2.34 (conscientiousness two standard deviations above the mean, negative emotionality one below) to 3.87 at the opposite extremes.

Figure 4

Predicted dropout-tendency scores across levels of conscientiousness and negative emotionality



Note. Predictions are from the regression model in Table 4, with extraversion, agreeableness and open-mindedness held at their sample means.

HC3 standard errors produced the same pattern of significant and non-significant predictors. Adding age, level of study, gender and institution raised R^2 to .400 ($\Delta R^2 = .028$); the coefficients for the five personality factors changed by no more than 0.01, age ($B = 0.03$, $p = .018$) and level of study ($B = 0.06$, $p = .028$) were positive, and gender and institution were not significant.

Discussion

The five personality factors jointly predicted dropout tendencies, so H06 was rejected, and the model accounted for a little more than a third of the variance. Of the individual hypotheses, H03 (conscientiousness), H04 (negative emotionality) and H02 (agreeableness) were rejected, whereas H01 (extraversion) and H05 (open-mindedness) were not. Students who were less conscientious, more prone to negative emotion and, to a smaller degree, less agreeable reported stronger tendencies to leave. The pattern held after demographic covariates were added.

The conscientiousness result agrees with the direct evidence from Uganda, where conscientiousness predicted academic persistence (Kipuru et al., 2024), and with the achievement literature in which conscientiousness is the most consistent personality predictor (Corazzini et al., 2021; Mammadov, 2021; Verbree et al., 2021; Zell & Lesick, 2021). The present study extends that literature to a tendency to leave, and first-year reviews also link conscientiousness with adjustment and academic performance (Reyes-González & Meneses-Báez, 2024). Conscientious students may sustain the effort and self-regulation that keep them engaged, which fits the roles of engagement and self-regulated learning (Bernardo et al., 2022) and of self-efficacy (Buizza et al., 2024; Nemtcan et al., 2020) in dropout intention.

The negative emotionality result is notable because meta-analytic associations between neuroticism and academic performance are close to zero (Zell & Lesick, 2021), yet here it was the second strongest predictor of the tendency to leave. Trait anxiety has been reported as a risk factor for early dropout intentions when academic identification is low (Bostan-Tofan et al., 2023), and neuroticism was frequent among unsuccessful health sciences

students (Begum et al., 2021). Negative emotionality may therefore act on the wish to leave through emotional strain rather than through grades, although this study did not measure that experience. The agreeableness effect was small and negative, which is compatible with the relational function attributed to the trait but contrasts with the negative overall effect on achievement reported for business students (Wang et al., 2023). The absence of an extraversion effect is in line with near-zero associations with academic performance (Zell & Lesick, 2021) and with the finding that extraversion relates only to integration with fellow students (Jusri & Lechner, 2024). Open-mindedness was not a significant predictor, and its influence on achievement has been reported to be weaker beyond the early school years (Mammadov, 2021), although it raised first-year grades in Italy (Corazzini et al., 2021).

The Canadian cohort found no personality effect on withdrawal once prior grades and gender were included (Wilson et al., 2022). That study followed enrolment for four years with 290 students, whereas the present study measured intention at one time point, and the correlation between intention and actual dropout was .20 in the trainee sample analysed by Findeisen et al. (2024). Differences in outcome, sample and controls may explain the divergence, and the present results should not be read as predicting withdrawal.

The findings are compatible with Tinto's (2024) perception-based account if conscientiousness and negative emotionality shape how students experience their engagement and how they cope, and the results add support for including stable individual differences among the antecedents of the perceptions that account emphasises. In counselling and student-support practice, low conscientiousness and high negative emotionality can prompt early contact, with study-skills and self-regulation support for the first and stress-management support for the second. Traits should be one indicator among others, since motivation, academic performance and financial hardship are frequent determinants (Valencia-Arias et al., 2026) and the model left about 63% of the variance unexplained.

Conclusion

Personality factors jointly predicted dropout tendencies among undergraduates in the two public universities studied, explaining 37% of the variance in a model containing five predictors. Lower conscientiousness and higher negative emotionality were the strongest predictors, agreeableness contributed modestly, and extraversion and open-mindedness did not contribute. The study adds evidence from Cross River State to a literature drawn mostly from other settings. Universities in the state may consider brief screening for low conscientiousness and high negative emotionality within counselling services, coupled with study-skills, self-regulation and stress-management support, while treating these traits as indicators of need rather than fixed labels. Longitudinal designs, wider institutional coverage and behavioural outcomes are needed before the findings are extended to actual withdrawal.

Several limitations of design, sampling and measurement qualify these conclusions. The design is cross-sectional and relies on self-report, so the direction of effects cannot be established, and the outcome is an intention rather than withdrawal. The sample was allocated in fixed numbers by institution and level, and no sampling frame or response rate is available, so it cannot be assumed to represent all undergraduates in the state. Only two universities were included, and the DTS has limited validation beyond the internal structure reported here. Future studies should follow students longitudinally to link tendencies to actual withdrawal, include more public universities, and add mediators such as academic identification and satisfaction (Bostan-Tofan et al., 2023; Rodrigues et al., 2026).

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