

# Predicting Retention: Sociodemographic, Motivational, and Perceived Social Support Factors

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**Abstract:** Low student retention becoming problematic issue in many education institutions in the midst of increasingly fierce competition in higher education. Low student retention reflects educational providers capability in equipping their students to prepare their future. This study examines this issue through sociodemographic factors, motivational, and perceived social support so that strategies can be formulated to increase student retention. Using quantitative research method with first-year student research respondents, the research employed questionnaire in assessing students demographic properties, Academic Motivation Scale (AMS-Indonesian), Academic Retention Scale (ARS), and Multi-dimensional Social Support Scale (MSPSS). Statistical analysis showed that internal motivation and social support contribute significantly toward student retention; while sociodemographic factors do not contribute directly toward student retention. However, there are some interesting findings: 1) Levels of spending is positively correlated with motivation, especially intrinsic and amotivation (reversed); 2) Mother's level of education, but not father's, is positively correlated with intrinsic motivation; 3) Students' whose mothers are working tend to have higher retention on self-related aspect, and motivation on both intrinsic and extrinsic. The conclusion is that first-year students with clear academic goals and perceived sources of support for their academic activities will help to survive and therefore avoid dropping out of college.

## 1 INTRODUCTION

When entering college, new students will confront many new challenges in form of greater academic demands, greater autonomy, and a distinct academic structure of college life. First-year students must be able to adapt to new social environments, to orient themselves towards the institutions where they attend, to become productive members of the community, to adapt to new roles and responsibilities (such as managing their finances), set boundaries with friends and family, and to engage in the process of planning their future career (Crede & Niehorster, 2012). There is even a traditional view that leaving home to a higher education environment is a ritual for most individuals (Thomas & Hanson, 2014), especially if they have to leave their hometown to a different place away from their parents.

The increasing difficulty of recruiting students to its capacity requires universities to develop strategies capable retaining students who have been accepted until they have successfully completed their education. This ability reflects student retention.

According to Fowler & Luna (2009), retention in education refers to the continuity until successful completion of a student. Retention is the act of some students to survive and successfully graduate, while others do not (Fowler & Luna, 2009). Although the term itself sounds negativistic, the fact that parents, policy makers, and educators have spent a lot of resources on students' education makes it especially important to evaluate students' progress along the way. Here, we need to keep assessing their engagement in order to implement a more effective learning. In order for funds not to be wasted, steps need to be taken to review the success of students in the education taken and organize so that learning can run effectively (Kim et al., 2010).

University X, one of private universities in Bandung, also facing this phenomena. In at least three academic years, 2014/2015, 2015/2016, 2016/2017,

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and first semester of 2017/2018, as much as 880 students resigned from their chosen program of study in this university. Half of those students chose to mutate or move to another college, the rest chose to change their program study at the same university. This phenomenon continues to this day. From September 2020 to April 2021, nearly 400 students have resigned or were considered to have resigned due to inactivity. Although there are various reasons behind it, this phenomenon is an unexpected event, both for the study program and department as well as for the institution overall.

Amid increasingly intense competition in attracting new students, the phenomenon of resigning students seems to be ironic. Hard work and promotion are becoming less significant. In addition, the success of educational institutions in carrying out their formal mission of educating and preparing students to achieve long-term life goals (Kim et al., 2010; McCormik & Lucas, 2011) are also at stake. Tinto (2017), argues that student retention directly reflect students' perseverance. Institutions may try as hard as they can to engage students until they successfully complete their education, but it would only work if students have a desire to try to survive in the college they have chosen.

Generally, vulnerable students in regard of retention are first-year students. Hurford et al. (2017) stated that first-year students having difficulty to adjust to academic demands in college or feeling unsuitable for their chosen study program, would have disrupted academic productivity. Leaving their home town to study in another city, being separated from family and friends, adjusting to college life, and having to meet family and study program expectations are common stressors for first-year students (Carragher & McGaughey, 2016). That's why most student retention research is aimed at first-year students (Kovačić, 2010).

Retention research in the first year is useful in detecting early students are more likely to drop out so that constructive strategies can be made. Timely and proactive action against students at risk of dropping out of college is needed in order to provide administrative support to increase their chances of surviving and completing the educational programs they pursue (Kovačić, 2010). Tinto's model states that the greater students academic and social integration, the higher the retention rate would be (Tinto 1975). Meanwhile Bandura model asserts that individual behavior will be influenced by both personal and environmental factors (Ormrod, 2011), considering that students and college environment will interact reciprocally.

Friedman & Mandel (2011) summarizes the results of previous research on student retention. In general there are three research focuses in examining factors capable of predicting student retention. First, studies focus on demographic data, such as gender socioeconomic status, and parental education. So far, there are still many questions involving how much influence do demographic variables on student retention. This study will specifically and in detail analyze the sociodemographic factors of first-year students in relation to student retention at University X.

The second research focus emphasizes the influence of institutional variables on academic success (Friedman & Mandel, 2011), for example the size of the institution student and lecturer ratios, student attachment to educational institutions, and the effectiveness of specialized programs designed to improve retention. The Directorate General of The Ministry of Education has developed a college accreditation instrument that measures university readiness in reaching institutional and program study standards. That said this study will not include institutional variables as part of the research.

The third research focus emphasizes on psychological variables, such as student motivation. Previous studies have shown that the orientation of student motivation also affect their performance and ability to survive in college. Other researchers focused on specific part of motivation, intrinsic motivation (Morrow & Ackermann, 2012), attributes to academic performance and retention. Meanwhile, Slanger et al. (2015) stated that motivation is a predictor of academic success and perseverance in college. Therefore, this study will measure motivation variables consisting of intrinsic, extrinsic, and amotivation as individual psychological aspects (Slanger et al., 2015) along with social support. According to Einolander and Vanharanta (2015), students who are incapable or failing to build social support system are more likely to drop out. Tinto (2003) also notice the importance of circumstances that can improve student perseverance, including academic, social, and personal support.

Based on the previous explanation, the authors believe that research on variables dynamics student retention at University X is an issue that needs to be critically studied. Based on those variables, the study aimed to find out how prevalent sociodemographic factors, motivation, and perceived social support are toward first-year student retention. Based on the previous studies, the authors hypothesized that certain sociodemographic factors, student motivation, and perceived social support directly contribute to student

retention. In more detail, this research also hypothesize that certain aspects of motivational variables and social support influence student retention.

## 2 METHODS

### 2.1 Research Design

This research is a quantitative study that has four variables. This study aims to find out the correlation and contribution of sociodemographic, motivation, and perceived social support factors to student retention at University X.

Using purposive sampling techniques, the data is collected online by distributing google-form links that measure sociodemographic variables, motivation, social support as independent variables and retention as dependent variables.

### 2.2 Research Instrument

Sociodemographic factors that are asked were gender, study program, place/region of origin, school origin, the status of residence in Bandung (boarding house/with parents/other), the order in the family and sibling education, parental education, parental employment, ethnicity, economic and social status (SES).

Academic Retention Scale (ARS) consists of 23 statement items with seven scales. Based on the data, when we conducted factor analysis, there were only 3 factors (subscales). Those are: social factors (8-items), institution factors (5-items), and self-related factor (similar to motivation, 9-items) and Internal resources (three sub-scale statement items). Reliability test results show satisfactory internal consistency, both for External resources ( $\alpha = .889$ ), and for Internal resources ( $\alpha = .817$ ). An example of academic retention items is, "Faculty assists me in choosing study program choices."

The Indonesian version of the Academic Motivation Scale (AMS) was tested by Lina Natalya and Cynthia Vivian Purwanto (2018) with seven scales. All items have been grouped to measure academic motivation based on the third-order CFA and EFA.

Factor-loading value of its item is  $> 0.4$ , there no items with zero loadings. There are three dimensions (subscales) of AMS, those are intrinsic motivation, extrinsic motivation, and amotivation--which is a negative scale.

The global social support measuring instrument (Zimet et al., 1988) consists of 12 items with seven scales of answer options. The entire item shows a grouping of support sources (i.e., family, friends, significant others).

Each dimension of supporting group consist of four items. The CFA result showed that all items were high loading on factor and confirmed that the three subscale gauges had measured the expected sources of support. Example item, "My family is willing to help me to make a decision."

### 2.3 Data Analysis Techniques

This research use several statistical analyses in multiple regression, correlation, and different tests. All data is processed by calculating the average item score per aspect, and the total variable score is the average aspect score.

For example:

$$\text{motivation variable} = [\text{intrinsic mot} + \text{ex mot} + \text{amotiv [r]}] / 3$$

in which case :

$$\text{the amotivation [r]} \text{ is } [\text{item 4} + \text{item 13}] / 2.$$

At the end of the data gathering process, all data were coded accordingly. Each entry was inspected and entries with significant incompleteness were excluded from the analysis. Retesting the validity and reliability of the scales. Following that, score-balancing were conducted by averaging the score of items for each aspect in the scale. This were done because the number of items varied between aspects. For example, in student retention scale, there were 9-items representing self-aspect, 4-items representing institutional aspect, and 7-items representing social aspect of student retention. That said, the score of self-aspect in student retention would be the total score of the 9-items divided by 9. The same procedure was also done for the other two aspect of student retention as well as the three aspects of motivation and three aspects of perceived social support. Each scale score was the average of its aspects, for example, the score for retention scale would be the average of its three aspects.

Statistical analysis was then started by doing descriptive analysis of the whole data. Following that, correlational analysis using Spearman Rho were done between the aspects of the variables as well as the variables themselves. Multiple regression then was conducted to assess the models of interactions between variables and their aspects. Lastly, additional analysis were done by comparing between-subject means of each variable and its aspects.

### 3 RESULTS AND DISCUSSION

#### 3.1 Demographic Overview

Participants in this study are 229 students (mean age = 18.4 years old, Standard Deviation (SD) = .687; 82.5% female; Sundanese ethnicity 26.6%, Tiong Hoa 25.3%, Java 17.0%, and Batak 10.9%). Majority of students have monthly expenses of 1,000,000-2,500,000 (61.3%) with median = 1,500,000, mean = 2,220,000 and SD = 2,190,000. In general, participants have working father (96.3%). Educational backgrounds of their fathers are the following: 20.1% hold post graduates degrees; 39.7% hold bachelor degree (S1/D4); 7.9% hold vocational (D1-D3); 29.7% high school graduates; and 2.6% did not finish high school. Around half (54.8%) of participants' mothers also work. Their education background are the following: 41% hold bachelor degree (S1/D4); 19.7% hold vocational degree (D1-D3); 32.3% are high school graduates; and 7% didn't finish high school.

Based on Table 1, we can see that participants retention tendencies at X universities is quite high (retention mean = 5.373 of the maximum group scores in retention = 6.875 and SD = 0.688).

On average participants have high motivation as well (mean = 5.968 from a maximum score of = 7.000 and SD = 0.683). Lastly, on average, perceived social

support variable is also quite high (mean = 5.634 from the maximum score = 7.000 and SD = 0.923). In general, participants want to stay at X university, are motivated to go to college, and perceive that they receive social support to attend University X.

#### 3.2 Correlation Result and Regression

Table 2 shows, in general, retention have a positive correlation with the other two variables, with student motivation  $r = 0.606$  ( $p = .000$ ) and with perceived social support  $r = 0.669$  ( $p = .000$ ). The correlation between student motivation and perceived social support is  $.508$  ( $p = .000$ ).

Correlation between variable retention, motivation, and perceived social support can be seen in Table 2. Meanwhile, in table 3, there were no significant correlation between demographic factors and retention. However, in table 4, economic status (judging by monthly expenses) has a positive correlation ( $r = .178$ ,  $p = .009$ ) with motivation, especially in table 5, with intrinsic motivational aspects ( $r = .160$ ,  $p = .019$ ) and amotivation ( $r = .165$ ,  $p = .016$ ). In table 4, mother educations also positively correlates with student motivation ( $r = .147$ ,  $p = .026$ ), especially in table 6, with intrinsic motivational aspects ( $r = .166$ ,  $p = .012$ ).

Table 1: Descriptive statistic of the main variable statistics of the study.

Variable	Min	Max	Mean	Std. Deviation
Retention	3.319	6.875	5.373	0.688
Social	2.625	7.000	5.366	0.776
Institutions	2.333	7.000	5.183	0.790
Yourself	2.000	7.000	5.570	0.876
Motivation	3.778	7.000	5.968	0.683
Extrinsic	3.000	7.000	5.977	0.859
Intrinsic	3.600	7.000	5.913	0.738
Amotivation [reversed]	1.500	7.000	6.015	1.139
Perceived Social Support	2.417	7.000	5.634	0.923
Significant Others	1.250	7.000	5.813	1.113
Friends on	1.750	7.000	5.531	1.010
Family	1.000	7.000	5.557	1.293

Table 2: Correlation between variables.

	Retention	Motivation	Support
Retention	1		
Sig. (2-tailed)			
N	229		
Motivation	.606**	1	
Sig. (2-tailed)	0		
N	229	229	
Support	.669**	.508**	1
Sig. (2-tailed)	0	0	
N	229	229	229

Table 3: Correlation between demographics and retention.

	1	2	3	4	5
1.Age	1				
Sig. (2-tailed)					
N	229				
2.Economic status	0	1			
Sig. (2-tailed)	.998				
N	214	214			
3.Father's education	-.092	.051	1		
Sig. (2-tailed)	0,163	0,46			
N	229	214	229		
4.Mother's education	0	.032	.586**	1	
Sig. (2-tailed)	.996	.645	0		
N	229	214	229	229	
5.Retention	.064	.064	.006	.007	1
Sig. (2-tailed)	.337	.355	.925	.912	
N	229	214	229	229	229

Table 4: Correlation between demographics and motivation.

	1	2	3	4
1.Economic Status	1			
Sig. (2-tailed)				
N	214			
2.Father's education	.051	1		
Sig. (2-tailed)	.46			
N	214	229		
3.Mother's education	.032	.586**	1	
Sig. (2-tailed)	.645	0		
N	214	229	229	
4.Motivation	.178**	.069	.147*	1
Sig. (2-tailed)	.009	.297	.026	
N	214	229	229	229

Table 5: Correlation between economic status and aspect of motivation.

	1	2	3	4
1.Economic Status	1			
Sig. (2-tailed)				
N	214			
2.Extrinsic motivation	.086	1		
Sig. (2-tailed)	.208			
N	214	229		
3.Intrinsic motivation	.160*	.414**	1	
Sig. (2-tailed)	0,019	0		
N	214	229	229	
4.A motivation	.165*	.184**	.533**	1
Sig. (2-tailed)	.016	.005	0	
N	214	229	229	229

Table 6: Correlation between mother's education and aspect of motivation.

	1	2	3	4
1.Mother's education	1			
Sig. (2-tailed)				
N	229			
2.Extrinsic motivation	.041	1		
Sig. (2-tailed)	.535			
N	229	229		
3.Intrinsic motivation	.166*	.414**	1	
Sig. (2-tailed)	.012	0		
N	229	229	229	
4.A motivation	.116	.184**	.533**	1
Sig. (2-tailed)	.08	.005	0	
N	229	229	229	229

Multiple regression analysis was conducted on motivation and perceived social support to predict retention in order to answer the main question of this research (table 7). Both variables predict retention significantly, ( $R^2 = .546, p = .000$ ).

Then, the analysis continued with multiple regression on the aspects of each variable of motivation and perceived social support towards retention. In table 8, these six aspects predict retention significantly, and slightly better than previous model, ( $p = .000, R^2 = .675$ ). From the six aspects (table 9), only intrinsic motivation and perceived support from significant others, friends and family significantly contribute to retention.

Table 7: Multiple Regression Motivation and Support to Retention.

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate	Sign.
1	.739 <sup>a</sup>	.546	.542	.465312	.000

Table 8: Multiple Regression Aspect of Motivation and Support to Retention.

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate	Sign.
1	.822 <sup>a</sup>	.675	.667	0,397192	.000

Table 9: Sign for Regression per aspect motivation and support to Retention.

Aspect of Motivation and Support	Sign.
Extrinsic Motivation	.604
Intrinsic Motivation	0
A motivation	.092
Support from significant others	.005
Support from friends	.015
Support from family	0

In addition to the results mentioned above, it was also found that between women and men have significant score differences in amotivation (reversed score) ( $t(47.837)=2.206, p = .032$ ) and perceived social support from significant other ( $t(227)=2.292, p=.023$ ). Regarding amotivation, women (mean = 6.108, SD = 1.041) tend to have clearer purpose than men (mean=5.575, SD=1.453). Similarly, regarding other significant aspects of variable perceived social support, women (mean = 5.890, SD = 1.097) feel more supported by significant other than men (mean = 5.450, SD = 1.124).

Students whose mothers work also have higher scores on motivational variables, especially on intrinsic motivation (mean<sub>working mothers</sub> = 6.050, SD = .651, mean<sub>mothers notworking</sub> = 5.747, SD = .805;  $t(194.926) = 3.074, p=.002$ ) and extrinsic motivation (mean<sub>working mother</sub> = 6.101, SD = .806, mean<sub>mother notworking</sub> = 5.583, SD = .900;  $t(226) = 2.355, p=.019$ ), but there is no difference in amotivation. In addition, students whose mothers work also have higher scores on retention in aspects related to themselves (mean<sub>working mother</sub> = 5.737, SD = .817, mean<sub>mother notworking</sub> = 5.371, SD = .909;  $t(226) = 3.204, p=.002$ ), but not in other aspects.

The findings of this study showed that psychological variables in the form of motivation and perceived social support directly predict students retention at University X. Results of this study are in

line with Morrow and Ackermann (2012), Slinger et al. (2015), and Xiong et al. (2015), while the link between social support and retention is in line with Flynn's research (2014). Without exception, male and female students show a similar tendency for retention due to the presence of motivation and perceived social support that gives them the strength to persevere. Additionally, through this study we can also see the difference between men and women in terms of academic goals, i.e., women have a clearer purpose. This findings is in line with Richardson et al. (2012). There is a clearer goal, which cause female students to be motivated from the beginning of their studies, hence spending more time learning and working harder in completing academic tasks than male students.

Further research on relationship of motivation and perceived social support with student retention at University X conducted tests with regression analysis on the three aspects of motivation and the three aspects of perceived social support. As a result, even the six aspects of motivation and perceived social support significantly predict retention, but more specifically, intrinsic motivation and support coming from family and friends are stronger factors in predicting student retention at University X. This means that growing intrinsic motivation in first-year students cannot be separated from the influence of family and friends support, thus further strengthening the student's desire to maintain his or her status as a student at University X.

Other findings how motivation can predict retention, was obtained after analysis of the factors covered in sociodemographic variables. As stated in the previous section, intrinsic motivation and perceived social support from the family become good predictors of retention. Although sociodemographic factors are not directly related to retention, economic status of the family and maternal education show a positive relationship with motivation. Economic status and mother education level are comes from outside the student, which in the mechanism of the psychological process will be internalized into a force that fosters intrinsic motivation.

According to Tinto (2017), motivation can be built, enhanced, or weakened by student life experience. The family's economic status will facilitate the financial availability of the instrumentals needed by students during college. The need for a guaranteed learning can foster a sense of calm, confidence, ensured economic stability will provide emotional safety. Hence students can focus only finishing they study, and intrinsic motivation for

retention is increasingly maintained. Meanwhile, the link between mother education and student motivation can be explained as well. Mother education can inspire and encouraged to be more ambitious with their education. The availability of financial resources combined with the level of maternal education becomes an intrinsic motivation that is strengthen student retention in the study program it pursues.

For gender factors, it generally does not show the difference between male and female in all variables measured, but it is not so when viewed in every aspect of each variable. Men and women tend to differ in the amotivation factor [reversed] and perceived social support to significant others, i.e., women are higher than men. Women with high amotivation [reversed] tend to see themselves as competent in undergoing academic activities to feel happy and proud of their achievements because they are the result of hard work behavior and seriousness. It could also be that higher amotivation [reversed] in female students is likely to have something to do with perceived social support, especially from whom they perceived as their significant others. Amotivation [reversed] and social support from significant others become significant factors on female students retention.

Although this study successfully tested psychological and nonpsychological variables in student retention, it did not mean that it has no weakness. It mainly occurred because this retention study was only conducted at one college, students who were participants in the study were less varied based on the study program, and still needed to examine the extent to which the results of significant sociodemographic factors had a relationship with motivation and perceived social support this illustrates the actual condition of the retention phenomenon at this university.

## 4 CONCLUSIONS

Student retention at University X is directly predicted by psychological variables, namely motivation and perceived social support. In detail, significant aspect in motivation is intrinsic motivation, while perceived social support predicts retention in all of its three aspects. Further analysis of sociodemographic variables, albeit not directly some variables, such as socioeconomic status and mother education, are correlated to intrinsic motivation and perceived social support. Meanwhile, the analysis of gender shows difference between men and women. Women had clearer academic objectives, showed a higher aspect

of amotivation, and felt a higher sense of support. The extent to which these results can be generalized in other universities still needs to be investigated. A more comprehensive study should involve sociodemographic factors, more research participants from different programs, and universities.

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