Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



PARENTING STYLES AS CORRELATES OF ACADEMIC ACHIEVEMENT IN MATHEMATICS AMONG SECONDARY SCHOOL STUDENTS IN AWKA SOUTH LOCAL GOVERNMENT AREA

Alphonsus Ekejiuba Oguzie, Eberechukwu Francisca Chigbu, Obianuju Blessing Mokwelu and Mirian Chioma Okpala

Department of Guidance and Counselling, Faculty of Education, Nnamdi Azikiwe University, Awka. **Email:** ae.oguzie@unizik.edu.ng

Phone: 07032388453

Keywords:
Parenting styles,
Correlates,
Academic
achievement,
Mathematics,

Awka south

Abstract: This study investigated parenting styles as correlates of academic achievement in Mathematics among secondary school students' in Awka south local government area. Three research questions guided the study and three null hypotheses were tested at 0.05 level of significance. Correlation research design was adopted for the study. The population for this study consisted of 3,130 senior secondary school (SS2) students. The sample of the study consisted of 310 students drawn through multi-stage sampling procedure. The instruments used for the study was Parenting Style Scale (PSS) with reliability coefficients alpha of 0.81 and 0.83. Pearson Product Moment Correlation was used for data analysis. Results obtained from the study indicated that there is very high positive significant relationship between authoritative parenting style and secondary school students' academic achievement in mathematics. The results also showed that there is high positive significant relationship between authoritarian parenting style and secondary school students' academic achievement in mathematics. Finally, the result revealed that low positive significant relationship between permissive parenting style and secondary school students' academic achievement in mathematics. The study concluded that authoritative and authoritarian parenting styles are correlates of students' academic achievement in mathematics, which permissive parenting style is a low correlate of students' academic achievement in mathematics. It was recommended, among others that counsellors, government, teachers and other stakeholders should come up with adequate sensitization programmes to discourage the use of permissive parenting style and encourage the adoption of authoritative parenting style by parents.

Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



INTRODUCTION

Indeed, quality teaching is the bedrock of every society. Perhaps, this is the reason why different measures are put in place to enhance the standard of teaching and learning in all nations. Consequently, in many countries of the world including Nigeria, the quality of teaching and the standard of education usually is greatly determined by the level of learners' achievement in their school examinations. Sequel to this purpose, academic achievement is remarkably an ultimate premium upon which every teaching and learning processes are measured. It is very important for students, teachers and other stakeholders. This is why the government, teachers, psychologists, school counsellors, parents and examination bodies are greatly concerned with and are working very hard to unravel the mystery behind the poor academic achievement among students.

Retorting to the issue of poor academic achievement among secondary school students, (2007) emphasized that every stakeholder is concerned about how best to improve the academic achievement of students. This may be probably because educational attainment is highly fundamental to the realization of the scientific, technological, socioeconomic and political development of any nation as well as the total empowerment and transformation of the citizens. Academic achievement is defined as the general performance of students in their offered subjects with respect to a specific standard called pass mark. Avoseh (2008) viewed it as how well an individual has done in a particular academic task. Steinmayr, Dinger and Spinath (2012) described academic achievement as the result of intellectual performance in schools; an education parameter which determines students' success in the school activities.

Moreso, academic achievement is a term frequently used to describe an individual's performance in subjects taught and tested in schools (Mkpae & Obowu-Adutchay, 2017). Equally, academic achievement is the education objective that is achieved by students, teachers or institutions over a certain period. According to Nja, Umali and Asuguo (2019), academic achievement is a term usually employed to describe a students' performance in subjects taught and tested in schools. Oguzie, Nwokolo, Mokwelu and Ezunu (2019) viewed academic achievement as students' scholastic ability and attainment, which signifies the overall level of knowledge they have acquired in school, a subject or a learning situation. Academic achievement is the overall measured cognitive, affective and psychomotor achievement of with which thev students academically fit or unfit (Okafor, Obi & Oguzie,

In clearer terms, academic achievement is the yardstick with which educational outcomes are measured (Ozuome, Oguzie, Mokwelu & Anyamene, 2020). In the view of Okudo and Obumse (2023), academic achievement is the outcome of education that indicates the extent to

Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



which the students, teachers, curricular, counsellor or the educational institution has achieved the predetermined educational goals. In the context of this study, achievement is defined as the students' ability to study and remember facts and being able to communicate their knowledge orally or in writing form even in an examination condition. Empirically, studies have shown that several factors such as students' self esteem, self concept, self-regulation, study habit, gender, socio-economic background and parenting style correlate with learners' academic can achievement (Adeyemo, 2010). Udoh (2012) opined that learners' academic achievement is a marvel that has sociological, psychological and educational implication. As such, it is very imperative to recognise those factors that make vulnerable learners to poor academic achievement. Against this backdrop. researchers believe that one conceivable factor that can impact on students' academic achievement is the style their parents used in raising them up.

Conceptually, parenting style is a psychological construct representing standard strategies that parents use in their child rearing; that is, the environment in which parent-child interactions occur (Slaten, 2016). Moreso, parenting style encompasses the various strategies parents use to interact with their children and influence their physical, emotional, social and intellectual development (Njoku & Akaninwor, 2019). According to Gonzale-Pienda, Nunez and Garcia

(2012), parenting style is a complex activity that includes many specific behaviours that work individually and together to influence child's outcome; thus, generally describing patterns or configuration of parenting behaviours. Parenting style may be specified into three major categories, namely; authoritative, authoritarian, and permissive styles of parenting, and are based on levels of warmth and control used by the parent in disciplining the child.

In postscript, Steinberg, Mounts, Lamborn and Dornbusch (2014) acknowledged a fourth type of parenting style denoted to as neglectful or uninvolved parenting style. Practically, all parenting styles reflect the different approaches parents take in raising their children, each characterised by distinct levels of responsiveness and demandingness. Authoritative parenting, which combines high responsiveness with high demandingness, is often associated with positive self-esteem in children. This style characterized by parents who provide clear guidelines and expectations while also offering warmth, support, and encouragement. Authoritative parents engage open communication, set reasonable boundaries, and encourage autonomy, helping children develop a sense of competence and self-worth (Okoro, 2022). Research indicates that children raised in authoritative households tend to exhibit higher levels of self-esteem due to the balance of support and structure they receive.

In contrast, authoritarian parenting which is usually characterized by low responsiveness and

Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



high demandingness, can negatively impact selfesteem. Authoritarian parents are often strict, with rigid rules and high expectations, but offer little emotional support or open communication. This style can lead to children feeling undervalued and insecure, as their self-worth is primarily based on compliance and achievement rather than intrinsic value. The lack of warmth and autonomy in authoritarian households can result in lower self-esteem among adolescents, as they may internalize feelings of inadequacy and fear of failure.

Moreover, permissive parenting, marked by high responsiveness and low demandingness, also has distinct impacts on self-esteem. Permissive parents are nurturing and communicative but set few boundaries and rules. While children may feel loved and accepted, the lack of structure and guidance can lead to issues with self-discipline and self-regulation, ultimately affecting their self-esteem. Students from permissive households might struggle with authority and face challenges in environments that require discipline and accountability, impacting their self-perception and confidence. Neglectful parenting, characterized both by responsiveness and low demandingness, could be the most detrimental to self-esteem. Neglectful uninvolved parents are and indifferent to their children's needs, providing neither emotional support nor guidance. This lack of engagement can lead to feelings of abandonment and low self-worth in adolescents. as they may perceive themselves as unimportant and unvalued. The absence of a supportive and nurturing environment can critically undermine the development of a healthy self-esteem, leaving adolescents more vulnerable to negative influences such as peer pressure (Nwokolo & Oguzie, 2021). If the style of parenting used in the family is not encouraging, students are more likely to see themselves as not capable enough to do well in school, which can lead to their increased susceptibility to poor academic achievement.

Meanwhile. as far a learners' academic achievement plays very significant role in determining the quality of teaching and learning in any school, as well as the standard of education in any country, the problem of poor academic achievement has raised a serious concern to teachers, counsellors, government, examination bodies and other stakeholders (Ozuome, Oguzie, Onwukwe & Emeji, 2024). Thus, exploring the nexus between parenting styles and learners' academic achievement cannot be unheeded. Based on this background, the present study was necessitated to explore parenting styles as correlates of academic achievement in Mathematics among secondary school students in Awka South Local government Area of Anambra State.

Research Questions

The following research question guided the study:

1. What is the relationship between authoritative parenting style and academic

Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



achievement among secondary school students in Mathematics?

- 2. What is the relationship between authoritarian parenting style and academic achievement among secondary school students in Mathematics?
- 3. What is the relationship between permissive parenting style and academic achievement among secondary school students in Mathematics?

Hypotheses

The following null hypotheses were tested at 0.05 level of significance:

- 1. There is no significant relationship between authoritative parenting style and academic achievement among secondary school students in Mathematics.
- 2. There is no significant relationship between authoritarian parenting style and academic achievement among secondary school students in Mathematics.
- 3. There is no significant relationship between permissive parenting style and academic achievement among secondary school students in Mathematics.

METHOD

This study was carried out in Awka South local government area of Anambra state, Nigeria. The study adopted the correlation research design. Nworgu (2015) opined that this type of study seeks to establish the relationship between two or more variables. Usually, correlation studies

indicate the direction and magnitude of the relationship between the variables. Agu (2014) averred that researchers use correlation when they wish to determine if any relationship exists between two or more variables, how strong the relationships appear to be and whether one variable of primary interest can be effectively predicted from information on the values of the other variables. The correlation design is considered to be most appropriate for this study because it sought to establish the relationship among parenting styles and secondary school students' academic achievement in Awka South local government area.

The target population of this study consisted of all 3,130 senior secondary two (SS2) students from all public secondary schools in Awka south local government area, while the sample size for the study consisted of 310 SS2 students drawn through multi-stage sampling procedure. The instruments used for data collection were The Parenting Style Scale (PSS) developed by Abdul and Abidha with coefficients reliabilities of 0.81 and 0.83 respectively, for responsiveness and demandingness/control variables in the scale. and Teachers' Grade Books/Score Inventory which is a record book where students' scores in Mathematics are recorded by their teachers. Data for the study was collected by the researchers through direct delivery method and was analysed using Pearson Product Moment Correlation.

Adv. J. C. Research Vol. 10; Issue 3;

March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



Results

Table 1: Pearson r on authoritative parenting style and students' academic achievement

| Source of Variation | N | Authoritative style r | Achievement r | Remar | ·k | |
|---------------------|-----|-----------------------|---------------|-----------------|---------------|----------|
| Authoritative style | 310 | 0.00 | 0.83 | Very relatio | high nship | positive |
| Achievement | 310 | 0.83 | 0.00 | | • | |

Table 1 showed that there is very high positive relationship of 0.83 between authoritative parenting style and secondary school students' academic achievement in mathematics.

Table 2: Pearson r on authoritarian parenting style and students' academic achievement

| Source of Variation | N | Authoritarian | style | Achievement r | Remark | |
|---------------------|-----|---------------|-------|---------------|----------------------|----------|
| | | r | | | | |
| Authoritarian style | 310 | 0.00 | | 0.62 | high relationship | positive |
| Achievement | 310 | 0.62 | | 0.00 | | |

Table 2 revealed that there is high positive relationship of 0.62 between authoritarian parenting style and secondary school students' academic achievement in mathematics.

Table 3: Pearson r on permissive parenting style and students' academic achievement

| Tuble 3. I carbon I on permissive parenting style and students academic demovement | | | | | |
|------------------------------------------------------------------------------------|-----|--------------------|---------------|---------------------|----------|
| Source of Variation | N | Permissive style r | Achievement r | Remark | |
| Permissive style | 310 | 0.00 | 0.37 | low relationship | positive |
| Achievement | 310 | 0.37 | 0.00 | • | |

Table 3 indicated that there is low positive relationship of 0.37 between permissive parenting style and secondary school students' academic achievement in mathematics.

Table 4: Significant of Pearson r on authoritative parenting style and their students' academic achievement using probability table of r

| N | Cal. R | Df | Pvalue | Cal.pvalue | Remark | |
|-----|--------|-----|--------|------------|--------|--|
| 310 | 0.83 | 309 | 0.05 | 0.00 | S | |

S = Significant

In table 4, it was observed that at 0.05 level of significance and 309df, the calculated ro.84 has pvalue 0.00 which is less than the critical pvalue 0.05. Therefore, the first null hypothesis was rejected. This signifies that there is significant relationship between authoritative parenting style and students' academic achievement in mathematics.

Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



Table 5: Significant of Pearson r on authoritarian parenting style and their students' academic achievement using probability table of r

| N | cal. R | Df | Pvalue | Cal.pvalue | Remark |
|-----|--------|-----|--------|------------|--------|
| 310 | 0.62 | 309 | 0.05 | 0.00 | S |

S = Significant

Table 5 showed that at 0.05 level of significance and 309df, the calculated ro.62 has pvalue 0.00 which is less than the critical pvalue 0.05. Therefore, the second null hypothesis was also rejected. This signifies that there is significant relationship between authoritarian parenting style and students' academic achievement in mathematics.

Table 6: Significant of Pearson r on permissive parenting style and their students' academic achievement using probability table of r

| N | cal. R | Df | Pvalue | Cal.pvalue | Remark |
|-----|--------|-----|--------|------------|--------|
| 310 | 0.37 | 309 | 0.05 | 0.00 | S |

S = Significant

Data presented in table 6 showed that at 0.05 level of significance and 309df, the calculated ro.39 has pvalue 0.00 which is less than the critical pvalue 0.05. Therefore, the third null hypothesis was equally rejected. This signifies that there is significant relationship between permissive parenting style and students' academic achievement in mathematics.

Discussion of Findings

The result of the study revealed that there is very high positive significant relationship between authoritative parenting style and the students' academic achievement in mathematics. This finding indicated that the type of parenting style used by parents in raising their children at home has great impact on the students' level of academic achievement. It also showed that students raised by authoritative parents are more

likely to obtain good grades in mathematics examinations. This finding is in line with the report by previous researchers (Nijhof & Engels, 2017; Olusakin & Ngbor, 2019) who concluded that there is very high positive significant relationship between authoritative parenting style and students' academic achievement. Baumrind (2011) noted that authoritative parents provide guidance to their children on issue oriented and rational manner. Zhang (2021) pointed out that authoritative parents demandingness display more and responsiveness by exhibiting more supportive towards harsh behaviour. Hence, the possible reason for authoritative parenting style correlating so high with the students' academic achievement is that such parents encourage verbal give-and-take, express reasoning behind

Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



rules and use power, reason, and shaping to strengthen objectives which may increase the students' ability to perform better in academic activities. Nijhof and Engels (2017) have a firm belief that authoritative parenting style plays an influential role in the development of healthy adolescent psychologically and socially.

The next finding of this study showed that there is high positive significant relationship between authoritarian parenting style and secondary school students' academic achievement in mathematics in Awka South. This finding signifies that students from authoritarian parents are also likely to obtain good grades in mathematics examinations than those who are from permissive homes. This finding of the study agreed with the previous findings by (Ong, 2018; Younesian, 2021) who reported that there is significant correlation between authoritarian parenting style and academic achievement. Zhang (2021) observed that authoritarian parents exhibit low responsiveness and they are highly demanding. Moreover, this style of parenting, parents emphasize on conformity and obedience and thus expect that they are obeyed without explanation in a less warm environment. This may instill fear of failure in the students and encourage them to try very hard to obtain good grades in school just to please their parents and avoid being punished.

Finally, another finding of this study revealed that there is low positive relationship between permissive parenting style and students' academic achievement in mathematics. This

showed that although permissive parenting style correlated with students' academic achievement in mathematics, the correlation is low. This means the impact of permissive parents on their children's academic achievement is negligible. It equally means that students from permissive parents are likely to achieve poor grades in their mathematics examinations. This finding of this study supported the previous findings by (Kremers, Brug, De-Vries & Engels, 2013; Nijhof & Engels, 2017) who found out in their studies that permissive parenting style has correlation with academic achievement. Zhang (2021) noted that permissive parents can be characterized as exhibiting low level of demandingness and high level of responsiveness. Practically, permissive parents allow their children to take actions without being concerned actions. high their This responsiveness with little demandingness may lead students to do whatsoever without considering the consequences. Hence, students from permissive parents may decide to avoid difficult academic tasks without considering the implication of such action on their academic achievement. This may in turn impact negatively on their level of academic achievement.

Conclusion

Based on the findings of this study summarized above, the researchers concluded that authoritative parenting style is a very high positive significant correlate of secondary school students' academic achievement in Mathematics. The study also concluded that

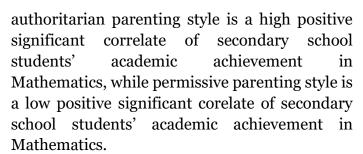
Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



Recommendations

Based on the findings of this study, the following recommendations were made:

- 1. Since authoritative parenting style is highly related to students' academic achievement in mathematics, parents should try to adopt this style of parenting so as to enable their children to achieve high grades in mathematics examinations.
- 2. Counsellors should fashion out counselling programmes aimed at encouraging parents to adopt authoritative parenting style on their children so as to facilitate high academic achievement among students.
- 3. Counsellors, government, teachers and other stakeholders should come up with adequate sensitization programmes to discourage the use of permissive parenting style and encourage the adoption of authoritative parenting style by parents.

REFERENCES

Adeyemo, D. A. (2010). Parental involvement, interest in schooling environment as predictors of academic self-efficacy among fresh secondary school students in Oyo State, Nigeria. *Electronic Journal of*



Research in Educational Psychology, 5(3), 163 –180.

Adeyemo, D.A. (2007). Moderating influence of emotional intelligence on the link between academic self-efficacy and achievement of university students. *Psychology Developing Societies*, 19(2), 199-213.

Agu, N. (2014). *Basic statistics for education and behavioural biosciences*. Awka: J' Goshen Publishers.

Avoseh, O. (2008). The Influence of Sociological and Psychological Factors in Academic Performance of Secondary School Beginners. *Journal of Educational Leadership* 11,11-19.

Gonzale-Pienda, J.A., Nunez, J.C. & Garcia, M. (2012). A structural equation model of parental involvement, motivation and attitudinal characteristics, and academic achievement. *Journal of Experimental Education*, 70(3), 257-289.

Kpolovie, P.J., Joe, A.N. & Okoto, T. (2014).

Academic achievement prediction: Role of interest in learning and attitude towards school. *National Journal of Humanities Social Sciences and Education*, 11(1), 73-100.

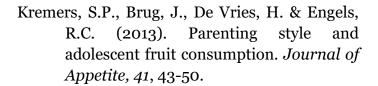
Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 - 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



Mkpae, S.G. (2014). Effects of locus of control on students' academic achievement among students in secondary schools in River State: The case study of schools in Ogoni Area. African Journal of Education and Technology, 4(1), 20-30.

Nijhof, K.S. & Engels, M.E. (2017). Parenting styles, coping strategies and expression of homesickness. Journal of Adolescence, 30(5), 709-720.

Nja, C.O., Umali, C.B. & Asuquo, E.E. (2019). Learning styles as predictor of academic achievement among science education undergraduates at University of Calabar. Educational Resaerch and Review, 14(17) 618-624.

Njoku, J.U. & Akaninwor, A.N. (2019). Parenting styles as correlates of social adjustment amongstudents with physical disabilities in Port Harcourt citylocal government area of Rivers State. International Journal of Innovative Psychology & Social Development, 7(3), 33-41.

Nwokolo, C.N. & Oguzie, A.E. (2021).Relationship between secondary school students' self-esteem and their attitude



towards examination malpractice in Imo state. Sapientia Global Journal of Arts, Humanities and Development Studies, 4(1), 33 - 44.

Nworgu, B.G. (2015). Educational Research: Basic Issues and Methodology. Enugu: University Trust Publishers, Nsukka.

Oguzie, A.E., Nwokolo, C.N., Mokwelu, O.B. & Ezunu, E.N. (2019). Relationship between school secondary students' study behaviour their academic and achievement in Imo State, Nigeria. Journal of Guidance and Counselling Studies, 3(2), 133-140.

Okafor, E.O., Obi, J.S. & Oguzie, A.E. (2018). Relationship between students' selfesteem and their academic achievement in Imo State. HOFA: African Journal of Multidisciplinary Research, 1(2), 24-32.

Okoro U. C. (2022). Parenting styles, self esteem and academic achievement of secondary school students in Aba education zone of Abia State. https://repository.mouau.edu.engine/wo rk/

Okudo, O.C. & Obumse, N.A. (2023).Relationship between study skills and academic achievement of public senior secondary school students in Anambra State. Sapientia Foundation Journal of

Adv. J. C. Research Vol. 10; Issue 3; March-2025

ISSN: 2323 – 1744 Impact Factor: 7.22

Advance Scholars Publication

Published by International Institute of Advance Scholars Development

https://aspjournals.org/Journals/index.php/ajcr/index



- Education, Sciences and Gender Studies, 5(2), 199-207.
- Ong, M.Y. (2018). The influence of perceived parenting styles on socio-emotional development from pre-puberty into puberty. *Journal of European Child and Adolescent Psychiatry*, *27*(1), *37–46*.
- Ozuome, C.C., Oguzie, A.E., Mokwelu, O.B. & Anyamene, A. (2020). Locus of control as a correlate of secondary school students' academic achievement in Imo State, Nigeria. *Journal of Guidance and Counselling Studies*, 4(2), 155-168.
- Ozuome, C.C., Oguzie, A.E., Onwukwe, M.C. & Emeji, J.C. (2024). Secondary school students' self-efficacy as correlates of their academic achievement in Imo state. *Journal of Guidance and Counselling Studies*, 8(1), 15-32.
- Slaten, C.D. (2016). The effect of parenting style and family structure on academic achievement in rural setting. http://www.proquest.umi.com.
- Steinberg, L. Mounts, N.S. Lamborn, S.D. & Dornbusch, S.M. (2014). Authoritative parenting and adolescent adjustment across varied ecological niches. *Journal of Research on Adolscence*, 8(1), 19-36.

- Steinmayr, F.C., Dinger & Spinath B., (2012). Motivation as a mediator of social disparities in academic achievement. *European Journal of Personality*, 26(3), 335-349.
- Uduh, A. O. (2012). Learning environment as correlates of Chemistry students' achievement in secondary schools in Akwa Ibom State of Nigeria. *Ethiopian International Multidisciplinary Journal*, 26(3), 208-217.
- Yang, Z., Kim, C., Laroche, M. & Lee, H. (2014). Parental style and consumer socialization among adolescents: A cross-cultural investigation. *Journal of Business Research*, 67(3), 228-236.
- Younesian, S. (2021). Maternal interactive beliefs and style as predictors of language development in preterm and full-term children. *Journal of Child Language*, 48(2): 215–243.
- Zhang, X. (2021). Resting heart rate mediates the relationship between parenting style and callous-unemotional traits in Chinese children. *Journal of Research on Child and Adolescent Psychopathology*, 49(11), 1419–1430.