IJBPAS, December, 2015, 4(12): 6839-6849

ISSN: 2277–4998

International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS)

'A Bridge Between Laboratory and Reader'

www.ijbpas.com

THE CAUSAL RELATIONSHIP BETWEEN TEACHER AFFECTIVE SUPPORT WITH ACADEMIC ACHIEVEMENT IN BIOLOGY MEDIATED BY ATTACHMENT TO SCHOOL IN FIRST GRADE HIGH SCHOOL MALE STUDENT OF AHVAZ, IRAN

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ABSTRACT

Current research aims to examine the causal model of the perceived Affective support of teacher with Academic Achievement in Biology Mediated by Attachment to School in First Grade High School Male Student of Ahvaz, iran by pathway analysis methods. 200 first grade of high school male students in Ahvaz were selected using multistage proportion sampling method and took part in the research and were asked to complete Affective support of teacher questionnaire Sakiz, and Sakiz's Attachment to school. The results of pathway analysis showed that the exogenous variable of perceived affective support of teacher is significantly, directly related to endogenous variable of Achievement in Biology also is significantly related by mediating of Attachment to School.

Keywords: Perceived Affective Support of Teacher, Academic Achievement in Biology, Attachment to School

INTRODUCTION

The teaching of biology as a subject in secondary schools is faced with many problems. The poor academic achievement of students in biology as indicated in the report of WAEC and National Teachers Institute (NTI) as well as the result of state common entrance examination has come a persisted public outcry as regards the falling

standard of biology education. Science subjects are already facing a problem. This is mostly in the area of availability of laboratories and other teaching facilities in their right number of students studying science. Biology is very important subject; it has to be given more priority. It enables one to understand himself and his intermediate environment. Nevertheless, the knowledge acquired in Biology subject is applied in many fields as Medicine, Biochemistry, Pharmacy, Microbiology and Agriculture among others(Auwalu et al, 2014)

Students' achievement in Biology subject in Senior Secondary Certificates Examination (SSCE) has been unsatisfactory over many years. Various reasons have been attached to this problem by scholars. Dinah (2013) concluded that, availability of text books, laboratory apparatus and other learning resources contribute significantly to the performance of students in Biology examination. He added that, students with positive attitude towards the subject register better performance than those who had a negative attitude. Those with positive attitude are motivates to work hard and this is reflected in the good marks scored in the examination. Suman (2011) conducted a research on influence of parents' education and parental occupation on academic achievement of students. He concluded that education and occupation of parents positively influence the academic achievement of children. Femi (2012) concluded that education qualification of parents and health status of students are significant factors that affect the academic performance of students. According to Akinsanya et al. (2014) parents' education has the highest significant influence on the academic achievement of students. This is because the child from educated family has a lot of opportunities to study hard due to his/her access to internet, newspaper, television. They can also taught extra lessons at home. Students raised from an illiterate family have limited access to that.

One of the major factors affecting adolescents' perceptions of the academic environment is the teacher (Ferreira and Bosworth, 2001). In many of these studies, teacher support was examined under several categories such as academic/instrumental support, autonomy support, social support, and expressive support. Although social and expressive support involved several affective support dimensions, the complete investigation of teacher affective support has not yet been pursued. Teacher affective support refers to teacher behaviors, attitudes, and practices involving caring,

respect, concern for and interest in students, valuing,
recognition, fair treatment, encouragement, high expectations, and listening. Although there is a recent growing interest in emotional and affective dynamics
in teacher-student relationships, the literature is still scant (Sakiz, 2007). In recent studies, educational researchers have placed great emphasis on the influence of teacher practices, attitudes, and support on students' academic, behavioral, and psychological functioning (Baker et al., 2003). In many of these studies, teacher support was examined under several categories such as academic/instrumental support, autonomysupport, social support, and expressive support. Although social and expressive support involved several affective support dimensions, the complete investigation of teacher affective support has not yet been pursued. Teacher affective support refers to teacher behaviors, attitudes, and practices involving caring, respect, concern for and interest in students, valuing, recognition, fair treatment, encouragement, high expectations, and listening. Although there is a recent growing interest in emotional and affective dynamics
in teacher-student relationships, the literature is still scant (Sakiz, 2007).

Attachment to school is a psychological need that leads to positive psychological outcomes (Anderman, 2003). In other words, Attachment to school refers to the extent which students feel integration with other peers in school (Gueto et al., 2010). The researches showed that children with low attachment to school are likely experiencing feeling of estrangement, weak achievement and finally dropout. In contrast, high sense of belongingness may lead to high motivation and scores (Juvonen, 2006). Attachment to school refers to students' mental perception of atmosphere and settings of a school in which they are accepted and respected. Baumeister and Leary (1995) suggested that all of the people have an intrinsic need, which is sense of belongingness to social groups and establishing interpersonal positive relationships with others. With regard to the time the children and adolescents spend in academic and social fields in activities related to school, the students' sense of belongingness to school should be set by accurate program so that people goes through healthy development levels. Goodenow (1991) refers to sense of belongingness as a sense in which the person has mental membership with the school or the classrooms and the student personally feels being accepted and respected

by school and is supported from the people in school setting and the other students. Other researchers with similar impressions of this sense have used the words such as communication with the school or school connections, however, the term attachment to school is more common (Andreman and Freeman, 2004). According to many commentators, the psychological sense of attachment to school and class and even the society for students is considered prior to their learning experience. In an era when traditional sources of belongingness are declined due to demographic changes of the family and society, the school has a more important role in relation to the need (Blum et al., 2002). The students who have more sense of belonging to school are more likely involved in healthy and successful scientific behaviors. Fail of most students in school is not due to lack of necessary cognitive skills but due to being separated from others and becoming alien to the educational process. In general, In several related studies, Goodenow examined the relationship between adolescents' sense of belonging and expectations, values, motivation, effort and progress. In her first study, Goodenow (1993A) examined the relationship between the sense of membership to the school, the expectation of success, worth. The results showed that the sense of membership to the school was positively, significantly related to expectations of future achievements and academic value but was not statistically significantly related to academic effort or behavior. Goodenow (1991) mentioned that the relationship between academic effort and academic achievement may be mediated by motivation. In other research, Goodenow (1993b) examined the relationship between sense of belonging-support, academic motivation, academic effort and achievement in adolescents. Students responded to Motivation environments Inventory Questionnaire of their particular area (expectation of success and educational value), sense of belonging, and personal support in four domains (math, social studies, English and Science), that sense of belonging and class support appeared as the most powerful and highest predictor of adolescents' educational values and expectations of success. In a study, the relationship between contextual factors of school setting and motivational, emotional and academic consequences of students were similar to work of Roeser et al. (1996). Two hundreds and ninety six 8th grade students participated in this study. Students' responses to self-report questionnaire showed that students' perceived sense of belonging to school was one of strongest predictors of their

perceived academic self-efficacy. Sense of belonging to school showed a small but significant relationship with academic consequences. Students who reported high sense of belonging to school settings reported lower self-awareness (e.g. agitation and shy) in their school task involvement in compared to those who reported lower sense of belonging to school. Senses of belonging to school was significantly related to positive school emotions (e.g. good mood and glee). Perceived teacher interpersonal behaviors significantly influence students' academic enjoyment. The graph of the proposed model can be drawn as follow (see graph 1).

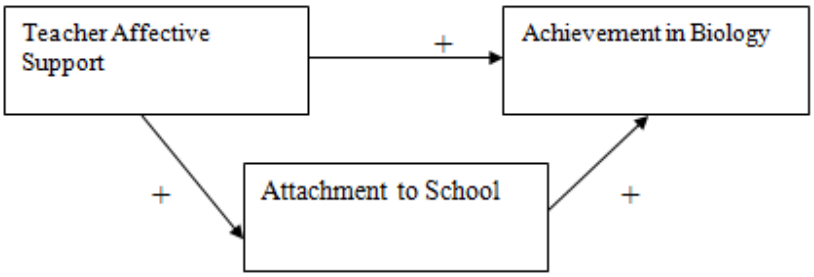


Chart 1: The proposed model of the causal relationship between of Perceived Teacher Affective Support with Academic Achievement in Biology Mediated by Attachment to School
*** In the model, + signs are indicative of positive relationship and – signs are indicative of negative relationship**

Research Hypothesis

The proposed model of the causal relationship between of Perceived Teacher Affective Support with Academic Achievement in Biology Mediated by Attachment to School in first grade high school male students of Ahvaz is fit tothe data.

MATERIALS AND METHODS

the current research is non-experimental, correlational study. In the researches that the aim is testing a model of relationships between variables, path analysis is used.

The statistical sample and population

The current study is correlation in which the connections between the studied variables are analyzed in form of a path analysis of a causal model The statistical

population of the research included all of first grade high school male students of Ahvaz in academic year of 2014-15. The multistage random (proportion) sampling

method was used to collecting data and testing the fitness of the hypothesized model. In which, initially two areas among all schools of Ahvaz were selected,

from each of which, two schools chose (totally 4 schools); and, then, in next stage, sample groups were randomly simple.

selected in proportion to all existing first high school year students of that school; all of students of selected classrooms were used in the sample. Totally, 250 students of high schools of Ahvaz were sampled. In this study, research ethics were completely followed so that participants were ensured about confidentiality of information and they filled questionnaires with full consent and anonymously in a quiet environment. In this research, following questionnaires were used to collecting information:

Teacher affective support scale

In current research, Sakiz's teacher emotional support scale (2007) was used to measure students' perceived teacher emotional support. The scale is a 5-point likert (1 = fully disagree, 2 = disagree, 3 = no comment, 4 =agree, 5 = fully agree) self-report instrument based on existing different instruments. Teacher emotional sup-port is consisted of 9 items (e.g. my English teacher frequently encourages me when I'm not doing well in class) and its validity and reliability are verified by Sakiz (2007). Teacher emotional support scale translated and validated by Sadat Hosseyni and Khayer (2010).To measure reliability of this questionnaire, they used internal consistency method and calculated the value of 0.79 for Cronbach's alpha of the test indicating its desired reliability. Confirmatory factor analysis method was used to examine its validity. The extracting criterions were eigenvalue higher than one and slope of Scree curve. The results indicate a general factor in whole of the scale. They calculated the value of 0.90 for KMO and 584.801 for x2 of Bartlett test which were significant at the level of 0.0001. Also, the Cronbach's alpha was 83%. in this research.

Attachment to school

In present research, Sakiz's (2007) Attachment to school scale was used to measure students' Attachment to school. This scale is a self-report scale which its items are of likert type (1 = fully disagree, 2 = disagree, 3 = no opinion, 4 = agree, 5 = fully agree) and has made based on existing different tools. The sense of belonging to school scale consisted of 8 items (e.g. I am treated as respectful as others in English class) and the evidences of its reliability and validity are reviewed and confirmed. Sakiz (2007), using Cronbach' alpha, obtained 0.88 for reliability coefficient of Attachment to school subscale from Attachment to school scale. Also, he examined the validity of this subscale using confirmatory factorial

analysis and the obtained results showed that the structure of this subscale has an acceptable fitness with data. Furthermore, Cronbach's alpha for this research was 77%.

RESULTS

Table 1. The correlation matrix between the studied variables. As it is shown in table 1, there is a positive, significant correlation between teacher Affective support and Achievement in Biology (p = 0.001, R = 0.67). Also, there is a positive, significant correlation between attachment to school and Achievement in Biology (p = 0.001, R = 0.70).

Path analysis method was used to evaluate the proposed model, and all of the analyses were done using SPSS-18 and AMOS-18, also, a combination of fitness indices were used to determine the adequacy of the fitness of the proposed model with data. In order to examine the fitness of the model, the indices of $\chi 2$, CFI,

IFI, GFI, CFI, RMSEA, and AGFI were used and, according to table 2, all of them were in an acceptable level. Therefore, the fitness of the predictive model of Achievement in Biology is in an appropriate level.

Given the results of table 2, can be seen that in the proposed model for the whole of the sample, the GFI was 0.963, AGFI was 0.930, IFI was 0.989, CFI was

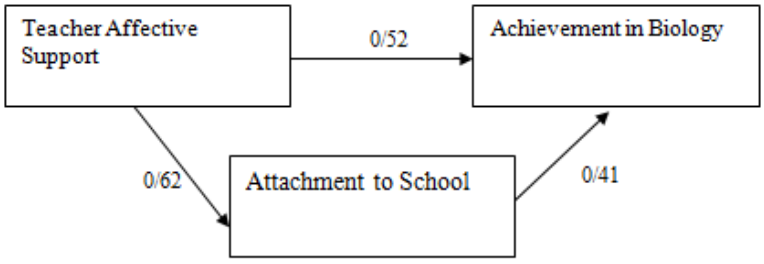
0.990, and RMSEA was 0.075, which indicate the proposed model had an appropriate fitness and is in compliance with the observed data.

Table 1: Relationship between teacher affective support, Attachment to school and Achievement in Biology

Research Variables	1	2	3
Teacher Affective Support	1		
Attachment to School	0.56**	1	
Achievement in Biology	0.67**	0.70**	1

Table 2.The fitness indices of the initial

Index	Estimated values
X^2	21/62
GFI	0/963
AGFI	0/930
IFI	0/989
CFI	0/990
RAMSEA	0/075



In graph 2, the proposed model of the current research and the path coefficients between variables are report

DISCUSSION AND CONCLUSION

The aim of the current research was to examine the causal model of the relationship of perceived teacher affective support, Attachment to School in predicting the Achievement in Biology. In doing so, a model was chose and tested using path analysis method. The results show that the selected model has an appropriate fitness with the data and can explain the Achievement in Biology. The perceived teacher affective support had significantly impact on Achievement in Biology. Indeed, it can be said that teachers have major impact on learning Biology in classroom. If they create a dysregulate, unsupportive class environment, students will not get motivated to learn. If students feel the attitude teachers have toward them is unfair, then they probably will not take part in educational tasks. Some teachers emphasize more on competition and students' academic abilities than participating in accomplishing tasks and improvement in their classrooms, which this, in turn, may lead students to demonstrate "failure avoiding" behaviors such as disengaging in Biology class activities. The problems of student's under achievement in biology have been observed by many researchers and viewed in different angles due to its diversity. Cohen (1976) put it that "directly or indirectly classroom interactions are controlled by the teacher for it is he who promotes particular learning situation through his choice of objective, organization of experience, selection of materials and methods in order to facilitates the students' academic performance. Owino et al. (2014) attached the problem with inadequate supply of teaching and learning resources such as chemicals, charts, apparatus, models, local specimens, laboratories, textbooks, and libraries led to poor performance in Biology. They added that irregularities related to the teacher of Biology such as irregularity in administration of practical, class discussion, teachers not allowing students to ask questions, teachers not giving prompt feedback on assignments or exams, by not making the Biology subject interesting and teachers not conducting demonstration during practical. Consistent with expectations, perceived teacher affective support was directly associated with students'Attachment to school. Students who reported greater teacher affective support within their classroom were likely to report higher Attachment in classroom. Given all these suggestions, one final point to add is that to increase awareness about the impact of affective learning environments on students'

functioning, educational policies as well as pre-service teacher preparation programs should dedicate more time emphasizing this concept in their agendas and curriculums.

Limitations of the study

Among the limitations of the present study was that the study was conducted on male high school students. Therefore, generalization to female students or lower levels is not possible. In this study, questionnaires were exclusively used. Because of this reason, there may be a bias in obtained information. The findings of this study cannot be generalized to other cities and cultures.

ACKNOWLEDGMENT

Of all the people who helped us in conducting this study, we Thanks

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