

# Is Gender Associated with Proactivity: An Investigation in Higher Education

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**Abstract**— The social characteristics of students have in recent studies shown to be highly influential in their learning and achievement (academic and non-academic). Of the many characteristics, proactivity has been seen to be an essential attribute for success in areas such as workforce, health and education sectors. This research paper considers the possible association between proactivity and gender. Three measures of proactivity namely proactive personality, proactive confidence and proactive behaviour were used. The analytics and tests showed that the proactivity levels do not differ between genders, at least in the unique settings of South Pacific. The results were attributed to the Pacific way of life and the unique culture and tradition of the South Pacific region.

**Keywords**— Proactivity, Gender, South Pacific, Higher Education, Proactive: Personality, Confidence, Behavior.

## I. INTRODUCTION

Student attrition amongst first year students is one of the most challenging issues faced by Higher Educational Institutes (HEI) worldwide [1]. It is an ongoing challenge for universities to ensure that enrolled students do not cancel their entire program, withdraw from a course or fail to enroll in the upcoming semester [2]. As such HEI's allocate a vast amount of resources towards research so as to develop programmes and support mechanisms to marginally reduce student attrition rates [3, 4, 5, 6].

Research focusing on freshmen student attrition occurrences reveals that there is a multitude of factors that contribute towards a student's decision to drop out during their first year of studies. Studies in the literature such as [7, 8] outlined a range of factors including: pre-entry information, preparation and admission processes; induction and transition support; learning and teaching, assessment and curriculum development; social engagement; student support, including financial and pastoral services; and improved use of institutional data that play a significant role in student attrition and completion of program. These findings are also reflected in student attrition and retention models by Tinto [9, 10] whereby pre-college characteristics of students such as family background, personal attributes, intellectual and social skills, dispositions, and pre-college education and achievements can also potentially lead to non-completion of students' first year studies. One such personality attribute which is recently gaining attention and momentum in research is proactivity.

According to Crant [11] proactivity is an attribute where an individual takes initiatives to create favourable circumstances by challenging the status quo rather than passively adapting to present conditions in order to succeed. Proactivity can be measured using three personal constructs which are proactive personality, confidence to perform proactive learning and frequency of proactive behaviour. This further translates into three indicators to student success which are: self-directed learning, mastery orientation to learning, and academic grades [12]. Lounsbury [13] states that self-directed learning is considered to be central to academic success because it is one of the key initiatives taken by learners to identify and meet their learning needs.

According to Geertshuis [12] proactivity is a determinant of student success and can marginally reduce student attrition rates. Relatively, there are many facets of proactivity that can be further developed. It is therefore the responsibility of HEI's to focus on how to promote proactive learning and how learner proactivity can be enhanced and conditioned in the early stages of an undergraduate students learning journey. Given the importance that proactive behaviour has towards student academic persistence and success it was deemed worthwhile to investigate if proactive behaviour, confidence and personality is associated with other important variables such as gender.

Drawn from a broader research study on the importance of proactivity in HEI's, the underlying premise of this paper is motivated by the absence of research on proactivity in the educational context and the resulting challenges and opportunities in that area that remains to be explored. Considering the unique social and cultural structures of the South Pacific region, this study aims to investigate if gender binary has any implications on the proactive: personality, behaviour and confidence levels of first year students at a regional university. The findings can provide baseline data for further research as well as guidance for interventions in terms of developing programmes and support mechanisms to reduce student attrition rates amongst first year university students.

## II. BACKGROUND

### A. Student Retention Models

The transition from high school to university educational system is an important one, where multiple factors emerge and

interplay when considering the academic success of students. Over the years, several studies have been done that focus on identifying the key factors that determine student success. One of the pioneering work was done by Vincent Tinto in 1987 in his book *Leaving College: Rethinking the Causes and Cures for Student Attrition*. He theorized that the “*decision to drop out arises from a combination of student characteristics and the extent of their academic, environmental and social interaction in an institution*” [14]. Tinto’s original model [9] identified five categories that determined the students’ drop decision as displayed below Fig. 1.

In Tinto’s later works he developed a longitudinal, explanatory model of departure [10], as shown in Fig. 2. In this, he expanded on his previous work and added to his original model. He proposed that the stronger the individual’s level of social and academic integration, the greater his or her subsequent commitment to the institution and to the goal of college graduation would be.

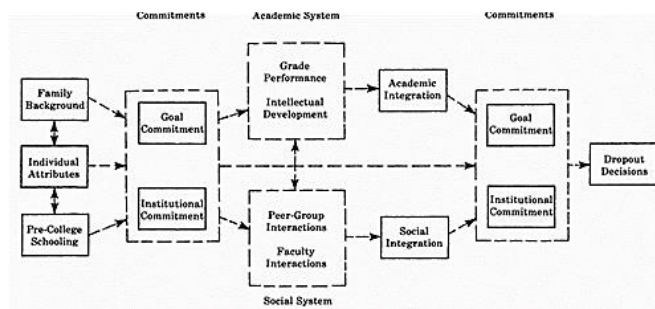


Fig. 1 A Conceptual Schema for Dropout from College (Tinto 1975)

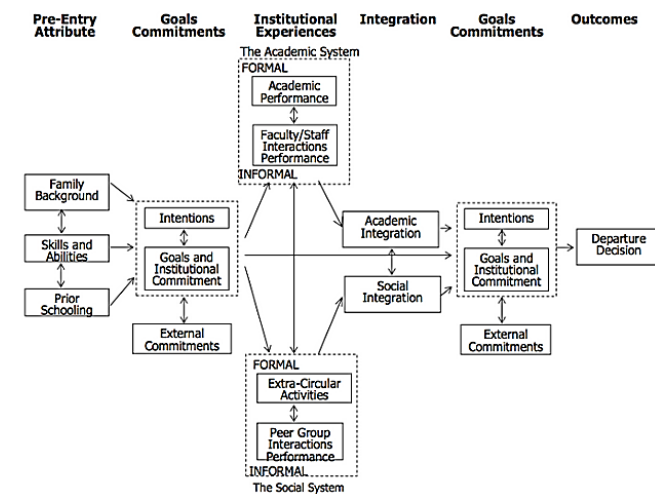


Fig. 2 A Mod Schema for Dropout From College (Tinto 1993)

Tinto’s work along with the works of other authors such as W. G. Spady and J. P. Bean, focuses on identifying the student drop out behavior and what attributes influence their decision. In Tinto’s dropout model, the inclusion of non-academic attributes of students such as family background, seems the best fit for social attributes of students. These social attributes can include self-efficacy, peer- engagement and proactivity, to name a few, these could be specific to gender and ethnicity. By identifying and understanding such attributes, the university can identify students that could be struggling and then provide the required support.

## B. Proactivity Defined

Proactivity is defined as a self-initiated and future-oriented action that aims to change and improve an associated situation [15]. Proactivity has been identified as a key determinant of success across several domains such as work performance [16], career success [17], charismatic leadership [18] and academic success [12]. Furthermore, Martínez [15] states that individual who is high in proactivity passively searches and takes advantage of upcoming opportunities, shows initiatives, and works towards the goals till it is achieved. Parker [19] states that proactivity involves self-initiated efforts which enables an individual to bring about positive changes in ones environment by making things happen, anticipating and preventing problems rather than rectifying problems after they occur. Crant & Bateman [18] further state that proactivity is about taking initiatives to change the current situation by taking control to make things happen rather than passively watching.

## C. Proactivity Dimensions

According to literature, there are many dimensions of proactivity. Martínez [15] state the dimensions of proactivity as attitude, commitment, responsibility adaptation to change and emotional sense. Parker [19] suggests that proactivity has three key attributes: It is self-starting, change oriented, and future focused. Additionally, Crant [11] states that the four attributes which are related to proactive behaviour are proactive personality, personal initiative, role breadth, self-efficacy, and taking charge. Numerous studies have been conducted on the relationship between an individual’s proactivity and his successful performance at an organisational level [15, 17, 19]. However, there does not seem to be a substantial amount of literature on proactivity within the higher education context [12].

Some researchers such as [12, 20] have found a positive relationship between proactivity and learning processes amongst students. It is therefore critical for HEIs to foster different facets of proactivity so that academic success can be realised by students through tailored early interventions in year one of undergraduate studies [12]. There is an obvious need for further research to explore the relationship proactivity has with other variables known to influence and be indicators of student success.

## D. Gender Binary

Gender has been identified as a major personal variable that contributes towards enhancement of a student’s self-regulated learning [21]. Educational statistics and worldwide media have reported a transparent gender gap in academic achievement between males and females with males lagging behind female in terms of subject grades, university level enrolment and completion and university level graduation [22, 23]. Researchers Majzub and Rais [24], argue that male underachievement could be a topic of critical importance both in Malaysia and round the world. In their research, they found that girls were outperforming boys in most subject domains whether it was science or non-science majors. [24] also stated the circumstances worsened as students progressed through the various levels of education with eventual tertiary level registration reflecting a 65–35% enrollment of females relative to males. Hartley and Sutton [25], studied the gender issues which is associated with male underachievement and came up with that children as young as 4 years old thought that adults believed that males were academically inferior to

women. Additionally, the study also revealed that young children were also susceptible to stereotype threat manipulation where boys performed worse in writing, reading and arithmetic once they were told that they typically performed worse than females.

According to [26, 27], no significant associations between gender and intelligence are found despite reported indicators of gender differences in specific domains, like females scoring higher in verbal tests and males scoring higher in visuospatial tests [28, 29, 30, 31]. Because males and females have similar overall intelligence level, looking beyond the concept of ability is also an efficient approach to know why females generally have better school grades [26, 29, 30].

Gib [27] who identified biological factors like brain organization as relevant to gender differences in achievement, also suggested that the role of dimensions such as behavioural and personality traits such as proactivity also needs to be taken into consideration. This is also reflected in the research carried out by Pillow, [32] who has studied gender differences amongst students in relation to their academic performance and has highlighted that an individual's background is one of the most significant and influential characteristics which contributes to academic success of students. The differences in these dimensions that results from dissimilar patterns of educational and social expectations for males and females [30], may cause different patterns of student behaviour in Higher education and therefore leading students through varying success challenges.

#### E. Student Population in the Region by Gender

The following summarizes the student enrolments by gender data with reference to the University of the South Pacific's (USP) Annual Report for the 2016-2018 triennium [33, 34]. In 2016, the enrolled number of female students was 8,820 whereas males 10,228.4. In 2017, the enrolled number of females was 8,263 whereas Male 7,208. In 2018, the enrolled number of females was 11,085.5 whereas Male 8537.5. When comparing the number of male and female students enrolled in 2017 to 2018 the percentage showed 56.49% of females enrolled whereas 43.51% of males enrolled. From 2016 to 2017 the percentage showed 55.32% of females enrolled whereas 44.68% of males enrolled. Comparing the triennium record by gender it is quite clear that the number of females enrolled at the University of the South Pacific is higher than the male.

### III. METHODOLOGY

#### A. Settings

This study adopts a quantitative research approach whereby the research design follows a survey methodology. The study sets out to identify any significant differences in proactivity levels between the male and female gender groups in the context of first year undergraduate students in higher education. The course chosen from the USP for this study is UU100 - Communication and Information Literacy. It is a 14-week first year compulsory undergraduate course offered in blended and online modes at all the 12 campuses and various centers in university's member countries across the south pacific region. The aim of this course is to ensure that all incoming students develop knowledge and competence in the use of computers and information resources. The course is also designed to address the broader imperative for students to develop their capacity to locate, access, evaluate and use information efficiently and effectively.

#### B. Participants and Platform

With first year undergraduate students as the targeted participants; an online questionnaire using a 7-point Likert scale ranging from "strongly disagree" to "strongly agree" was designed to determine proactivity levels. Reliability test of the adopted questionnaire was done by [12]. The survey in part captures demographic information and includes sections that measures goal orientation, self-directed learning, student wellbeing, positive affect, proactive behaviours, and students' feelings about their course (as measured by feelings related to belonging, leaving and overall satisfaction).

The target population comprises of students from various backgrounds and campuses and are enrolled in different academic programmes given that the course must be undertaken by all first year students as mandated by the university. The electronic questionnaire was distributed via the institution's learning management system specifically the UU100 Course Moodle shell. To ensure sufficient uptake, a link to the questionnaire was advertised to students through various methods including course announcement forum postings, Moodle direct messaging and email distribution. The students' responses to the online questionnaire were automatically saved in Moodle once the students completed and submitted the same. The questionnaire was open to students for one week with an average time of 15 minutes taken to fill in the questionnaire. The student's responses were consented and confidential. Responses were not studied individually but compiled and analyzed collectively as a group. The details of the participants were anonymous and the responses were only used for analysis purposes for this study. Ethics clearance was also sought from the research admin office of the university.

#### C. Analysis Methods and Tools

For analysis, MS Excel and IBM SPSS Statistics 20 were used and descriptive and correlation analysis were carried out. Kolmogorov-Smirnov and Shapiro-Wilk tests were used for normality. To test the hypothesis, Mann-Whitney U tests were carried out.

### IV. RESULTS

Fig. 3 shows the sample distribution of the data. The gender composition of the sample data was imbalanced as majority of the respondents were females (1170) compared to only 595 males who participated in the survey.

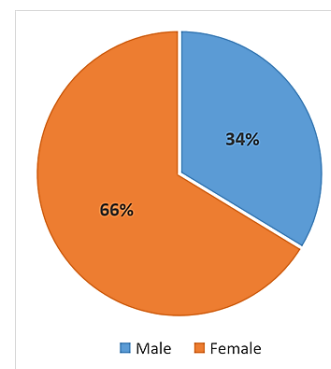


Fig. 3 Sample Distribution

The averages of the three proactivity measures, that is, proactive personality, proactive confidence and proactive behaviour of males and females are presented in Fig. 4. The results show that there is a difference in the averages of each

measure of proactivity between males and females but further analysis is required to test if these differences are statistically significant. To select an appropriate test to compare the means, there was a need to determine if the sample data was drawn from a normally distributed population. Table I displays the results of the normality test.

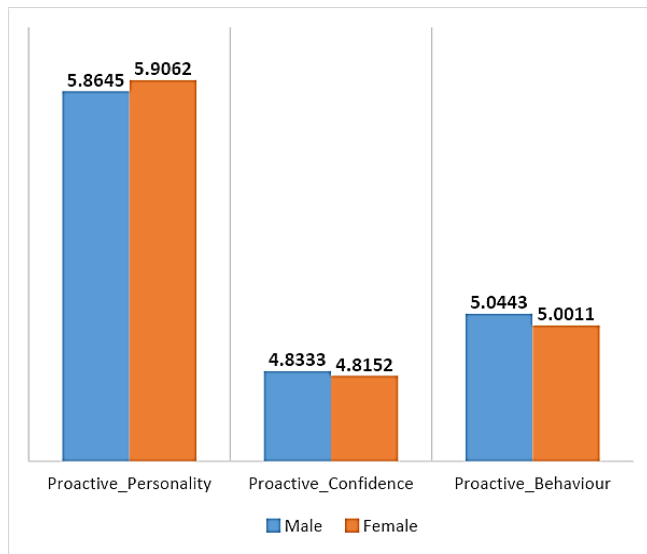


Fig. 4 Average scores of proactive personality, confidence and behaviour for males and females.

Table I. Test for Normality

| Gender | Kolmogorov-Smirnov <sup>a</sup> |      |      | Shapiro-Wilk |      |      |      |
|--------|---------------------------------|------|------|--------------|------|------|------|
|        | Statistic                       | df   | Sig. | Statistic    | df   | Sig. |      |
| 1      | Proactive_Personality           | .113 | 595  | .000         | .892 | 595  | .000 |
|        | Proactive_Confidence            | .039 | 595  | .028         | .988 | 595  | .000 |
|        | Proactive_Behaviour             | .051 | 595  | .001         | .985 | 595  | .000 |
| 2      | Proactive_Personality           | .114 | 1170 | .000         | .901 | 1170 | .000 |
|        | Proactive_Confidence            | .058 | 1170 | .000         | .985 | 1170 | .000 |
|        | Proactive_Behaviour             | .056 | 1170 | .000         | .981 | 1170 | .000 |

a. Lilliefors Significance Correction

The two tests used to determine the distribution of the data were the Kolmogorov-Smirnov and Shapiro-Wilk tests for normality. The results obtained from both these tests suggest that there is not enough evidence (Sig. < 0.05) to accept the null hypothesis that the samples were taken from populations with similar distribution. Based on the results, it was then decided that a non-parametric test be used to compare the means of the two groups. Since there were two independent groups involved (male and female), the Mann-Whitney U test was found to be the most appropriate test for the current data.

Three null hypothesis were tested in this research:

- $H_0(1)$ : There is no difference in the proactive personality of males and females.
- $H_0(2)$ : There is no difference in the proactive confidence of males and females.
- $H_0(3)$ : There is no difference in the proactive behaviour of males and females.

The results of the hypothesis tests using the Mann-Whitney U test are provided in Table 2.

Table II. Comparing means of males and females

|                        | Proactive Personality | Proactive Confidence | Proactive Behaviour |
|------------------------|-----------------------|----------------------|---------------------|
| Mann-Whitney U         | 339450.000            | 347139.500           | 342281.500          |
| Wilcoxon W             | 516760.000            | 1032174.500          | 1027316.500         |
| Z                      | -.853                 | -.092                | -.573               |
| Asymp. Sig. (2-tailed) | .394                  | .926                 | .567                |

The results indicated that there is no significant difference in the proactive personality between males and females ( $U = 339450.000$ ,  $p = 0.394$ ). Similar findings are suggested for the second hypothesis which shows that there is no difference ( $U = 347139.500$ ,  $p = 0.926$ ) between the proactive confidence of males and females meaning that both the gender have equal confidence of performing proactivity. For the third hypothesis the Mann-Whitney U test shows that again there is no statistical significant difference ( $U = 342281.500$ ,  $p = 0.567$ ) in mean of proactive behaviour between the males and females.

## V. DISCUSSIONS

There is continuous effort made by HEI's in the retention of students and to curb attrition rates. This requires student support mechanisms to be designed adequately to address factors that lead to student success, one of which is proactivity of undergraduate students which forms the premise of our broader research. This paper particularly is focused on exploring gender as a potential proactivity related variable that could play a significant part in student preparedness when commencing undergraduate studies at HEIs. The findings from this case study suggests that there is no significant difference between the proactivity levels of the two legally recognized gender binary groups in the South Pacific region. Both the females and males have an equal ability to participate proactively, voice their opinions and can take initiatives in their undergraduate academic journey.

Therefore, the results support the null hypothesis that stated;  $H_0(1)$ : There is no difference in the proactive personality of males and females,  $H_0(2)$ : There is no difference in the proactive confidence of males and females,  $H_0(3)$ : There is no difference in the proactive behavior of males and females. From these results we can infer that proactive student behavior, confidence and personality has no biased association with specific gender groups. These findings are not only prevalent in student behavior in an academic setting but also present in the work environment [35], which shows that there is no relationship between gender and proactive work behavior.

Some of the reasons why the level of proactivity may be the same for males and females could be due to the empowerment of women at the international and regional levels, where there has been an increased number of projects initiated by the United Nations and local governments in line with the global Sustainable Development Goals that promote gender equality and women empowerment. The advancement of ICT in the region and new pedagogical tools that allows students the flexibility to learn from anywhere/anytime [36]. There has been insightful research done in the area of proactivity although this has unfortunately been limited to employees, organizations and workplace practices but scarcely in the field of education which warrants the need to further research other facets of proactivity in our regional setting that could help establish generalizability and be used to further advance related studies.

## VI. LIMITATIONS

The authors acknowledge and respect the existence of numerous genders with literature suggesting more than 72 gender types that are currently known. This understanding is founded on the realization that gender is not exclusively based on human anatomy but rather in a broader spectrum

individuals' expression and feelings that form their gender identities. The limitation of this study is restricted by the design of the questionnaire with consideration given to a gender binary approach since the target audience is governed by existing laws particularly in the South Pacific Island Countries that are still in process of reviewing and amending laws to fully recognize gender diversity. Therefore, future studies will incorporate and explore the same.

## VII. CONCLUSION

As part of a broader study, this paper investigates alternative indicators of proactivity particularly gender binary and its association with proactive personality, proactive confidence and proactive behavior. It presents findings drawn from online survey responses of 1765 undergraduate students. Appropriate reliability and validity tests were conducted in order to draw inferences based on reliable results. The study reveals, that there is no significant difference between male and female undergraduate students in terms of proactive: personality, behavior and confidence which suggests that gender binary groups both have equal opportunities of being successful students by adopting self-directed learning habits, achieving mastery orientation towards learning and subsequently achieving good grades. The findings also provide direct implications for design of teaching and learning in higher education independent of gender consideration the need to incorporate proactive learning strategies with rigor across the curriculum and not just awareness of the same in introductory orientation and induction programmes. Further studies in exploring association of proactivity with different facets of undergraduate student success will allow us to better inform our area of practice and establish the key ingredients in nurturing proactivity in students. Overall, with all the tests conducted, it can be concluded that gender equality is prevalent when it comes to proactivity amongst undergraduate students in the academic context.

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