



The Basic Psychological Needs and the Academic Performance of Redirected and Non-redirected Students

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Abstract: A match or a fit between the abilities and needs of a person and the demands and supply from the environment is essential for optimal functioning. An ideal environment that facilitates development and learning is one that supports the satisfaction of the autonomy, competence and relatedness needs of an individual. A mismatch between the two causes incongruence and stress which in the long run may cause psychological stress which may hinder optimal performance and affect well-being. In the learning context, a fit or a match between the student and the learning environment promotes learning and development. However, there are students who were redirected to another program after failing to meet the admission requirements of their preferred program. Will such situation result into a misfit? Will such misfit have a negative effect on students' academic performance? What are variables involved in the process? To answer these questions, 62 first year education students were recruited to participate in the study, 39 were redirected while 23 were non-redirected. Results show that the redirected students had a significantly lower 1st and 2nd term GPA and lower satisfaction of competency and relatedness needs. Although not statistically significant, they also had higher number of absences committed and lower satisfaction of autonomy needs. Of these three basic psychological needs, it was the satisfaction of the competency needs which partially mediated the relationship between the student's status as a redirected or non-redirected and term GPA. This suggest that being redirected in a different program decreased the redirected students' satisfaction of the psychological needs and academic performance.

Keywords: *basic psychological needs; person-environment fit theory; academic performance; redirected students*

1. INTRODUCTION

Deciding on what college major to take is essential because it will influence the development of the student's interest and abilities. It will also determine career opportunities in the future (Porter & Humpback, 2006). If students are satisfied with their undergraduate major, they are likely to have job stability and experience job satisfaction (Porter & Humpback, 2006). When compared to ACT scores, the congruence between personality and college major was found to be strongly correlated to and a stronger predictor of GPA (Jones & Jones, 2014). When students sensed that their educational institution works hard in preparing them for their respective careers in the future, they develop a

more positive towards that institution (Tessema, Ready & Yu, 2012). The problem, however, is that some students failed to meet admission requirements of their preferred program. These students are given the chance to be admitted in the university provided that they enroll in a program suggested by the said institution. These students will have to wait for a year or three terms until they are eligible to apply to shift to their preferred program. This is the case of the redirected students. Some gets to transfer to their preferred program after three semesters, others stay in the old program while some moved to another school (Andal, 2016).

The Person-Environment Fit Theory highlights the importance of a



match between what an individual has, his/her needs and capabilities and what the environment provides for and demands (Edwards, Caplan & Harrison, 1998). Self Determination Theory, on the other hand, states that the satisfaction of the three basic psychological needs are fundamental to wellbeing and performance because it results to higher volition and quality of motivation and engagement (Deci & Ryan, 2004).

According to SDT, the need for autonomy is satisfied when people feel that the activities are self-chosen and are intrinsically motivating. It makes them feel good about what they are doing thus influencing one's performance. Competence enables one to feel that he or she is effective in using one's capacities in managing challenging task given by the environment. It contributes to a sense of relatedness as they receive feedback from the environment as a result of a good performance (Leversen, Danielsen, Birkeland & Samdal, 2012). Students who dropped out had significantly lower scores on identified, integrated, and intrinsic regulation. College students who were autonomously motivated to attend the class had higher grades than those whose motivation is more controlled or more external (Deci & Ryan, 2004).

Failure to support and to satisfy the basic psychological needs results into a mismatch or incongruence between the person and the environment. This thwarts the satisfaction of the needs which then results to stress and an array of psychological, physiological and behavior strains like anxiety, compromised immune system

functioning, and absenteeism. According to the Cumulative Difference Model, such situation is dangerous because if the mismatch continues to add up, it can cause the strain to increase and the person might run out of adaptive resources necessary to cope or to protect oneself (Edwards, Caplan & Harrison, 1998). In a study conducted to college students from eleven universities in Beijing, they found out that students whose interest and college major are congruent had higher satisfaction with their major. This partially mediated the relationship between congruence test results and academic performance (Guan, Ma, Liu & Yu, n.d.). The program satisfaction of 1,865 first year students of York University from last school year, strongly predicted their satisfaction during the following year (Grayson, 2004). Given these, is it possible that the redirected students will have lower academic performance and satisfaction of the basic psychological needs? If so, which between the three needs are implicated in the process?

2. METHODOLOGY

This study used a non-experimental design as it explored the differences in the basic psychological needs, absences and term GPA between the redirected and non_redirected students. It also checked if basic psychological needs mediates the relationship students' status and their term GPA. Of the 62 first year education students, 63% or 39 were redirected students while the remaining 37% or 23 were non_redirected students or the



students who were in the course they chose or preferred.

The Basic Psychological Needs Scale was used to measure level of satisfaction of the basic psychological needs of the respondents. It is a 21 item scale that measures the satisfaction of the three needs namely competence, autonomy, and relatedness. The students were asked to check their term GPA online and to recall the number of absences committed from the previous term. The data gathering was conducting using an online survey. Consent to participate in the study was included in the form.

For comparison of group differences, the Welch t-test were used because the sample size between the two groups were unequal. The four steps regression analysis as suggested by Kenny (2016) was followed in conducting the mediation analysis.

3. RESULTS AND DISCUSSION

Table 1. Result of the Welch Test Independent T-test for GPA and absences

Variable	Group	Mean	SD	Df	t	Pvalue
1st term GPA	0	2.89	0.65	60	4.78	0.034
	1	2.51	0.58			
2nd Term GPA	0	2.96	0.59	60	8.90	0.005
	1	2.51	0.54			
1st term absences	0	1.22	1.73	60	2.81	0.099
	1	2.28	3.27			
2nd term absences	0	2.43	2.73	60	1.07	0.305
	1	3.46	5.08			

0 = non-redirectioned and 1 = redirectioned

Table 1 shows the result of the comparison of scores between the redirectioned and non-redirectioned. It can be seen that the non-redirectioned students

had higher 1st term and 2nd term GPA and lower number of absences committed as compared to the redirectioned students. These findings can serve as an indicator of how the redirectioned students are performing at school. Indeed students whose college major matches their interest had better grades (Jones & Jones, 2014). Since the non-redirectioned student are in a program they choose, they might have experienced more congruence with the actual and preferred learning environment which caused them to be more motivated to study, more willing to exert more effort and to persist (Guan, Ma, Liu & Yu, n.d.)

Table 2. Result of the Welch test Independent T-test for the satisfaction of the basic psychological needs

Variable	Group	Mean	SD	df	t	Pvalue
Autonomy	0	4.12	0.55	60	3.21	0.079
	1	3.83	0.67			
Competence	0	4.59	.67	60	7.32	0.009
	1	4.08	.80			
Relatedness	0	4.66	.60	60	5.79	0.019
	1	4.24	.78			

0 = non-redirectioned and 1= redirectioned

Table 2 shows that there is a significant difference in the level of satisfaction of the competency and relatedness needs. The non-redirectioned students had higher level of satisfaction of competency and relatedness needs. If the context or the environment satisfies the three basic needs, then wellbeing and optimal performance can be attained (Deci & Ryan, 2004). The non-redirectioned students were feeling more autonomous and competent because they are doing the things they wanted. They had higher sense of belongingness and connectedness because they can identify themselves as someone who belongs to

the said program (Leversen, Danielsen, Birkeland & Samdal, 2012).

The result of the mediation analysis focused on the students' status and their 2nd term GPA since the 2nd term performance was closer with the time the satisfaction of the basic psychological needs was measured. The mediation analysis for autonomy and relatedness failed to satisfy the requirement mention by Kenny (2016) thus were no longer presented in this paper. It implies that they are not mediators of status and academic performance.

Table 3. Step 1: Testing Status as a predictor of GPA

Variables	B	E(B)	B	t	Sig
Status	-.447	.146	-.367	-3.065	0.003*

.Dependent Variable: 2nd term GPA

*significant p=0.05 R²= 0.12

The first step is to check if the independent variable will predict the dependent variable (Kenny, 2016). Results show that a significant regression was found (F (1, 60) =9.39), p=0.003 with an adjusted R² of 0.12. If a student is a redirected student, his 2nd term GPA can be lower by as much as .447 points. This is significant with a p=0.003. This 0.447 decrease in GPA is as good as six to eight point if converted into percentage. This finding accounts for 12% of incidences in the differences in the GPA of the two groups.

Table 4 . Step 2: Testing status as a predictor of Competency

Variables	B	E(B)	b	t	Sig
Status	-3.078	1.193	-.316	-2.58	0.012*

Dependent Variable: Competency

*significant p=0.05 R² = 0.085

The second step is to check if the independent variable will predict the

proposed mediator (Kenny, 2016). Results show that a significant regression equation was found (F (1, 60) =6.587), p=0.012 with an R² of .0850. The students' level of satisfaction of their competency needs is lower by 3.08 points if he or she is a redirected students and this finding accounts for 8.5% of the variation between in the scores of the two groups. Although the effect size is small, still this regression analysis shows that the competency needs of a redirected student is less satisfied as compared to a non-redirectioned student.

Table 5. Step 3: Testing competency as a predictor of Term GPA

Variables	B	E(B)	B	t	Sig
competency	.031	.016	-.320	-2.53	0.014*

Dependent Variable: 2nd term GPA

*significant p=0.05 R²= 0.0475

The third step is to check if the mediator will predict the dependent variable (Kenny, 2016). The result shows that a significant regression was found (F (1, 60) =4.04), p=0.049 with an adjusted R² of .047. It means that the 2nd term GPA of the student increases by .031 when the satisfaction of their need for competency increases by 1 point. This is significant with a p=0.014. This prediction accounts for the 4.75% of variation of the 2nd term GPA of the students.

Table 6. Step 4: Testing competency as a mediator of the student's status and 2nd term GPA.

Variables	B	E(B)	B	t	Sig
Status	.389	.154	-.320	-2.533	0.014
Competency	0.019	.016	.150	1.191	.239

Dependent Variable: 2nd term GPA

*significant p=0.05 R²= 0.10



The last step is to check how the IV and the mediator will predict the DV when analyzed together (Kenny, 2016). The problem, however, is that although the influence of the status of the student was decreased from $-.447$ (see table 1) to $-.389$ (see table 6), the influence was not statistically significant since the $p=.239$. According to Kenny (2016), if all of the steps are met except for step 4, this means that the competency does not totally or fully mediates the relationship between the IV and the DV. Instead, it only partially mediates the relationship of the status and the students' 2nd term GPA. Meaning, there might be other variables influencing the interaction between the two variables.

4. CONCLUSION

Based on the result of the study, it can be seen that a bigger percentage of the participant were redirected students. These students had lower 1st term and 2nd term as compared with the non-redirected student. Their term grades can be lower by $.5$ or as much as 6 to 8 points in percentage. More so, these students have higher number of absences. It also came out that the satisfaction level of competence and relatedness needs were lower as compared to non-redirected students. Further analysis shows competency needs partially mediated the relationship between the students' status and their GPA. The non-redirected students were feeling more competent with what they are doing and this helped them obtain higher grades.

With these, the admissions office and the college of education of the said

institution might want to conduct additional study on the said groups of students to verify and further explore the effects of redirecting a student to a different program. Future researchers from other ASEAN countries may replicate the study to see if redirecting students to another program does have an influence on wellbeing and academic performance of the students. They may check if the said concern happens in other colleges or program. Possible long term effects may also be investigated through longitudinal studies. They may also recruit more participants to further strengthen the result of the study. They may also look for other ways in which the academic performance of the students can be better measured. Other sources of information like the teachers, or conducting an interview, observation or focused group discussion can be utilized to get more information on the given topic.

Despite the alarming findings, it might be safe to see the findings as a tentative set of information due to acknowledged limitation of the study. First is the relatively small number of participants. Second, the unequal number of participants per group. Lastly, the adjusted R^2 and the effect size are also small and the three (3) basic psychological needs failed to fully mediate the relationship between students' status and term GPA. There might be other variables which might have influenced the academic performance since

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