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Socio-economic status and aggression as the predictors of academic performance

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ABSTRACT

In order to assess the impact of level of aggression and socio-economic status on academic performance, a sample of 100 students (50 males and 50 females) of 9th and 11th classes was collected from Jammu region schools. With the help of linear regression we found that both aggression level as well as socio-economic status has statistically significant impact on academic performance of students. We found some important findings as when we tried to assess the impact of these both variables on academic performances of male and female samples separately. We found that the impact of aggression level on the academic performance of females is non-significant but it is significant in case of male sample. On the other hand socio-economic status has significant impact and aggression level has non-significant impact on the academic performance of the female students.

Key Words : Aggression, Socio-economic status, Academic performance

INTRODUCTION

Aggression :

Aggression comes from the Latin work aggress, 'ad' (to or toward) and greater (walk). Literally, the word means to "to work towards or approach". Tatum (1980) viewed aggression as the deliberate intent to harm another person. This includes physical, psychological or social harm, but in sports, physical harm is the primary focus. According to Baron and Richardson (1994) aggression is any form of behavior directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment. Another popular conception is called the frustration-aggression hypothesis, proposed by Dollard and his colleagues (1939). They suggested that frustration - the blocking of goal directed behavior, creates a drive to aggress against a person or object. Through aggression the drive is dissipated. According to this theory, the causes of aggression, originally has three modeling influences: *family, subculture and symbolic modeling,* (Bandura, 1976). Russell (1993) suggested that outside of war time, sports is perhaps the only setting in which acts of interpersonal

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aggression are not only tolerated but enthusiastically applauded by large segment of society.

Anderson and Dill (2000) found in their study that real-life violent video game play was positively related to aggressive behavior and delinquency. However, Barriga and his associates (Barriga *et al.,* 2002) showed that aggressive behavior syndromes exhibited significant zero-order correlations with the academic achievement measures. Connor (2004) found a strong association between academic failure and aggression. Stipek and Miles (2008) found relationship between aggression and achievement is complex and reciprocal. Johnson (2009) in his research showed that an overall low average was a better predictor for the likelihood of a student displaying aggression at school than was a specific learning disability label. Chen and his associate (2010) found their research that aggression had unique effects on later social competence and academic achievement. Thus there are mixed results as per the level of aggression and the academic performance is concerned. The concept of aggression has gained an international credit due to its increasing importance (Abasiubong *et al.*, 2011) and it is widely recognized in education field since the existing literature discusses its wide use during middle childhood and adolescence (Kikas *et al.*, 2009).

Socio-economic status :

Socioeconomic status (SES) is often measured as a combination of education, income and occupation. It is commonly conceptualized as the social standing or class of an individual or group. Its careful examination as a gradient or continuous variable revealed inequities in access to and distribution of resources. It is relevant to all realms of behavioral and social science, including research, practice, education and advocacy. Low SES correlates positively with lower education, poverty and poor health. Behavioral and other social science professionals possess the tools necessary to study and identify strategies that could alleviate these disparities at both individual and societal levels (Education and Socioeconomic Status Factsheet by APA, 2016).

Socio-economic status and education :

Research continues to link lower SES to lower academic achievement and slower rates of academic progress as compared with higher SES communities. Children from low SES environments acquire language skills more slowly, exhibit delayed letter recognition and phonological awareness, and are at risk for reading difficulties (Aikens and Barbarin, 2008). Children with higher SES backgrounds were more likely to be proficient on tasks of addition, subtraction, and ordinal sequencing and math word problems than children with lower SES backgrounds (Coley, 2002). Students from low SES schools entered high school 3.3 grade levels behind students from higher SES schools. In addition, students from the low SES groups learned less over 4 years than children from higher SES groups, graduating 4.3 grade levels behind those of higher SES groups (Palardy, 2008). In 2007, the high school dropout rate among persons 1624 years old was highest in low income families (16.7 %) as compared to high income families (3.2 %) (National Center for Education Statistics, 2008). Research indicates that children from low SES households and communities develop academic skills more slowly compared to children from higher SES groups (Morgan, *et al.,* 2009). Initial academic skills are correlated with the home environment, where low literacy environments

and chronic stress negatively affect a child's preacademic skills. The school systems in low SES communities are often under resourced, negatively affecting students' academic progress (Aikens and Barbarin, 2008). Inadequate education and increased dropout rates affect children's academic achievement, perpetuating the low SES status of the community. Improving school systems and early intervention programs may help to reduce these risk factors, and thus increased research on the correlation between SES and education is essential (Education and Socioeconomic Status Factsheet by APA, 2016).

Review of literature:

Researchers prior to the 1970s, primarily studied aggression by conducting observational studies of children's physical and verbal behaviors in classrooms and schoolyards (MacCoby and Jacklin, 1974; Frodi *et al.,*1977; Bjorkqvist, 1994). In addition to it, most of the early studies tried to assess the gender differences in aggression level in different age groups or fields like sports and professions. Despite findings from cross-cultural studies where women were found to be more physically aggressive than men (Fry, 1992), in western-culture studies males were found to be much more aggressive than females (MacCoby and Jacklin, 1974; Frodi e*t al.*, 1977). MaCoby and Jacklin (1974) reviewed 28 observational studies on aggression in children and found that boys consistently scored higher in physical aggression categories than girls. In a literature review of 142 observational studies of gender and aggression, Frodi, Macaulay, and Thome (1977) also found that boys were generally more aggressive than girls. Boys appeared to be so much more aggressive than girls that some researchers actually omitted female participants from their studies and deemed the study of female aggression as unnecessary (Buss, 1961; Frodi *et al.,* 1977).

Uludag (2013) examined the effects of one-dimensional aggression scale (composed of verbal aggression, anger with resentment, physical aggression, and suspicion) on students' current academic achievement score (GPA) and cumulative academic achievement score (CGPA). Undergraduate students (N=1481) partook in the current study at a university in Northern Cyprus. Demographic variables such as age, gender, and class-size have also been incorporated into the analyses and were treated as control variables. Multiple regression analyses have been deployed to test the hypothesized relationship. Results revealed that aggression had significant negative effects on students' current academic achievement (GPA) and cumulative academic achievement score (CGPA). Inclusion of control variables into the regression equation did not confound the effect of aggression on both achievement scores. Additionally, variance inflation factor (VIF) was controlled to monitor the issue of multi-collinearity. The results depicted that all VIF values were below the benchmark value.

Silva (1983) found that it is commonly reported that males are naturally more aggressive than females. Mark Griffiths (1999) one of the main concern that has constantly been raised against video games is that most of the games feature aggressive elements. This has led many people to assert that this may have a detrimental effect on individuals who play such games.

Henrietta and Odozi (2014) explored the influence of parental socio-economic status on academic achievement of 180 students of secondary schools in selected Schools of Nigeria: A case study of Enugu State. The four factors named parental socio-economic background,

parental educational background, parental educational qualification and students' health statuses. Parental socioeconomic status and parental educational background did not have significant effect on the academic performance of the students. However, the parental educational qualification and health status of the students were identified to have statistical significant effect on the academic performance of the students. The two variables that indicated significant influence do reflect nature of the student home environment and played notable role in the academic achievement of the respondents. Government could intervene to raise level of academic achievement among students in rural area.

METHODOLOGY

Objectives of the study :

To assess the impact of aggression and socio-economic status on academic performance of 9th and 11th class students.

To assess the impact of aggression and socio-economic status on academic performance of male students of 9th and 11th class students.

To assess the impact of aggression and socio-economic status on academic performance of female students of 9th and 11th class students.

Hypotheses :

There will be no significant impact of aggression and socio-economic status on academic performance of 9th and 11th class students.

There will be no significant impact of aggression and socio-economic status on academic performance of male students of 9th and 11th class students.

There will be no significant impact of aggression and socio-economic status on academic performance of female students of 9th and 11th class students.

Sample of the study :

For present study we selected a total sample of 100 students (50 males and 50 females) of 9th and 11th class falling in the age group of 14 to 18 years. All are students from Jammu region schools.

Variables :

Predictor variables

- Aggression level
- Socio-economic status

Criterion variable:

- *Academic Performance*

Tools used :

Aggression scale : Aggression Scale – Hindi Version (2004) developed by G. P. Mathur and R. Bhatnagar is used which consisted 55 items and can be used with the children of 14

plus age group.

Further a demographic sheet is also prepared through which socio-economic (family income) status will be recorded from each student.

RESULTS AND DISCUSSION

In present study our first objective was to assess the impact of aggression and socio-economic status on academic performance of 9th and 11th class students corresponding to which a null hypothesis was stated as there will be no significant impact of aggression and socio-economic status on academic performance of 9th and 11th class students. In order to test this hypothesis we used forward linear regression analysis with the help of IBM SPSS Statistics 20. Results of analysis are given in Table 1 and 2.

Table 1 : ANOVA in regression for total sample using aggression and socio-economic status as predictor variables and percentage or academic performance as a criterion variable

ANOVA						
Sr. No.	Model	Sum of squares	df	Mean square	F	Sig.
1.	Regression	2966.1811	1	296.181	19.026	.000[b]
	Residual	15278.015	98	155.898		
	Total	18244.196	99			
2.	Regression	4702.838	2	2351.419	16.844	.000[c]
	Residual	13541.358	97	139.602		
	Total	18244.196	99			

(a) Criterion variable: academic performance of students
(b) Predictors: (constant), aggression level
(c) Predictors: (constant), aggression level, socio-economic status

Table 2 : Model summary of regression with aggression level and socio-economic status as the predictors and academic performance as the criterion variable

Model summary									
Model	R	R square	Adjusted R square	Std. error of the estimate	Change statistics				
					R Square change	F change	df1	df2	Sig. F change
1.	.403[a]	.163	.154	12.48592	.163	19.026	1	98	.000
2.	.508[b]	.258	.242	11.81531	.095	12.440	1	97	.001

We used forward method of linear regression and found that out of the two predictor variables selected in this study aggression level is found to be more strongly predicting variable of academic performance. In case of model 1, calculated F is 19.026 and corresponding significance value is .003 which is significant at .01 levels. We can say that our model; F (1, 98) = 19.026, p = .000 is significant at .01 level. Further, R square is .163 which shows that 16.3 % of variance in criterion variable (academic performance) is accountable to predictor variable (socio-economic status).

When another predictor variable (socio-economic status) was included in the model *i.e.* model -2, value of R square increases to .258. So we can say that 25.8% *i.e.* approximately

26% of the variance in academic performance is explained by both of these variables. Therefore, if aggression level accounts for 16.3%, we can tell that socio-economic status accounts for an additional variance of 9.5%. There are researches supporting the influence of socio-economic status on academic performance like a meta-analysis by Sirin (2005) reviewed the literature on socioeconomic status (SES) and academic achievement in journal articles published between 1990 and 2000. The sample included 101,157 students, 6,871 schools, and 128 school districts gathered from 74 independent samples. The results showed a medium to strong SES–achievement relation.

Table 3 : Coefficients of regression with aggression level and socio-economic status as the predictors and academic performance as the criterion variable

Models		Un-standardized coefficients		Standardized coefficients	t	Sig.
		B	Std. Error	Beta		
1.	Constant	24.790	11.372		2.180	.032
	Aggression level	.255	.058	.403	4.362	.000
2.	Constant	25.379	10.762		2.358	.020
	Aggression level	.210	.057	.332	3.697	.000
	Socio-economic status	.348	.099	.317	3.527	.001

In order to interpret the slopes and y-intercepts, let us have a look on the coefficients; standardized (β = beta) and un-standardized (B). In case of first model our calculated B is .255 and â (Beta) is .403 which basically shows the slope of regression line for aggression level. In turn slope shows the rate at which y (criterion variable), varies with *per unit change* in predictor variable. So our equation of regression line would be as:

$$y = .255x + 24.790$$

Thus, for every 1 unit change in aggression level there will be a significant change of .255 units in the academic performance. But question arises whether this slope or change is significant or not. For it we have to look at t-ratio and significance value which are 4.362 and .000 respectively showing that it is significant at .01 level of significance. Now come to model 2 in which an additional predictor variable namely socio-economic status is added along with aggression level. Here, for aggression level, calculated B is .210 and â is .332 and for socio economic status these values are .348 and .317 respectively and both are found significant at .01 level. For this model our equation becomes:

$$y = .210x_1 + .348x_2 + 25.379$$

Our second objective was to assess the impact of aggression and socio-economic status on academic performance of male students of 9^{th} and 11^{th} class students for which we formulated a null hypothesis. Again we used regression analysis and found that our null hypothesis is rejected as we found significance values in the analysis of variance (ANOVA) is 0.000 for both socio-economic as well as aggression level. We again used forward method of linear regression and found that out of the two predictor variables selected in this study socio-economic status is found to be more strongly predicting variable of academic performance for male sample. In case of model 1, calculated F is 21.661 and corresponding significance value is .000 which is significant at .01 level. We can say that our model: F (1,

48) = 21.661, p = .000 is significant at .01 level. Further, R square is .311 which shows that 31.10 % of variance in criterion variable (academic performance) is accountable to predictor variable (socio-economic status).

Table 4 : ANOVA in regression analysis for male sample using aggression and socio-economic status as predictor variables and percentage or academic performance as a criterion variable

ANOVA						
Sr. No.	Model	Sum of squares	df	Mean square	F	Sig.
1.	Regression	2826.757	1	2826.757	21.661	.000[b]
	Residual	6263.972	48	130.499		
	Total	9090.729	49			
2.	Regression	4181.110	2	2090.555	20.013	.000[c]
	Residual	4909.619	47	104.460		
	Total	9090.729	49			

(a) Criterion variable: academic performance of students
(b) Predictors: (constant), socio-economic status
(c) Predictors: (constant), socio-economic status, aggression level

In case of second model when both the variables are added as predictors, value of R square increases to .460. So we can say that 46% i.e. approximately 26% of the variance in academic performance is explained by both of these variables. Therefore, if aggression level accounts for 31.10%, we can tell that aggression level accounts for an additional variance of 14.9% *i.e.* approximately 15%.

Table 5: Model summary of regression analysis for male sample with aggression level and socio-economic status as the predictors and academic performance as the criterion variable

Model summary									
Model	R	R Square	Adjusted R Square	Std. Error of the estimate	Change statistics				
					R Square change	F change	df1	df2	Sig. F Change
1.	.558[a]	.311	.297	11.42363	.311	21.661	1	48	.000
2.	.678[b]	.460	.437	10.22057	.149	12.965	1	47	.001

Now, let us have a look on the coefficients; standardized (β = beta) and unstandardized (B) given in table-6. In case of first model our calculated B is .601 and β (Beta) is .558. So our equation of regression line would be as:

$$y = .601x + 56.103$$

Thus, for every 1 unit (10, 000) change in socio-economic status there will be a significant change of .601 units in the academic performance. If we have to look at t-ratio and significance value which are 4.654 and .000 respectively showing that it is significant at .01 level of significance. Now come to model-2 in which an additional predictor variable namely aggression level is added along with aggression level. For socio-economic status, calculated B is .474 and â is .440 and for aggression level these values are .601 and .558. For this model our equation becomes:

$$y = .474x_1 + .236x_2 + 13.847$$

Table 6 : Coefficients of regression analysis for male sample with aggression level and socio-economic status as the predictors and academic performance as the criterion variable

Models		Un-standardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1.	Constant	56.103	3.569		15.718	.000
	Socio-economic status	.601	.129	.558	4.654	.000
2.	Constant	13.847	12.162		1.139	.261
	Socio-economic status	.474	.121	.440	3.922	.000
	Aggression level	.236	.065	.404	3.601	.001

Our last objective was to assess the impact of aggression level and socio-economic status on academic performance of female students of 9th and 11th class students for which we formulated a null hypothesis. In our regression analysis and found that our null hypothesis is rejected as we found significance values in the analysis of variance (ANOVA) is 0.042 only for socio-economic status. We used forward method of linear regression and found that out of the two predictor variables selected only socio-economic status is found to be predicting variable of academic performance for female students. As we seen above in case of male students both variables, socio-economic status as well as aggression level significantly predicts the academic performance which is not found in case of female sample. Prediction of academic performance of female students on the basis of socio-economic status is significant at .05 level of significance and not at .01 level.

We can see in the Table 7 that calculated F is 4.35 and corresponding significance value is .042 which is significant at .05 levels. In other words our model: $F(1, 48) = 4.35$, $p = .042$ is significant at .05 level. Further, R square is .083 which shows that 8.3% of variance in criterion variable (academic performance) is accountable to predictor variable (socio-economic status).

Table 7 : ANOVA in regression analysis for female sample using aggression and socio-economic status as predictor variables and percentage or academic performance as a criterion variable

ANOVA						
	Model	Sum of squares	df	Mean square	F	Sig.
1.	Regression	676.780	1	676.780	4.350	.042[b]
	Residual	7467.545	48	155.574		
	Total	8144.325	49			

(a) Criterion variable: academic performance of female students
(b) Predictors: (constant), socio-economic status

In order to interpret the slope and y-intercept let us have a look on coefficients; standardized (β = beta) and un-standardized (B) given in Table 9. In this model B is .308 and â is .288 that makes our equation as:

$$\mathbf{y = .308x_1 + 70.467}$$

In other words, for every single unit change in socio-economic status there will be a change of .308 units in the academic performance of female students.

Although we added both the variables for female sample but only socio-economic status

Table 8 : Model summary of regression analysis for female sample with aggression level and socio-economic status as the predictors and academic performance as the criterion variable

Model summary									
Model	R	R square	Adjusted R square	Std. Error of the estimate	Change statistics				
					R Square change	F change	df1	df2	Sig. F change
1.	.288[b]	.083	.064	12.47292	.083	4.350	1	48	.042

Table 9 : Coefficients of regression analysis for female sample with aggression level and socio-economic status as the predictors and academic performance as the criterion variable

Sr. No.	Models	Un-standardized Coefficients		Standardized coefficients	T	Sig.
		B	Std. Error	Beta		
1	Constant	70.467	3.708		19.004	.000
	Socio-economic status	.308	.147	.288	2,086	.042

Table 10: Excluded variables in the regression analysis for female sample with aggression level and socio-economic status as the predictors and academic performance as the criterion variable

Excluded variables						
Model		Beta In	t	Sig.	Partial correlation	Co-linearity statistics
						Tolerance
1.	Aggression level	.207[b]	1.501	.140	.214	.976

predicted academic performance of significantly about which regression analysis is reported here and we reported aggression level as the excluded variable as shown in table-10.

Conclusion :

Following are the conclusions that can be drawn from the present study:

– There is significant impact of aggression level and socio-economic status on academic performance of secondary and senior secondary students.

– There is significant impact of aggression and socio-economic status on academic performance of male secondary and senior secondary students.

– There is significant impact of socio-economic status on academic performance of female secondary and senior secondary students.

Limitations of the study :

Every research has its own pros and cons. Our present study in addition to some important findings also had some short comings that we listed below:

– The sample collected was small and included only 9th and 11th class. Our sample must have included 9th, 10th, 11th and 12th class. But the reason behind not choosing 10th and 12th class was their board exams which might have different psychological impacts.

– We considered percentage of their immediate previous class as the measure for academic achievement. So there may b a question mark.

REFERENCES

Abasiubong, F., Abiola, T. and Udofia, O. (2011). A comparative study of aggression amongst Nigerian university students in Niger Delta region. *Psychology, Health & Medicine,* **16**(1) : 86-93.

Aikens, N.L. and Barbarin, O. (2008). Socioeconomic Differences in Reading Trajectories: The Contribution of Family, Neighborhood, and School Contexts. *J. Educational Psychol,* **100**(2) : 235-251.

Anderson, C. A. and Dill, K.E. (2000). Video games and aggressive thoughts, feelings, and behavior in the laboratory and in life. *J. Personality & Soc. Psychol.*, **78** : 772-790. doi:10.1037/0022-3514.78.4.772

APA (2016). *Education and Socioeconomic Status Factsheet.* Retrieved from http://www.apa.org/pi/ses/resources/publications/factsheeteducation.aspx

Bandura, A. (1976). Social learning analysis of aggression. In E. Ribes-Inesta & A. Bandura (Eds.), *Analysis of delinquency and aggression*. Hillsdale, NJ: Erlbaum.

Baron, R. A. and Richardson, D. R. (1994). *Human Aggression*, 2nd edition. New York: Plenum Press.

Barriga, A.Q., Doran, J.W., Newell, S.B., Morrison, E.M., Barbetti, V. and Robbins, B.D. (2002). Relationships between problem behaviors and academic achievement in adolescents: The unique role of attention problems. *J. Emotional & Behavioral Disorders,* **10**(4) : 233-240, doi:10.1177/10634266020100040501

Björkqvist, K. (1994). Sex differences in physical, verbal, and indirect aggression: A review of recent research. *Sex Roles,* **30**(3–4): 177–188. doi:10.1007/BF01420988.

Bjorkqvist, K., Lagerspetz, K.M. and Osterman, K. (1994). Sex Differences in Covert Aggression. *Aggressive Behavior,* 202: 27–33. Retrieved from *http://www.vasa.abo.fi/svf/up/articles/sexdiff_in_covert.pdf.*

Buss, A. H. (1961). *The Psychology of Aggression*. New York: Wiley.

Chen, X., Huang, X., Chang, L., Wang, L. and Li, D. (2010). Aggression, social competence, and academic achievement in Chinese children: A 5-year longitudinal study. *Development & Psychopathology*, **22** : 583-592. doi:10.1017/S0954579410000295

Coley, R.J. (2002). *An uneven start: Indicators of inequality in school readiness*. Princeton, NJ: Educational Testing Service.

Connor, D.F. (2004). Aggression and antisocial behavior in children and adolescents: Research & treatment. New York: The Guilford Press.

Dollard, J., Doob, L.W., Miller, N.E., Mower, O.H. and Sears, R. R. (1939). *Frustration and Aggression.* New Haven, CT: Yale University Press.

Frodi, A., Macauley, J. and Thome, P. R. (1977). Are women always less aggressive than men? A review of the experimental literature. *Psychological Bulletin,* **84** : 634-660.

Fry, D. (1992). Female aggression among the Zapotec of Oaxaca, Mexico. In K. Björkqvist & P. Niemelä (Eds.), *Of mice and women: Aspects of female aggression*. San Diego, CA: Academic Press.

Griffiths, M. (1999). Violent video games and aggression: a review of the literature. *Aggression & Violent Behaviour,* **4**(2) : 203-212.

Mathur, G. P. and Bhatnagar, R. (2004). *Manual for Aggression Scale.* National Psychological Corporation.

Henrietta, M. C. and Odozi, I.C. (2014). Influence of parental socioeconomic status on academic achievement of students in selected schools in Nigeria: A case study of Enugu State. *J. Educational & Practice,* **5**(2) :

Johnson, C. L. F. (2009). Low academic performance and specific learning disabilities: Determining the better predictor of aggressive behavior at school. Lynchburg: Liberty University.

Kaur, A. (2010). The Comparative Study of Aggression between Female Players and Non- Players. *J. Health & Fitness,* **2**(2) : 30-34.

Kikas, E., Peets, K., Tropp, K. and Hinn, M. (2009). Associations between Verbal Reasoning, Normative Beliefs about Aggression, and Different Forms of Aggression. *J. Res. Adolescence,* **19**(1) : 137-149.

MacCoby, E.E. and Jacklin, C.N. (1974). *The psychology of sex differences.* Stanford: Stanford University Press. Retrieved from http://books.google.co.uk/books/about/The_Psychology_of_Sex_Differences_Annota.html?id=2g63eUFP7VkC.

Morgan, P. L., Farkas, G., Hillemeier, M. M. and Maczuga, S. (2009). Risk factors for learning-related behavior problems at 24 months of age: Population-based estimates. *J. Abnormal Child Psychology,* **37** : 401-413.

Palardy, G.J. (2008). Differential school effects among low, middle, and high social class composition schools: A multiple group, multilevel latent growth curve analysis. *School Effectiveness & School Improvement,* **19** : 21-49.

Russell, G.W. (1993). *The Social Psychology of Sport.* New York: Springer.

Silva, J.M. (1983). The Perceived Legitimacy of rule violating behaviour in sport. *J. Sports Psychol.,* **4** *:* 438-448.

Sirin, S.R. (2005). Socioeconomic Status and Academic Achievement: A Meta-Analytic Review of Research. *Rev. Educational Res.,* **75**(3) : 417–453.

Stipek, D. and Miles, S. (2008). Effects of aggression on achievement: Does conflict with the teacher make it worse? *Child Development,* **79** *:* 1721-1735.

Uludag, O. (2013). The Influence of Aggression on Students' Achievement: Evidence from Higher Education. Second Cyprus International Conference on Educational Research, University of Mediterranean Karpasia, Nicosia, Turkish Republic of Northern Cyprus.