

Article

The Analysis of Bursary Satisfaction and Learning Performance for Disadvantaged Students: A Case Study from Taiwan

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Abstract: For the majority of people, bursaries are a significant concern during their academic careers. This research focuses on how satisfied subsidized students are with the program and how it affects their ability to learn after receiving disadvantaged students' bursaries. The study analyzes the 1788 questionnaires returned by students who received the "Dream. Set Sail. Turn Life" Underprivileged Learning Scholarship for three academic years from 2019 to 2021. The data were collected from a university in Taiwan. The primary purpose is to explore the students' satisfaction with implementing the plan and provide a further analysis of satisfaction and learning effects. The research shows that the rest of the questions are significant, except that applicants can learn more professional skills. The following are the priorities: positive impact on the life and future of subsidized students, expanding personal horizons, improving employability, learning more professional knowledge, reducing the economic pressure of studying, and eliminating the need for work-study. In addition, the overall satisfaction of the recipients with the program will also affect their learning outcomes (academic performance). While using the overall satisfaction of the program to perform regression on the learning effect, it was found that the subsidized recipients significantly impact the overall satisfaction of the program and their learning effects. The higher the subsidized recipients' overall satisfaction with the program, the more significant the learning effect.

Keywords: bursary satisfaction; disadvantaged students; learning performance



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1. Introduction

Education is a fundamental aspect of human development and has been recognized as a critical tool for overcoming socioeconomic disparities [1]. However, disadvantaged students need help accessing quality education due to financial constraints. Bursaries have become an essential means of providing financial assistance to these students, enabling them to access higher education [2]. Bursaries are designed to provide financial aid to students from disadvantaged backgrounds who may not have the resources to pay for their education. Bursaries can be awarded based on merit, need, or a combination of the two [3,4]. The provision of bursaries effectively promotes equitable access to higher education, reduces the financial burden on disadvantaged students, and enables them to achieve their academic goals [5,6].

Bursaries not only support disadvantaged students financially but also help to boost their confidence and motivation by recognizing their academic potential [7]. Bursaries can also enhance the social mobility of disadvantaged students, providing them with opportunities to pursue careers that may have been previously out of reach [8,9]. The Higher Education Development Plan is a five-year plan promoted by the Taiwan Ministry of Education in 2018 [10]. Its purpose is to encourage students' learning autonomy and cultivate outstanding talents, and to "implement teaching innovation", "fulfill social responsibility", "enhance the publicity of higher education", and "develop school characteristics", which are the four primary goals of the university's future development.

The Ministry of Education has designed a program to support financially or culturally disadvantaged students in their tertiary education [10,11]. This program includes various measures such as improving the guidance mechanism for learning and enhancing employability as part of the higher education plan. Under this program, college students from families whose income falls in the bottom 40% can receive government or school grants to fund their studies. The research is based on the questionnaire database returned by the students who received the “Dream. Set Sail. Turn Life” bursary for underprivileged learning in 2019–2021.

The main purpose of the study was to analyze the satisfaction of students who have received bursaries with the plan. Additionally, it was to then examine the correlation between satisfaction and learning effectiveness to find out the actual aspects that need to be improved and strengthened accordingly. Therefore, the university policymaker could maximize the effectiveness of limited resources and achieve the benefits of precisely assisting students. At the same time, feedback was also obtained from the qualitative responses of the subsidized students as suggestions and evaluations for the follow-up bursary system [12].

In the previous study, Latief and Lefen 2018 [13] presented an analysis that used the analytical hierarchy process (AHP) to analyze the Chinese Government Scholarship (CGS) program for international students. The study evaluated the relative importance of different factors influencing the scholarship program, such as scholarship amount, the academic reputation of the institution, and language requirements. The study’s findings can provide insights for policymakers and international students considering applying for the CGS program. Campbell and Neff [14] comprehensively analyzed scholarships for higher education offered to students from the Global South.

The paper identified and compared the various types of scholarships, eligibility criteria, the application process, and other relevant factors for international scholarships. The review highlighted the importance of scholarships in promoting equity and diversity in higher education and recommended ways to improve access to these scholarships for students from under-represented regions. Matalka and Dwakat [15] investigated the academic challenges students face in maintaining the cumulative grade point average (CGPA) required by donors for continued scholarship support. The study explored the factors contributing to the low academic performance of scholarship recipients, including financial constraints, time management, and academic pressure.

The paper recommended mentorship, academic counseling, and financial aid to improve scholarship recipients’ academic performance and retention. In another study, Dong and Chapman [16] examined the Chinese Government Scholarship Program (CGSP) as a form of foreign assistance. The study analyzed the program’s impact on the educational attainment and employment outcomes of international students who receive scholarships to study in China. The authors used a mixed-methods approach that included a survey of CGSP recipients and interviews with program officials and international students. Makinda and Turner [17] examined the effectiveness of Australia’s scholarship program in Africa. The study analyzed the program’s impact on the educational attainment and professional outcomes of African students who receive scholarships to study in Australia.

The primary purpose of this study is to explore students’ satisfaction with implementing the bursary plan and provide further analysis of satisfaction and learning effects. The study highlights the positive impact of the program on the lives and future of the recipients, expanding their personal horizons, improving their employability, learning professional knowledge, and reducing their economic pressures of studying.

The remainder of the paper is organized as follows: The literature review, theory and hypotheses are presented in Section 2. The information gathering and research procedures are detailed in Section 3. The outcomes and analysis are presented in Section 4. The discussions are shown in Section 5. Additionally, the concluding insights and recommendations are presented in Section 6, and Section 7 details the limitations and future scopes.

2. Literature Review

The papers for this literature review were searched and downloaded from Scopus and Google Scholar. Previous studies have shown that financial aid positively impacts student learning outcomes. Rab et al., however, stated that more research needs to be conducted on the relationship between bursary satisfaction and learning performance [18]. In another study, Qi et al. [19] investigated the impact of two types of financial aid systems, government-sponsored and university-based financial aid, on student academic achievement and career development. The research method was a survey questionnaire distributed to 1000 undergraduate students in four Chinese universities. Lin [20] studied the relationship between financial aid, student satisfaction, and academic achievement among university students in Taiwan. The study found that financial assistance was positively correlated with student satisfaction and academic achievement.

The results showed that students who received financial aid had higher levels of satisfaction with their education and achieved better educational outcomes than those who did not. In another study, Kubaisi [21] examined the impact of financial aid on the academic achievement of low-income students in Taiwan. The study found that financial support significantly positively affected academic achievement. The results indicated that low-income students who received financial aid had higher academic achievement than those who did not. Wu [22] examined the impact of Taiwan's higher education expansion on low-income students.

The study found that higher education expansion has increased overall enrollment rates, but low-income students face significant barriers to accessing higher education. Despite efforts to increase financial aid and scholarships, low-income students are still under-represented in higher education, especially in elite institutions. In a recent study, Kenedi [23] found that the scholarship program positively impacted the academic performance of low-income students, especially those with lower initial academic performance. The program increased the number of students who graduated with a degree and helped reduce the educational gap between low-income students and their wealthier peers. Furthermore, the study suggested financial aid is more effective when combined with academic support and guidance.

The study presents a unique investigation of the relationship between bursary satisfaction and learning performance for disadvantaged students in Taiwan. Previous research has focused only on the effects of financial aid on academic achievements, and this study specifically examines the degree of satisfaction among students receiving bursaries and how it might influence their academic performance. The novelty of this study lies in its focus on a specific population of disadvantaged students and their bursary satisfaction as a predictor of their learning performance. The main contribution of this research is to investigate how satisfied students are with the implementation of the bursary program, and to conduct a more detailed analysis of the program's impact on satisfaction and learning outcomes. The study emphasizes that the program has had a favorable influence on the recipients, enabling them to broaden their personal horizons, improve their employability, learn professional knowledge, and alleviate the financial strain of pursuing their studies.

The study addresses a gap in the literature by exploring how bursary satisfaction affects learning performance and identifying the key factors that influence bursary satisfaction. The study also highlights the experiences of disadvantaged students in accessing financial aid. It provides insights into the pattern that the higher the subsidized recipients' overall satisfaction with the program, the more significant the learning effect. Additionally, the study provides valuable insights into the bursary system in Taiwan and offers recommendations for improving support for disadvantaged students. Overall, the novelty of the contribution is to understand how bursary satisfaction can impact the academic performance of disadvantaged students and the implications of the relationship between policy and practice in higher education.

2.1. The Definition and Function of the Bursary

Policies aimed at widening participation (WP) seek to address the disparities in the take-up of higher education between different social groups. Evidence suggests that young people from low-income backgrounds, those who live in areas with historically low rates of higher education participation, and those who are the first generation in their family to go to university are amongst the most under-represented groups. WP policies aim to address these disparities [24–26]. A thorough study by OFFA investigated why various student groups achieved varied results at university, focusing on students from low socioeconomic origins, those with disabilities, and black and minority ethnic (BME) students.

They draw attention to the possibility of macro- (related to the HE system and the broader socio-cultural structures in our society), micro- (relative to the setting of certain institutions and student environments), and meso- (relative to the interactions that students have with one another) causes [27,28]. The report's authors consider the persistence of achievement disparities as more evidence of the worldwide disadvantage that certain groups continue to experience [24,29].

Providing financial support through bursaries has formed a key pillar of WP's organizational strategies to remove the financial barrier that prevents students from less affluent backgrounds from participating in higher education. Bursaries are awarded to students who have demonstrated academic achievement and financial need [27,30]. Even if opportunities have grown, further analyses [27] show that the existing legal system has not yet wholly ensured "equality of opportunity".

2.2. Theory and Hypotheses

Many students need help finding enough hours in the day to juggle their coursework and part-time work commitments. They also are stressed by the tradeoff of having less time to study or maintain their sanity with juggling work and school commitments. The bursary can reduce the necessity of part-time work [31]. The bursary is a way for students to receive money from their university and repay the money once it has paid for their education [32]. The results indicated that students would have less, if any, to spend on themselves but would only struggle financially like they might with a loan. Without the bursary, students may feel that they need to take out a loan, which is not preferable for low-income families, and they will also feel the need to undertake a part-time job that can affect their performance. When grantees receive a bursary, they may have more financial resources available, reducing the need for part-time work to support themselves while participating in the program. Students can have more time and energy devoted to learning activities, which may result in improved learning outcomes and overall satisfaction with the program [31]. Therefore, this study hypothesizes that:

H1: *Bursaries can reduce the necessity of part-time work and affect overall satisfaction with the program.*

The bursary can help with educational outcomes as well. Many students struggle financially while they are at university [33]. Part-time jobs and a decent student loan can help, but many students have additional issues, such as student loans, rent, and other living necessities [34]. The student may be forced to work more than needed to pay for everything [26,31]. Work is not only time-consuming because it interferes with their study time and other daily tasks, but it is also costly in terms of transportation money and the cost of living in another city while in school. Bursaries also help students feel more motivated and engaged in their studies. When students receive financial support for their education, they may feel more valued by the institution and more connected to their academic community [33]. Therefore, this study hypothesizes that:

H2: *Bursaries can reduce the financial pressure of studies and affect overall satisfaction with the program.*

A bursary is a type of financial assistance that allows students to pursue more professional knowledge and skills. Because students receive bursaries, they do not need to undertake a part-time job, meaning they can utilize that time to learn more professional knowledge and skills [34,35]; the bursary would undoubtedly improve students' ability to enroll in numerous online professional courses and certification programs that they would otherwise not have been able to afford because of their financial burden. The bursary may aid the recipient in achieving professional education and certification objectives that they have defined for themselves, enabling the recipient to begin a successful career in their field [34,36]. Bursaries allow students to pursue additional educational opportunities, such as attending conferences, participating in research, or enrolling in specialized courses or workshops. By taking advantage of these opportunities, students can acquire new knowledge and skills to enhance their academic experience and contribute to their professional development [30]. Therefore, the study hypothesizes that:

H3: *The program allows students to learn more professional knowledge, which will affect students' overall satisfaction with the program.*

H4: *The program allows students to learn more professional skills, which will affect students' overall satisfaction with the program.*

Bursaries can also help students realize their dreams, such as studying abroad, learning new skills and courses, and improving their knowledge and skills [37]. Students can demonstrate their openness to other cultures by participating in activities such as learning a new language, visiting a foreign country, learning or teaching a new art style, and so on [38,39]. Therefore, the study hypothesizes that:

H5: *The program allows students to expand their horizons and will affect overall satisfaction with the program.*

Bursaries can provide opportunities for students to engage in extracurricular activities, such as internships, co-op placements, or research projects, which can provide valuable hands-on experience and enhance their employability. Bursaries can help students develop broader skills, build networks, and gain exposure to potential employers [40,41]. The students will be able to find more suitable jobs for them and their career goals and improve their employability [42,43]. Students can get the most out of their college experience by participating in learning experiences, internships, and volunteer opportunities [44]. Therefore, the study hypothesizes that:

H6: *The program allows students to improve employability which will affect overall satisfaction with the program.*

The likelihood of not finishing a degree program is lower for students with bursaries covering their living and tuition costs. The student could even consider applying to a more competitive school or pursuing a more competitive field of study [24,45]. Bursaries may save students time that would otherwise be spent worrying about money, improving academic performance, and the student's likelihood of completing college and completing a degree, which can help them have bright futures and a good life [34]. Therefore, the study hypothesizes that:

H7: *The program positively impacts students' life and future and will affect students' overall satisfaction with the program.*

Giving a bursary to a student is highly beneficial to their education and future. It helps students who are not able to pay the tuition fee because of their financial condition by allowing them to pay them. The students could even consider applying to a more

competitive school or pursuing a more competitive field of study [30,46]. Several factors may contribute to the relationship between satisfaction and learning effectiveness. For instance, when grantees are satisfied with the program, they may be more motivated to participate actively in the learning process. They may also be more likely to engage with the program materials, seek out additional resources, and collaborate with their peers, all of which can lead to improved learning outcomes [30]. Therefore, the study hypothesizes that:

H8: *Grantees' overall satisfaction with the program will affect learning effectiveness.*

The aim of this study is to explore the plan's satisfaction with students who have received bursaries, and then investigate the relationship between satisfaction and learning effectiveness. Therefore, the overall framework for the study is shown in Figure 1.

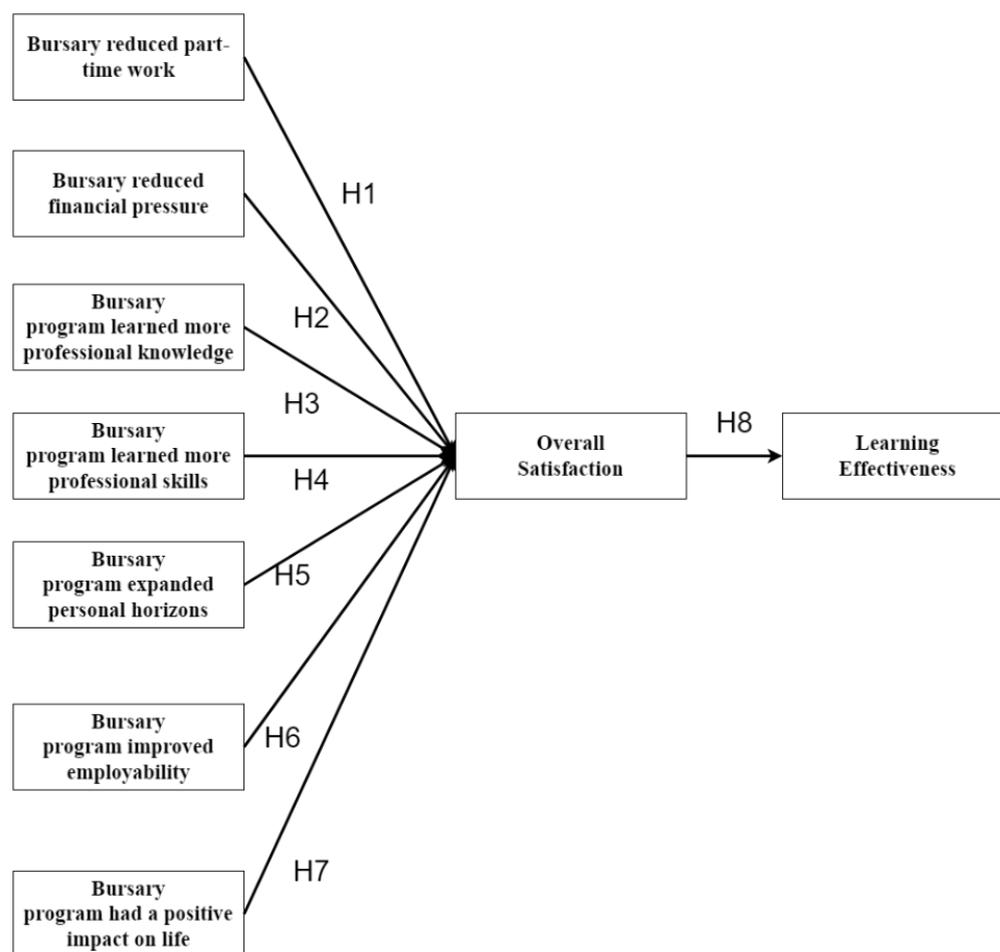


Figure 1. A Research Framework.

3. Research Methodology

3.1. Sample and Data Collection

The students who applied for and were awarded disadvantaged learning bursaries were the focus of the survey. After the end of the subsidy, the school organizer notified the grantees by email, and the questionnaire was filled out using Google Sheets each semester. Finally, with a total valid questionnaire rate of 96.75%, the detailed statistics are shown in Table 1. Moreover, the study aimed to examine 1788 applicants' satisfaction with implementing the plan during the three academic years from 2019 to 2021, as well as analyzing the correlation between applicants' learning outcomes and satisfaction during their subsidy period once a semester, respectively. Therefore, this is quantitative and cross-sectional research.

Table 1. Responses to the Disadvantaged Learning Bursary Survey.

School System	Number of Responses	Valid Responses	Valid Rate
Day school	1745	1707	97.82%
Night school	65	49	75.38%
Graduate school	38	32	84.21%
Total	1848	1788	96.75%

3.2. Questionnaire Design and Variable Measurement

The tool used in the survey was the “Dream. Set Sail. Turn Life” bursary implementation effect questionnaire (revised in 2019), compiled by researchers. The bursary satisfaction survey answers are on a five-point scale. There are five options: “strongly agree”, “agree”, “normal”, “disagree”, and “strongly disagree”. The scoring order is 5 points, 4 points, 3 points, 2 points, and 1 point. The higher the score, the more satisfied the students are with the items; for other suggestions, open-ended answers are given, and supplementary explanations are shown in text descriptions. In this study, the questionnaires in the database were checked, numbered, coded, and entered into the computer to create files. The data were analyzed using the statistical package software SPSS version 23, and the statistical test was performed with $\alpha = 0.05$ as the significance level. According to the study’s motivation and purpose, descriptive and inferential statistics were used for analysis. The findings are discussed to understand the factors influencing students’ satisfaction with the bursary and the effectiveness analysis of the learning relevance. The statistical analysis included the questionnaire, which provides basic information, a bursary survey, a bursary satisfaction survey, and other suggestions, which are described in Appendix A.

4. Results and Data Analysis

The explanations are shown in Table 2 based on analyzing the responses from students who received the disadvantaged learning bursary in the databases’ three academic years from 2019 to 2021.

Table 2. Demographic profile of respondents (N = 1788).

Variable	Response	Frequency	Percent (%)
Grade	Freshman	564	31.5
	Sophomore	523	29.3
	Junior	437	24.4
	Senior	232	13.0
	Graduate	32	1.8
College	Management	661	37.0
	HMAN and SS	420	23.5
	Informatics	262	14.7
	Design	257	14.4
	Engineering	188	10.5
Pipeline of knowing	School web	708	39.6
	Tutor and Instructor	491	27.5
	Seminar	353	19.7
	Poster	124	6.9
	Others	112	6.3
Wants to know the pipeline	School web	539	30.1
	Tutor and Instructor	471	26.3
	Seminar	342	19.1
	LINE	256	14.3
	Poster	94	5.3
	Others	86	4.8

Table 2. Cont.

Variable	Response	Frequency	Percent (%)
Have received subsidy	Learning bursary	690	38.6
	Progress bursary	424	23.7
	Course bursary	341	19.1
	License fee subsidy	142	8.0
	Incentives for off-campus competition	133	7.4
	Others	58	3.3
Subsidized time	1 Semester	942	52.7
	2 Semesters	402	22.5
	3 Semesters	224	12.5
	More 4 Semesters	220	12.3
Average subsidy amount per semester	TWD 0–5000	980	54.8
	TWD 5001–10,000	319	17.8
	TWD 10,001–15,000	145	8.1
	TWD 15,001–20,000	100	5.6
	More than TWD 20,001	244	13.6
Part-time work before the subsidy	Yes	611	34.2
	No	1177	65.8
Part-time work hours before the subsidy	1–10 h	244	39.9
	11–20 h	184	30.1
	21–30 h	101	16.5
	31–40 h	44	7.2
	More 41 h	38	6.2
Part-time work be reduced after the subsidy	Yes	221	36.2
	No	390	63.8
Reduced hours of part-time work after subsidy	1–5 h	144	65.2
	6–10 h	35	16.6
	11–15 h	19	9.0
	16–20 h	15	7.1
	More 21 h	8	3.8

Notes: The maximum amount of on-campus work-study per month is 80 h according to the case study regulations.

4.1. Descriptive Statistics

In terms of grades, the maximum number of students is in the first and second grades, and the minimum is in the fourth grade and graduate school; in terms of colleges, the maximum number of people is the School of Management and the School of Humanities and Social Sciences, and the least is the School of Design and the School of Science and Technology. The top four channels are the school website, tutor instructors, briefing sessions, and posters. Then, the top three channels are the school website, tutor, instructors, and briefing sessions, but LINE has jumped to fourth place instead of posters. For those students who have received subsidies, the top three are study grants, academic progress awards, and course study awards. The time of receiving donations is the top two; one semester and two semesters are the top two. The average subsidy amount per semester is within TWD 5000, followed by TWD 5001–10,000, and about 34% of students have work-study before the subsidy: 1–10 h and 11–20 h of work-study before the subsidy rank in the top two. After the subsidy, the proportion of work-study reduction accounts for about 10% of the work-study experience 36%; after the subsidy, the hours of work-study reduction are 1–5 h and 6–10 h, ranking in the top two.

4.2. The Average Satisfaction of the Bursary

According to an analysis of the average value of bursary satisfaction based on data from the form (see Table 3 and Figure 1), the top three are “Overall, the program has a positive impact on my life and future”, “The scholarship can reduce my financial pressure for studying”, and “The plan can enable me to learn more professional knowledge”,

followed by “Painting can improve my employability” and “The project can enable me to learn more professional skills”.

Table 3. Average and standard deviation of bursary satisfaction.

Variable	Average	SD	Rank
The bursary reduces the necessity of part-time work	3.97	0.99	7
The bursary reduces the financial pressure	4.33	0.82	2
The bursary program enables learning professional knowledge	4.31	0.69	3
The bursary program enables learning more professional skills	4.23	0.74	5
The bursary program expands personal horizons	4.29	0.70	4
The bursary program improves employability	4.12	0.76	6
The bursary program has a positive impact on life	4.38	0.62	1

4.3. *t*-Test

The results after the F test, with a significant p -value = $0.00 < 0.05$, show a significant difference in the number of variables. However, the t -statistic value calculated with the mean equal t -test is -25 to -41 . The two-tailed significant p -value is < 0.05 , showing that each of the seven items is significantly different, which is discriminative and representative, as shown in Table 4. In Table 4, SE represents a standard error, MD represents the mean difference, and DF represents the degree of freedom.

Table 4. Independent sample t -test.

Variable	F	t	DF	Sig.	MD	SE
The bursary reduces the necessity of part-time work	41.00	−31.25	252	0.001 *	−1.93	0.0616
The bursary reduces the financial pressure	31.86	−25.63	193	0.003 *	−1.60	0.0625
The bursary program enables learning professional knowledge	47.58	−33.35	202	0.010 *	−1.52	0.0457
The bursary program enables learning more professional skills	33.58	−37.22	212	0.005 *	−1.64	0.0442
Bursary programs expand personal horizons	82.20	−40.25	205	0.011 *	−1.59	0.0395
Bursary programs improve employability	86.06	−41.94	262	0.013 *	−1.75	0.0416
Bursary programs have a positive impact on life	9.68	−31.50	222	0.014 *	−1.42	0.0450

* $p < 0.05$.

4.4. Reliability Analysis

The Cronbach alpha (CA) value in the seven items = $0.889 > 0.7$, showing that the seven projects have high reliability, as shown in Table 5.

4.5. Regression Analysis

According to the multiple regression analysis table in Table 6, it is shown that, except for the project that allows applicants to learn more professional skills, the items are not significant ($p = 0.125 > 0.05$), other items are significant, and the standardized coefficient β is also a positive value, $F = 20.658$, R squared = 0.301 .

Table 5. The value of Cronbach alpha.

Variable	Scale Average	Corrected Item Total	CA
Bursaries reduce the necessity of part-time work	26.25	0.567	0.856
Bursaries reduce the financial pressure	25.97	0.681	0.872
Bursary programs enable learning professional knowledge	25.91	0.820	0.894
Bursary programs enable learning more professional skills	25.99	0.810	0.894
Bursary programs expand personal horizons	25.90	0.789	0.897
Bursary programs improve employability	26.10	0.786	0.896
Bursary programs have a positive impact on life	25.91	0.819	0.894

Table 6. Multiple regression analysis.

Variable	STD β	t	Sig. (Two-Tailed)	VIF	Rank
(Constant)		6.14	0.000		
Bursaries reduce the necessity of part-time work	0.062	2.66	0.008 *	1.78	6
Bursaries reduce the financial pressure	0.063	2.49	0.013 *	2.15	5
Bursary programs enable learning professional knowledge	0.224	6.26	0.000 *	4.44	4
Bursary programs enable learning more professional skills	0.056	1.53	0.125	4.39	
Bursary programs expand personal horizons	0.296	9.57	0.000 *	3.49	2
Bursary programs improve employability	0.280	9.42	0.000 *	3.20	3
Bursary programs have a positive impact on life	0.313	9.43	0.000 *	3.53	1

* $p < 0.05$, $F = 20.658$, $R \text{ square} = 0.301$.

Expressed as an equation: average overall satisfaction = 0.062^* bursaries can reduce the necessity of my work-study inside and outside the school + 0.063^* bursaries can reduce the economic pressure of my study + 0.296^* the plan can allow me to expand my horizons + 0.280^* the project can improve my employability + 0.224^* this project can allow the student to learn more professional knowledge + 0.313^* this project has had a positive impact on my life and future.

Secondly, from the regression analysis table in Table 7, it was found that the overall satisfaction average value was used to make a regression on the learning effect (average academic performance) and the significant p -value = $0.021 < 0.05$, indicating that the overall satisfaction of the students with the program has a positive impact on the student learning effect. The significant impact, with a standardized coefficient $\beta = 0.653$, is expressed in the equation: Learning Outcome = 0.653^* Overall Satisfaction Average. From Table 8, the overall satisfaction and average grades, it was found that the average academic grade of the low-score group (27%) of the overall satisfaction of students was 71.99, and the average score of the high-score group = (73%) was 85.01. The average score of overall satisfaction was 80.54, showing that for students, the higher the overall satisfaction with the program, the higher the learning effect (average academic performance). There is a positive relationship between the two factors.

Table 7. Regression analysis.

Variable	USTD β	SE	STD β	t	Sig. (Two-Tailed)
(Constant)	80.53	5.804		51.60	0.000
Overall satisfaction average	4.33	0.604	0.653	26.51	0.021 *

Note: Dependent variable: academic grade point average, explanatory variable: (constant), mean overall satisfaction and R square = 0.427, * $p < 0.05$.

Table 8. Overall satisfaction and grade average.

Overall Satisfaction	Grade Average	N	SD
Low-score group	71.99	154	6.39
High-score group	85.01	264	3.58
Overall	80.54	945	5.80

Notes: Low-score group = 27%, high-score group = 73%.

In Figure 2, the college distribution of the high- and low-overall-satisfaction groups shows little difference between the high and low groups by college, which may be because there are different numbers of primitive groups. In Figure 3, further analysis of the distribution of the overall satisfaction of the high-scoring group in the department shows that the top three are the information management department, with 29 people accounting for 11%; the social work department, with 28 people accounting for 10.6%; and the child care department, with 21 people accounting for 8.0%, while the low-scoring group is overall satisfied. Degrees are distributed among departments. The top three departments are the Department of Visual Communication, with 15 employees accounting for 9.7%; the Department of Accounting, with 14 employees accounting for 9.1%; and the Department of Industrial Design, with 13 employees accounting for 8.4%, as shown in Figure 4.

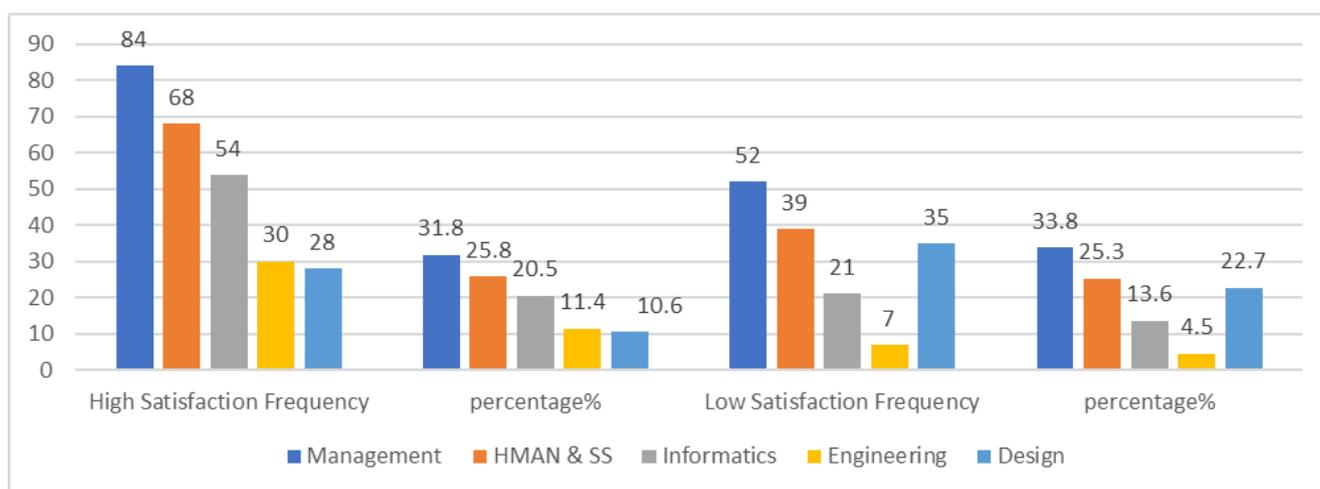


Figure 2. The distribution of high and low groups of overall satisfaction by college.

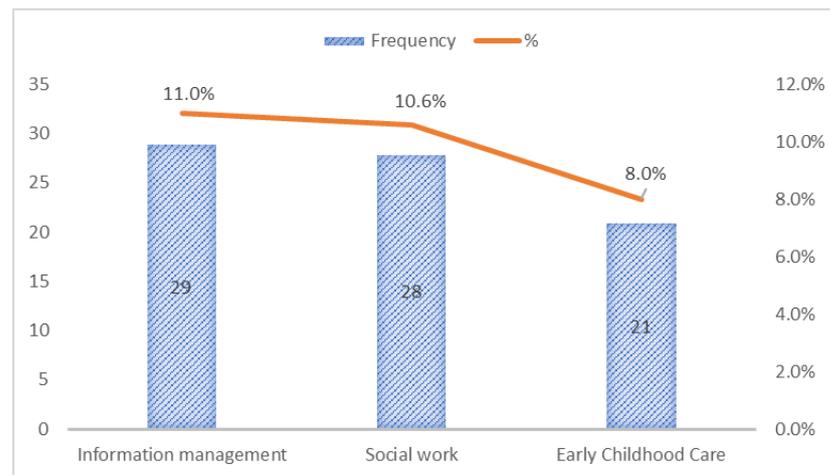


Figure 3. The overall satisfaction of the high-score group in the top three departments.

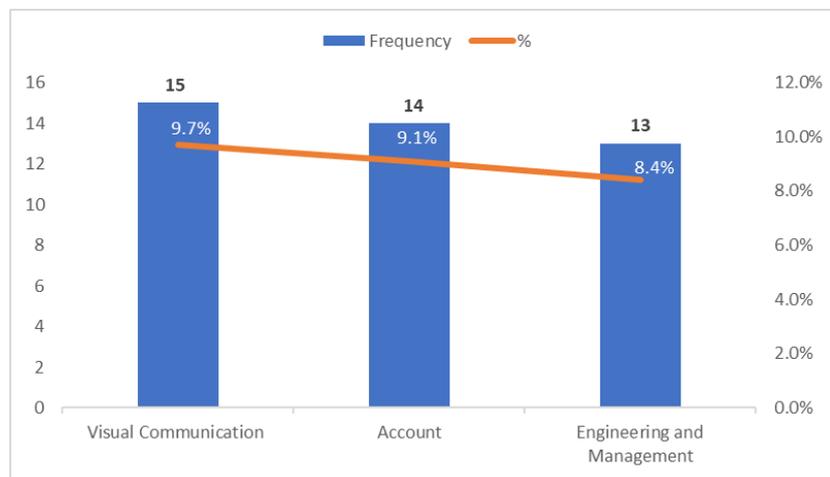


Figure 4. The overall satisfaction of the low-score group is in the top three departments.

Furthermore, the grade difference between those who received subsidies for one semester (N = 515) and those who received subsidies for more than two consecutive semesters (N = 430) is 2.74 points higher than the subsidized average grade in a single semester shown in Table 9.

Table 9. Comparison of grades.

	Minimum Value	Maximum Value	Average Value	Increase/Decrease	SD
Single-Semester Grades (n = 515)	46.61	91.93	78.30		7.53
More than two Semesters Grades (n = 430)	50.22	95.22	81.04	+2.74	7.50

4.6. Qualitative Feedback

The following three items are compared according to keywords and synonyms to explain the feedback and suggestions of the recipients and arrange them according to the number of mentions shown in Table 10.

Table 10. Qualitative Feedback and Suggestions (N = 1788).

The Most Helpful Items	Frequency
Learning bursary	506
Course bursary	432
Progress bursary	231
License fee subsidy	198
Subsidy for going abroad	41
Incentives for off-campus competition	40
No opinion	340
Subsidy items can be added	
Subsidies for studying in remote areas	87
Foreign Language Examination Subsidy	60
Exclusive New Resident Subsidy	53
No opinion	1588
Overall recommendations for the plan	
The hours of micro-courses should be diversified	72
Funding can be accelerated	33
Apply online	30
Application information publicity promotion	25
Providing exclusive work-study opportunities	21
No opinion	1607

The most valuable items of the plan for the recipients are: study grants, course learning rewards, academic progress rewards, registration subsidies for license examinations, disadvantaged students going abroad subsidies, and off-campus competition rewards.

The subsidy recipients believe the plan can increase subsidy items: school subsidy for students in remote areas, foreign language test subsidy, and exclusive new resident subsidy.

The subsidy recipients have overall suggestions for the plan: study instead of work-study (micro-course) periods should be diversified, the speed of funding can be accelerated, the online application should be used, application information should be promoted, and exclusive work-study opportunities should be provided.

5. Discussion

5.1. Theoretical Contribution

The study adds to the literature on bursary satisfaction and its relationship to learning performance among disadvantaged students. Specifically, the study explores the extent to which bursary satisfaction affects the academic performance of students who come from economically disadvantaged backgrounds. This helps to expand our understanding of the factors that contribute to the academic success of students from disadvantaged backgrounds. The study underscores the importance of recognizing and addressing the challenges faced by disadvantaged students in accessing and succeeding in higher education. By examining the experiences of disadvantaged students in Taiwan, the study highlights the need for policies and programs that are sensitive to the unique needs and challenges faced by these students. This can include initiatives aimed at addressing financial barriers, providing mentorship and support, and creating a more inclusive and welcoming learning environment. Our research offers a distinct examination of how satisfaction with bursaries relates to the learning performance of underprivileged students in Taiwan.

While prior research [22,23] has explored the influence of financial assistance on academic achievements, Latief and Lefen [13] conducted an examination of the Chinese Government Scholarship (CGS) program for international students using the analytical hierarchy process (AHP). Kenedi's [23] suggestion is that combining financial aid with academic support and guidance leads to greater effectiveness. This study specifically investigates the level of satisfaction among recipients of bursaries and its potential effect on their academic performance. The unique aspect of this study is its emphasis on a particular group of disadvantaged students and how their contentment with bursaries can improve their learning performance.

5.2. Practical Contribution

The study provides insight into the effectiveness of bursary programs in promoting academic success among disadvantaged students. By analyzing the factors that contribute to bursary satisfaction and learning performance, policymakers can make informed decisions about how to design and implement bursary programs that better meet the needs of disadvantaged students. This could include increasing the amount of financial aid available, providing professional knowledge and skills, and improving employability.

Second, the study identifies the barriers that disadvantaged students face in achieving academic success. These barriers can include financial constraints and a lack of academic support. By understanding these barriers, educators and policymakers can develop strategies to address them and help disadvantaged students overcome these challenges. Finally, the study can help reduce the achievement gap between disadvantaged students and their more privileged peers. By understanding the factors that contribute to academic success for disadvantaged students, educators and policymakers can develop strategies to provide these students with the resources and support they need to succeed academically. By reducing the achievement gap, disadvantaged students will have better opportunities to succeed in their academic and professional lives, which could have positive implications for their future life.

6. Conclusions and Suggestion

Based on the primary statistical data and the results of the regression analysis, the study can come to the following conclusions and suggestions:

- (1) Strengthening the subsidy channel: the channels for the subsidized recipients to know about the subsidy and the channels they want to know in the future are the top three channels (accounting for about 80%) for the school website, tutors and instructors, and the briefing session. These three channels will continue to be strengthened in the future. It is worth noting that channel applicants who want to know the source of LINE can be notified from the communication software in the future to improve the accessibility of information for potential applicants.
- (2) The H1 to H7 hypotheses were investigated to explore the impact of bursaries on applicants. All of the hypotheses were supported, with the exception of H4. The analysis showed that bursaries played a critical role in Taiwanese students' lives, highlighting the program's positive impact on subsidized students' priorities and satisfaction. The program expanded their personal horizons, improved their employability, and provided opportunities for learning professional knowledge. It also reduced the need for part-time work and eased economic pressures related to studying.
- (3) Increase the number of work-study hours: about 34% had work-study before receiving the subsidy, and the proportion of work-study experience decreased after the subsidy, accounting for about 36%; after the subsidy, the number of work-study hours reduced by 1–5 h, accounting for about 65%. Based on the above information, the number of hours of "study instead of work-study" can be increased, allowing subsidized recipients to reduce the number of off-campus work-study hours so that more time can be devoted to learning related to schoolwork and skills.

- (4) Deepen the learning of professional skills: This research assumes that it is insignificant except for the H4 project that allows the recipients to learn more professional skills. The rest of the questions are significant. That is to say, when the follow-up arrangement replaces work-study with study, in addition to maintaining the essential existing aspect, it can also strengthen the aspect that makes the subsidized students learn more professional skills.
- (5) Improving overall satisfaction: This study assumes H8 that “the overall satisfaction of the subsidized program will affect the learning effect”. The authors use the mean value of the overall satisfaction of the program to perform regression on the learning effect (average academic performance), and it is found that the subsidy recipients’ overall satisfaction significantly impacts the learning effect. The higher the overall satisfaction with the program, the higher the learning outcomes (average academic performance).
- (6) Assist departments with low satisfaction: Judging from the distribution of departments with low satisfaction, the top three departments are the Department of Visual Communication (9.7%), the Department of Accounting (9.1%), and the Department of Industrial Design (8.4%). More resources can be invested in care or counseling for departments with low satisfaction to improve the overall program satisfaction and student learning effect.
- (7) Encouraging senior students to continue to apply: It is found from the database that the average academic grades of applicants who apply for scholarships for more than two consecutive semesters are much higher than those of single-semester applicants, which means that more applications will also improve their learning effectiveness. The number of applications for higher grades gradually decreases. In the future, third and fourth-grade students can be encouraged to continue to apply to improve learning effectiveness.

7. Limitations and Future Scopes

The study has some limitations because we only considered Taiwanese data, so the results cannot be generalized to other geographies. Furthermore, studies could be conducted to compare the experiences of disadvantaged students with those of other groups, such as students from more privileged backgrounds. This could provide a more comprehensive understanding of the factors that contribute to academic success across different student populations. Furthermore, future research could expand the scope of the study to include additional factors that may impact academic success, such as socio-economic status, family support, and access to resources. Finally, longitudinal studies could be conducted to assess the long-term impact of bursary satisfaction on academic success and career outcomes.

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Appendix A. Statistical Analysis Questionnaire

1. Basic information:

- School system: day department, night department, graduate department.

- Channels for knowing the subsidy: school website, tutors and instructors, briefing sessions, posters, etc.
 - I want to know the channels later: school website, tutor instructors, briefing sessions, posters, etc.
2. Overall investigation of the bursary
 - Receipts of subsidies: study grants, academic progress rewards, course study rewards, certificate examinations. Subsidies for registration fees, incentives for off-campus competitions, and others.
 - Subsidized time: one semester, two semesters, three semesters, four semesters, or more.
 - The average amount of subsidy received per semester: 0–5000 NT dollars, 5001–10,000 dollars, 10,001–15,000 dollars, 15,001–20,000 dollars, and more than 20,001 dollars.
 - Work-study before subsidy: yes, no.
 - Work-study hours before subsidy: 1–10 h, 11–20 h, 21–30 h, 31–40 h, 41 h, or more.
 - Whether Will work-study be reduced after the subsidy: yes, no.
 - Reduced work-study hours after subsidy: 1–5 h, 6–10 h, 11–15 h, 16–20 h, 21 h, or more.
 3. Bursary satisfaction survey
 - The bursary can reduce the necessity of working and studying inside and outside our school.
 - The bursary can reduce my financial pressure to study.
 - The program allows me to learn more professional knowledge.
 - The program allows me to learn more professional skills.
 - The program allows me to broaden my horizons.
 - The program will allow me to enhance my employability.
 - Overall, this project has positively impacted my life and future.
 4. Other suggestions
 - What can subsidy items be increased in the plan?
 - What is the most valuable part of the plan?
 - What overall suggestions do you have for the plan?

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