



GENDER ROLES AND BOY-CHILD EDUCATIONAL ASPIRATIONS IN SECONDARY SCHOOLS IN NAKURU COUNTY, KENYA

Benjamin K. Koskeiⁱ, Godfrey K. Ngeno, Catherine Simiyu
Moi University, School of Education, Department of Educational Psychology

Abstract:

The present study was an attempt to explore the influence of gender roles on boy-child educational aspirations in secondary school in Nakuru County, Kenya. The question of educational aspirations among Kenyan boys has become the subject of concern. It is against this background that the need for this study was envisaged. The researcher employed a causal comparative (*ex-post facto*) design in the study. The study involved a sample of 420 Form three boys in secondary schools. Research instruments used in collecting data were questionnaire and interview schedule. A pilot study was carried out to ensure reliability of the instrument. Internal consistency was determined through the use of Cronchbach's alpha formula and a coefficient of 0.867 was obtained. Expert judgment was employed to establish the validity of the research instrument. The finding from this study revealed that gender roles significantly influenced boys' educational aspirations. It is anticipated that the study will aid to develop greater insights into the above factor influencing the boy-child educational aspirations in public secondary schools for the purpose of improving the quality of education in Kenya. Knowledge of such factors would be useful to government, parents and teachers since it may guide in formulating strategies that may improve boys' educational aspirations

Keywords: gender roles, boy-child and educational aspirations, secondary school

1. Introduction

Educational aspiration is a significant factor for the enhancement of the education of any person. It is a craving for high achievement in education. It is a crucial aspect of individual's intrinsic motivation, since it determines individual efforts towards

ⁱ Correspondence: email benjkos@yahoo.com

attaining goals. High level of educational aspirations is an indicator of high level of achievement and success. Scholastic success of learners is significantly influenced by educational aspirations (Singh & Varma, 1995). In order to develop educational aspirations one should possess a strong desire and willingness to work hard. A person with higher educational aspirations tries to gather new knowledge from whichever the field he/she enters. Development of educational aspirations is influenced by a number of factors. The significant influence of cultural factors on educational aspiration was reported by Flaxman (1992). Family environment strongly influenced educational aspiration of children (Tanya, Beth, Carolyn, & Deborah, 2009; Sino, 2010; Madarasova, Tavel, & Abel, 2010; Boxer, Delorenzo, Savoy, & Mercado, 2011; Gil, Padilla, Teresa, & Suarez, 2011).

One of the eight Millennium Development Goals (MDGS) is that by 2015 all children in developing countries should complete primary school education. The target of MDG number 3 was the elimination of gender disparities in primary and secondary education preferably by 2005 and at all levels of education not later than the year 2015. The MDGS were succeeded by seventeen Sustainable Development Goals (SDGs) of which number 4 is about ensuring inclusive and equitable quality education and promoting life-long learning opportunities for all. Unlike the MDGs, it focuses predominantly on educational/learning outcomes and cognitive skills rather than school attendance and enrolment, thereby taking into serious consideration the recommendations made in recent years by the Education for All (EFA) initiative and new empirical research. In particular, it is specific about access to knowledge beyond schooling, such as, for instance, access to information (media, newspapers, and internet). In the target 4.1 it requires by 2030 to “ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes” [Hanushek](#) & Ludger, (2015). In Kenya specifically, a lot of activities are geared towards enhancing girl-child education while that of boys appears obscure.

Most African countries, Kenya included, have lagged behind in development due to high levels of illiteracy. This has robbed these countries a chance to realize their development potential. Different stakeholders consider education as more of basic human necessities than a luxury. Education as a human right has been enshrined in several significant International Human Rights instrument, including Universal Declaration of Human Rights (1948), the International Covenant on Economics, Social and Cultural Right (1969), the Convention on the Right of a Child (1989), the World Conference on Education For All (EFA) in Jomtien, Thailand, (1990), the Dakar Declaration (2000), and the Millennium Declaration (2000).

2. Purpose of the study

The purpose of this study was to investigate the influence of gender roles on boy-child educational aspirations in secondary schools. It was hoped that the study will provide information that helped in developing policies so as to adequately respond to continuously changing trends of the boys in school.

3. Literature Review

According to Figueroa (2000), female gender roles are more conducive to the requirements of successful studious behavior. The researcher contends that girls' early childhood socialization and their role within the household work well with the demands of homework and reading, whereas the social space occupied by boys rejects this. As equal opportunities have increased within the educational system, these female gender identities have become more and more in tune with the ethos of education (discipline, more adult supervision, more responsibility) while boys have increasingly been alienated from inhabiting the space of academic aspiration. As boys fall behind within schooling, this problem becomes exacerbated by their acquisition of a defensive posture that translates into negative associations such as homophobia. Some of the literature on the feminization of schooling has a complexity that places it within the limits of (a) certain academic subjects that are dominated by girls, often referred to as 'soft' subjects; and (b) a certain time-frame of schooling that sees these perceptions of femininity being overcome by some boys as they grow older. This presents a broader perspective on the overall issue of boys' educational aspirations that challenges the idea of boys being disadvantaged in the long term. The humanities and languages in particular have come under serious focus as the areas where boys mainly underachieve (Figueroa 2000).

Figueroa (2000) ties this discussion into a broader issue of Creole and slang and their usage by boys in Jamaican society as a badge of masculinity, whereas Standard English is viewed as effeminate. This issue surrounding language presents a further dialogue on class and ethnicity that will be explored later. More generally, Figueroa (2000) once again approaches the dominance of better female performance in the humanities as a consequence of gender stereotyping, where 'harder' subjects, such as the physical sciences and mathematics, continue to be the preserve of males. In the Guyanese context, Hunte (2002) argues the opposite by maintaining that as time goes by, the sciences are also becoming more open to women. The changing roles of men and women, he argues, are proving to be educationally disadvantageous for men, with "the

educated male fast becoming an 'endangered species'", as witnessed by the outnumbering of men by women at the tertiary level graduations of the University of the West Indies and the University of Guyana. Conversely, in one of the few findings on this subject in Africa, the Multi-Site Teacher Education research Project (MUSTER) included statistics showing that despite successful attempts to address gender stereotyping in Lesotho – with boys showing considerable interest in such traditional female subjects as nutrition and cookery–there was nonetheless a rise in drop-out rates among boys as they reached late primary and transitioned to early secondary school (Jobo, 2001). Marks (2001), shows that by age 14 girls in the UK start to substantially out-perform boys in English. Boys' lower performance has been attributed to the use of more 'female-oriented' reading materials, with suggestions that the inclusion of more factual, 'male-oriented' works could increase male performance. This argument can also be found in Hunte (2002) in the context of Guyana. A number of studies have pointed out how better performance by boys in traditionally feminine subjects such as languages is perceived to be 'gender inappropriate' and hence undesirable in different contexts.

Epstein's study (1998) on British education draws attention to the limitations of the timeframe within which the impact of masculine perceptions and the subsequent view of schooling as 'feminine' takes place. The researcher argues that although girls outperform boys in schools from late primary up to the taking of GCSE examinations, this phenomenon does not extend to the sixth form and 'A' levels, where boys become free to aspire academically due to a shift within masculine identity from anti-'feminine' and anti-school, to that of a "muscular intellectualness" inherent within hegemonic middle-class masculinity. But the fact that the British sixth form is a non-compulsory form of education, coupled with the availability of this "muscular intellectualness" in only a narrow class context, presents further questions of gender roles and academic universality that need to be addressed when studying boys' underachievement. In other words, while disaffection towards schools may inhabit a limited timeframe, and any disparity for middle-class boys may be redressed in later stages of academia, educational opportunities would already have passed for many boys who lack the privileges of class.

In Africa, for example, children are often needed to work on the family land and the loss of their labour is a cost to their parents, even if paid employment in the 'modern sector' is not available. This propels parents not to educate their children especially the boy-child so that they work for the family. Boy-child often engages in manual jobs, does not attend schooling and exploited as result of child labour. Empirical studies contend that more emphasis should be placed on girl-child

education in many countries. This had led to back grounding of boy-child thus detrimental (Dube, 2005).

According to Dube, (2005) continuous lobbying and advocacy, and training to mainstream gender equity in the entire education system will have to be intensified. Development of realistic gender sensitive benchmarks and indicators is a critical variable in achieving EFA goals. Targeting of the girl-child, and in some instances the boy-child, is necessary if not essential for EFA. This has led the boy child to be relegated to the periphery and thus endangered. Childhood Sexual Abuse (CSA) is a worldwide problem. Although most studies on the long-term consequences of CSA have focused on women, sexual abuse of both boys and girls is common (Dube, 2005).

The employment data in Samoa reveals that a high proportion of men are employed in traditional occupations such as agriculture, hunting and forestry, the proportion being as high as 44 percent as against 14 percent for females according to the 2001 national census (Government of Samoa, 2003b). It is likely that a preponderance of occupations that do not call for modern education as a pre-requisite means there is no catalyst to increase the demand for secondary schooling among males. However, there is no definite evidence to arrive at this inference conclusively. Of the less abundant literature available from Africa where boys are not academically achieving as well as girls, the alignment of gender and economic roles emerges more clearly as a determinant of boys' dropping out of school and underachieving. The comparison between Botswana and Ghana already mentioned highlighted the lower performance of boys compared to girls within peri-urban and rural schools, and attributed this in part to the need for those boys to access employment opportunities at an earlier age (Dunne, 2005). Further research in Botswana noted in Equals Newsletter makes a correlation between the traditional role of boys as cattle herders and increased drop-out and low enrolment rates in the transition from primary to secondary school (Challender, 2004).

The absence of fathers and older brothers, who leave to work in the diamond mines, puts the pressure on boys to take on their position at home. With half of families in Botswana owning cattle, this is not necessarily a factor only applicable to economically marginalized groups. A 'graduation' on to the mines as the boys grow older only compounds the perceived lack of need for boys' education. The current experience in Lesotho with boys' underachieving in school lies within an economic and cultural history of gendered economic alignment (Jobo, 2001). It argues that male child labour is very common in Lesotho, with young boys in the rural areas being denied their right to education by being hired out as herdboys from a very young age. This phenomenon is rooted in Lesotho's past, where boys from early years of age would go

the South African mines and parents felt that boys did not need any education to work and yet, despite the lack of education of many boys in Lesotho in comparison to their female counterparts.

Among some Kalenjin Communities of Kenya and especially the Kipsigis the boys' education is sacrificed for the sake of livestock herding and labour. Among the Kalenjin communities, boys are taught to be masculine. This takes place in the various institutions of society such as the family, school and church. Implicit in such education are beliefs that the boy child is stronger, more intelligent and more powerful than girl-child, and therefore does not need protection as girl child. The boy is not expected to express his emotions or any weaknesses. For example, the boy is taught not to cry but always behave in a brave manner. Since the boy child is socialized not to display his weakness; he tends to suffer in silence. These dynamics have contributed to the neglect of issues that affect the boy child among the Kalenjin.

Society teaches males that they must be in control all the times. Therefore, males tend to dominate in many aspects of life. The confounding power, control and domination imply that males do not have problems. Quite often males look well and confident on the outside, but are not so on inside thus cognitive discordance (Republic of Kenya, 2007). Lutta, (2015) pointed out that negative cultural aspects and domestic instability are the main challenges facing education. Therefore, there was need to establish the influence of gender roles on boy-child educational aspirations at the secondary school level.

4. Research Design

This study employed an *ex-post facto* research design. This design was a definite plan determined before data was actually collected. The design was useful in the study because the researcher did not have direct control of independent variables. This design was suitable for the study because the researcher could not manipulate the variables (Kothari & Garg 2014). The boy-child educational aspirations were taken as the dependent variable while gender roles were the independent variables. Thus, the researcher was able to relate an after-the-fact analysis to an outcome or the dependent variable. In order to eliminate confounding variables in the study, techniques such as matching and random selection of respondents from appropriate population was done. The researcher investigated the influence of gender roles on boy-child educational aspirations.

4.1 Population of the study

The population of this study was all the teachers, and students (boys) in public secondary schools in Nakuru County of Kenya. The accessible population was all the male and female teachers and Form three boys in the selected schools within the county. All the time of this research there were 9,715 Form three male students in Nakuru County. Form three boys were chosen because they had stayed for long time in the school and had selected the subjects they were examined at the end of the Form four in line with their aspirations. There were 950 male and female teachers during the study. The teachers gave their views concerning the influence of gender roles on boys' educational aspirations.

4.2 Instrumentation

In this study, two research instruments were used to collect data; questionnaire for students (boys) and interview schedule for male and female teachers. Most research work uses methods that provide high accuracy, generalizability, and explanatory power, with low cost, rapid speed and maximum management demands and administrative convenience. Questionnaires are commonly used to obtain important information about the population. Each item in the questionnaire is developed to address a specific objective of the study. Questionnaire was appropriate with the large number of respondents from whom a lot of information was required and for the purpose of easy coding. The interview schedule was used to obtain information from the male and female teachers to obtain in depth information about the influence of gender roles on boy-child educational aspirations.

4.3 Procedure

Pre-field work activities such as identifying and training research assistant were performed. The researcher also sought an introductory letter from the office of the Dean, School of Education, Moi University and a permit from National Commission for Science Technology and Innovation (NACOSTI) was sought before carrying out the research. Permission was also sought from the County Commissioner Nakuru and County Director of Education Nakuru. The researcher visited the selected schools after seeking an appointment with the school administration and explained the purpose of the study to the head teachers.

5. Results and Discussion

The objective of the study was to investigate the influence of gender roles on boy-child educational aspirations. This was established using both descriptive and inferential statistics. The descriptive statistics involved the use of frequencies and percentages. After performing the factor analysis of each item, the statements were computed to create scores and subjected to inferential analysis. The inferential statistics involved the use of Pearson correlation coefficient, linear regression, t-test and Anova. The respondents were required to rate the statements relating to the gender roles of boy-child using a five point Likert scale. Computation was done on each statement on gender roles using frequencies and percentages as shown in Table 1.

Table 1: Gender roles items on boy-child educational aspirations

	Strongly Agree		Agree		Undecided		Disagree		Strongly Disagree	
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%
Look after the cattle at home	21	5.7	21	5.7	70	19.0	73	19.8	183	49.7
Stay at home to do casual work to sustain the family	17	4.6	16	4.3	18	4.9	86	23.4	231	62.8
Prefer doing boda- boda business	16	4.3	11	3.0	22	6.0	80	21.7	239	64.9
Prefer sand harvesting or quarry than going to school	9	2.4	8	2.2	17	4.6	71	19.3	263	71.5
Prefer working at sisal plantations than going to school	8	2.2	9	2.4	23	6.3	66	17.9	262	71.2
Prefer marriage than proceeding with higher education	22	6.0	9	2.4	24	6.5	62	16.8	251	68.2

Source: Researcher Data, (2016)

The aggregate gender roles influence on boys' educational aspirations was 26.0 and this was high. In the table majority of the students 183 (49.7%) strongly disagreed that they looked after the cattle at home, with 19.8% disagreed, while 19% were undecided and 5.7% strongly agreed and the same 5.7% agreed. This indicated that most of the students 69.5% were allowed to attend school rather than look after the cattle at home. Most of the students 231 (62.8%) strongly disagreed that they stayed at home to do casual work to sustain their family, with 23.4% disagreed, while 4.9% were undecided, 4.3% strongly agreed and 4.6% agreed. This indicated that most of the students 86.2% attended school rather than stays at home and do casual work to sustain their families.

Majority of the students 239 (64.9%) strongly disagreed that they preferred doing boda-boda business than going to school, with 21.7% disagreed, while 6% were undecided and 4.3% strongly agreed as well 3% agreed. This indicated that most of the students 86.6% preferred going to school than doing boda-boda business. Majority of the students 263 (71.5%) strongly disagreed that they prefer sand harvesting or quarry than going to school, with 19.3% disagreed, while 4.6% were undecided and 2.4% strongly agreed as well as 2.2% agreed. This indicated that most of the students 90.8% prefer going to school than sand harvesting or quarry.

Most of the students 262 (71.2%) strongly disagreed that they prefer working at sisal plantations than going to school, with 17.9% disagreed, while 6.3% were undecided, 2.2% strongly agreed and 2.4% agreed. This indicated that most of the students 89.1% prefer going to school than working at sisal plantations. Majority of the students 251 (68.2%) strongly disagreed that they prefer marriage than proceeding with higher education, with 16.8% disagreed, while 6.5% were undecided and 26% strongly agreed as well 2.4% agreed. This indicated that most of the students 85% preferred proceeding with higher education than marriage.

5.1 Pearson correlation on gender roles and boy-child educational aspirations

Pearson moment correlation was used to describe the linear relationship between two variables, depending on the level of measurement. The relationship between independent variables (Gender roles) and dependent variable (boy-child educational aspirations) was investigated using Pearson product-moment correlation coefficient as shown in Table 4.5.

Table 2: Pearson correlations on gender roles and boys' educational aspirations

		Aspiration	Gender roles
Aspiration	Pearson Correlation	1	.114*
	Sig. (2-tailed)		.028
Gender roles	Pearson Correlation	.114*	1
	Sig. (2-tailed)	.028	

*. Correlation is significant at the 0.05 level (2-tailed).

N=368

Source: Researcher Data, 2016.

There was an influence of gender roles on boy-child educational aspirations [$r = .114$, $n = 368$, $p < .05$]. Pearson correlation indicated that there was an influence of gender roles on boy-child educational aspirations. This implies that the gender roles assigned to boys at home affected their education aspirations.

5.2 Analysis of variance about gender roles on boy-child educational aspirations

The analysis of variance was used to test whether the model could significantly fit in predicting the outcome than using the mean as shown in Table 4. The regression model significantly improved the ability to predict the boy-child educational aspirations. The F- ratio was 4.86 and significant ($P < .05$) and thus the model was significant leading to rejection of the null hypotheses that gender roles have no significant influence on boy-child educational aspirations.

Table 4 : Analysis of variance about gender roles on boys' educational aspirations

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	1.262	1	1.262	4.859	.028 ^b
Residual	95.021	366	.260		
Total	96.282	367			

a. Dependent Variable: Aspiration

b. Predictors: (Constant), Gender roles

Source: Researcher Data, 2016

5.3 Coefficients of gender roles boy-child educational aspirations

The β coefficients for independent variable was generated from the model and subjected to a t-test, in order to test the hypothesis under study. The t-test was used as a measure to identify whether the predictors were making a significant contribution to the model. Table 5 shows the estimates of β -value and gives contribution of the predictor to the model. The β -value for gender roles had negative coefficient, depicting negative relationship with boy-child educational aspirations as summarized in the model as:

$$\text{Educational aspirations} = 3.835 - 0.066 \text{Gender roles} + \epsilon \dots \dots \dots \text{Equation 4.1}$$

Table 5: Coefficients of gender roles boy-child educational aspirations

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part order
1 (Constant)	3.835	.056		68.587	.000			
Gender roles	-.066	.030	-.114	-2.204	.028	-.114	-.114	-.114

a. Dependent Variable: Aspiration

Source: Researcher Data, 2016

The coefficients results showed that the predicted parameter in relation to the independent factor was significant; $\beta_1 = -0.066$ ($P < 0.05$) which implies that reject the null hypothesis is rejected stating that gender roles have no significant influence on boy-child educational aspirations. This indicates that for each unit increase in the gender roles, there is 0.066 units decrease in boy-child educational aspirations. Furthermore, the influence of gender roles was stated by the t-test value = -2.204 which implies that the standard error associated with the parameter is less 2 times that of the error associated with it.

From the interview schedule most of the teachers agreed that the gender roles affects boys' educational aspirations. This is what one teacher had to say: *"The roles given to boys at home can in one way or the other affects their performance in school and even their future education. Boys are tempted to do casual jobs to get some few coins at home instead of going to school. This may affect their educational aspirations."* (One male teacher).

6. Conclusion and Recommendations

In view of the finding of this study, the following conclusions have been drawn. The gender roles had an influence on boys' educational aspirations which means that as the roles increases the educational aspirations decreases. The literature review indicated clearly that the relationship between gender roles and educational aspirations is stronger in both developed and developing countries. From the findings and foregoing conclusions, the following recommendations are made: First, the roles given to boys at home can in one way or the other affects their performance in school and even their future education so parents are advice to be moderate and cautious in allocating roles to the boys. Secondly, boys are tempted to do casual jobs to get some few coins at home instead of focusing on school work thus there is need for proper guidance and counseling zeroing in educational aspirations. Many parents may not be aware of the influence of gender roles on educational aspirations of their boys. It is recommended that teachers, educationists, and government policymakers should try to create awareness in parents on the gender roles that may affect educational aspirations of their boys.

References

1. Boxer, P., Delorenzo, S. S., & Mercado. (2011). Educational aspiration-expectation discrepancies in relaxation to socioeconomic and academic risk-related factors. (ERIC Document Reproduction Service No. EJ 930 857).
2. Challender, C. (2004). Natural resources: From Curse to Blessing. *Equals Newsletter* (Beyond Access: Gender, Education and Development), Issue 4, January.
3. Dube, K. (2005). "Long-Term Consequences of Childhood Sexual Abuse: By Gender Victim" *The American Journal of Preventive Medicine*. JAMA, 200; 286:389.
4. Epstein, D. (1998). Real boys don't work: 'underachievement', masculinity, and the harassment of 'sissies'. In D Epstein et al (Eds), *Failing Boys? Issues in Gender and Achievement*. Buckingham: Open University Press.
5. Flaxman, M. (1992). School belonging, educational aspirations; and academic self-efficiency among African American male high school students. Retrieved from <http://www.freelibrary.com>.
6. Fraser, B. J. (1994). Research on classroom and school climate. In D, Gabel (Ed.), *Handbook of research on science teaching and learning*. (pp. 493-541) New York: Macmillan).
7. Gil, F., Padilla, C., Teresa, M., & Svarez, O. M. (2011). Influence of gender, educational attainment and family environment on the educational aspirations of secondary school students. (ERIC Document Reproduction Service No. EJ952 677)
8. Government of Samoa. (2003b). Annual Statistical Abstract 2001-2002. Apia: Division of Statistical Services.
9. [Hanushek, E.](#), & Ludger, W. (2015). [Universal Basic Skills: What Countries Stand to Gain. OECD.](#)
10. Hunte, K. (2002). Gender Equality, Male Under-Achievement. MOE Insight, Ministry of Education, Guyana. Available at www.education.gov.gy.
11. Jobo, M. (2001). Lesotho: A Baseline Study of the Teacher Education System. Multi-Site Teacher Education research Project (MUSTER), Discussion Paper 8. Centre for International Education, University of Sussex.
12. Lutta, S. (2015, January, 1st). Poor school results blamed on culture. *The Daily Nation* pp 9, Nation Media Group. Nairobi, Kenya.
13. Madarsova, G., Tavel, V. D., & Abel, S. (2010). Factors associated with educational aspirations among adolescents: cues to counteract socioeconomic

- differences. *Social Science and Medicine*, 54 (3), 106-148. Retrieved from <http://www.Biomedcentral.com>.
14. Marks, J. (2001). *Girls Know Better: Educational Attainment of Boys and Girls*. London: CIVITAS – the Institute for the Study of Civil Society.
 15. Republic of Kenya, (2007). *Elimu News: A Newsletter of Ministry of Education*. Nairobi; Government Printer.
 16. Singh, R., & Varma, S. K. (1995). The effect of academic aspiration and intelligence on scholastic success of XI graders. *Indian Educational Abstracts*, 4, 12.
 17. Sino, V. A. (2010). *A comparative study of self-concept and level of aspiration of the students from general and coir worker's families in Alappuzha district*. (Unpublished master's thesis). Mahatma Gandhi University, Kottayam.
 18. Tanya, M. N., Beth, A., Carolyn, B., & Deborah, G. H. (2009). Understanding the educational aspirations of African American Adolescents child, family and community factors. *Journal of American Educational Research*, 48(1), 57-72. Retrieved from <http://www.springerlink.com>.

Creative Commons licensing terms

Author(s) will retain the copyright of their published articles agreeing that a Creative Commons Attribution 4.0 International License (CC BY 4.0) terms will be applied to their work. Under the terms of this license, no permission is required from the author(s) or publisher for members of the community to copy, distribute, transmit or adapt the article content, providing a proper, prominent and unambiguous attribution to the authors in a manner that makes clear that the materials are being reused under permission of a Creative Commons License. Views, opinions and conclusions expressed in this research article are views, opinions and conclusions of the author(s). Open Access Publishing Group and European Journal of Education Studies shall not be responsible or answerable for any loss, damage or liability caused in relation to/arising out of conflicts of interest, copyright violations and inappropriate or inaccurate use of any kind content related or integrated into the research work. All the published works are meeting the Open Access Publishing requirements and can be freely accessed, shared, modified, distributed and used in educational, commercial and non-commercial purposes under a [Creative Commons Attribution 4.0 International License \(CC BY 4.0\)](https://creativecommons.org/licenses/by/4.0/).