

# Family functioning, parental attachment and students' academic success

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**Abstract:** This study explores the intricate relationship between family functioning, emotional bonding, parent-child contact, and academic success among students through a serial mediation analysis. The research, conducted on a sample of 200 participants, sheds light on the indirect pathways through which family dynamics influence academic achievements, emphasizing the significance of emotional connections and parent-child interactions. The findings affirm the positive association between family functioning and academic achievement, in alignment with prior research. Additionally, the study identifies parent-child bonds and contact as partial mediators in this relationship, reinforcing previous findings. A noteworthy discovery is the full complementary sequential mediation effect, revealing that family functioning's influence on academic success becomes substantial when emotional bonds foster increased parent-child contact. In conclusion, this research underscores the importance of emotional bonds and parent-child contact as sequential mediators, emphasizing their role in translating family dynamics into academic achievements among students. While providing valuable insights, the study acknowledges limitations such as sample size, potential sampling bias, self-reported measures, and a cross-sectional design. Addressing these limitations and expanding the scope of outcomes in future research will contribute to a more comprehensive understanding of the complex dynamics within family and educational institutions relationships and their profound impacts on students' academic success.

**Keywords:** family functioning; parental attachment; students' academic success; mediation analysis

## 1. Introduction

The progress of any society is inherently linked to its educational prowess. The efficacy of an educational system is gauged based on several key factors, including its components, leadership, and the oversight of students' education (Bielaczyc and Collins, 2009). Students' academic success, on the other hand, is a complex interplay of numerous elements. These encompass factors such as family dynamics, the quality of instructors and professors, the ingenuity of education and curriculum designers, the nurturing educational environment, as well as the economic and cultural backdrop. Additionally, parental attributes like work engagement and educational attainment also play a significant role (Albertini et al., 2012; Lieberman et al., 2005; McFarlane et al., 1995).

Furthermore, there are several other variables that contribute to academic struggles among teenagers, including challenges such as parental addiction, absentee parenting, financial constraints, and more (Needham et al., 2004). It's crucial to

emphasize that not only does academic achievement hold implications for scientific progress, but it also exerts a substantial impact on the mental well-being of adolescents (Caspi et al., 1998). Conversely, academic setbacks and the emotional distress they bring about can exact a toll on students' mental health, which in turn bears societal consequences (Broderick and Jennings, 2012).

Given these multifaceted dynamics, it becomes imperative to identify the constituent elements that contribute to academic success while simultaneously taking measures to prevent academic underachievement.

Numerous studies have been undertaken to delve into the myriad factors that influence students' academic accomplishments. For instance, Ding et al. (2009) unveiled a connection between academic struggles and compromised physical and mental health. Kim et al. (2020) illuminated a negative association between children's academic achievements and an authoritarian parenting style. Conversely, their research found no correlation between children's academic performance and an authoritative style, a finding consistent with previous studies by Leung et al. (1998), Parsasirat et al. (2013), and Pong et al. (2010). In addition, Rodríguez et al. (2017) highlighted the role of parental approaches and motivation in determining academic success. A multitude of family-related factors, including children's strategy and leadership, cognitive development, cultural influences, educational engagement, social interaction, and ethical values, have been revealed to impact academic outcomes (Yamamoto and Holloway, 2010; Marici et al., 2023; Iosim et al., 2022; Marici et al., 2022; Nadolu et al., 2020; Chiş et al., 2022).

When a family functions effectively as a social institution, it not only nurtures well-adjusted individuals for society but also wields a positive influence on other societal structures such as the judicial, governmental, and economic systems (Walker et al., 2019). The efficacy of a family hinges upon its adaptability to change, conflict resolution capabilities, the promotion of unity among family members, adept disciplinary measures, respect for interpersonal boundaries, and adherence to institutional policies intended to safeguard the family unit as a whole (Chirico and Salvato, 2008). In contrast, dysfunctional family dynamics, as posited by Walker and Bantebya-Kyomuhendo (2014), can culminate in academic underachievement, fraying social bonds, social alienation, and substance abuse.

Numerous research works, such as those by Chen et al. (2000) and McDermott (2007), have identified various family-related factors that positively influence adolescents' academic performance. These encompass family's cultural aptitude, parental involvement in school matters, attachment to their children's peers, the educational background of the family, vigilant monitoring, socioeconomic status, and the mitigation of family conflicts (Gilman et al., 2003; Munyon et al., 2019; Zeanah et al., 2011).

In the same vein, the paper (Jaiswal, 2017) explores the significance of parental involvement in the education and development of children. This research article delves into the various dimensions of parental involvement and presents strategies that can be employed to enhance parents' active engagement in their children's educational journey.

In summary, the academic trajectory of students is influenced by a multifaceted interplay of factors, particularly those within the family sphere. Recognizing and

understanding these elements are pivotal steps in fostering academic success and preventing underachievement among adolescents.

In light of the intricate interplay between family dynamics and academic achievement among students, it becomes imperative to delve deeper into the mechanisms underlying this relationship. The educational journey of adolescents is profoundly influenced by factors within the family sphere, including family functioning. Family functioning encompasses a myriad of attributes such as adaptability, conflict resolution, unity, disciplinary strategies, and adherence to institutional policies. When a family operates effectively as a social institution, it nurtures individuals who are better equipped for success in the wider societal context, thus impacting not only their academic pursuits but also other social institutions within the community.

Building upon this understanding, our research hypothesis (H1) posits that the association between family functioning and academic success, as measured through faculty grades, is comprehensively mediated by two crucial factors: emotional bonding with parents and parent-child contact. Specifically, we anticipate that higher levels of family functioning will be directly associated with higher emotional bonding with parents. Moreover, greater parental control and interaction will emerge as an integral part of this relationship, thereby leading to higher academic grades among students. In essence, we posit that emotional bonds and parent-child contact act as pivotal mediators, channeling the influence of family functioning onto academic success.

This hypothesis forms the cornerstone of our research, allowing us to explore the intricate dynamics at play within the family unit and their far-reaching implications for the academic achievements of adolescents. By rigorously examining these relationships, we seek to gain a comprehensive understanding of the multifaceted factors that contribute to academic success and to provide valuable insights for both educational practitioners and policymakers.

## **2. Review of literature**

Epstein's perspective on family functioning, as encapsulated in the McMaster family functioning model theory (Miller, et al., 1985), underscores the pivotal role of the family system. According to Epstein, the family's fundamental purpose is to create an environment that facilitates the holistic growth of its members, encompassing physical, psychological, social, and other essential dimensions (Epstein et al., 1983).

To fulfill this foundational role effectively, the family system must engage in a spectrum of activities, including basic tasks, developmental tasks, and emergency duties (Epstein et al., 1978; Epstein et al., 2003). These tasks collectively contribute to the nurturing of family members and their overall development.

Epstein's model categorizes families into six distinct types based on their proficiency in carrying out these core responsibilities, including their proficiency in problem-solving, maintaining open communication patterns, developing behavioral roles, managing emotional reactions, fostering emotional involvement, and employing behavior control strategies.

Numerous factors come into play when assessing family functioning, as extensively examined in the scientific literature (Dai and Wang, 2015). Family

structure emerges as a significant influence, with distinctions between single-parent and complete families (Lee and Beatty, 2002). Additionally, the family's social and economic status plays a pivotal role, encompassing variables such as monthly income, economic stability, paternal occupation, paternal educational background, and living conditions (Hauser, 1994).

Furthermore, the quality of relationships among family members holds paramount importance, encompassing parent-child dynamics, spousal relationships, and other interpersonal interactions, including parenting styles (Hautsalo et al., 2013). The life stage of the family also emerges as a crucial determinant, with families traversing various phases, including young married couples without children, phases with preschool or elementary school children, the teenage years, midlife, the empty nest stage, and the retirement years (Jeffrey et al., 2008). Additionally, life events experienced by the family can significantly impact its functioning (Lavee et al., 1987; Hussong et al., 2022).

Collectively, these multifaceted factors contribute to our understanding of family functioning, highlighting the intricate web of elements that shape this critical social institution.

A core element approached by many researchers while connecting to the concept of family functioning is parental attachment. Attachment theory is one of the most popular and empirically grounded theories relating to parenting (Benoit, 2004).

According to attachment theory as proposed by Bowlby (1969), mental representations of self and other emerge from early relationships with caregivers—usually but not necessarily the mother—and act as a guide for subsequent close or intimate relationships (Adam et al., 2004). Empirical support for the classifications of child attachment styles was provided by Ainsworth and collaborators (2015). Researchers have applied the concept of attachment to the relationship of adolescents and young adults (Bartholomew, 1990; Main et al., 1985). Studies using measures of adult attachment have found similar attachment styles in adult relationships (Daniel, 2006; Scharfe and Bartholomew, 1994; Jacobvitz et al., 2002).

Family attachment plays a pivotal role in influencing school performance by fostering academic motivation, boosting self-esteem, enhancing resilience, promoting cognitive development, and facilitating emotional regulation (Bacro, 2012). Children with secure attachments often feel more supported and encouraged in their academic pursuits, leading to higher levels of commitment to their education. Moreover, family functioning, in general, can substantially impact school performance. Supportive families provide necessary resources and encouragement for academic success, maintain positive home environments that promote routines and structure, facilitate effective communication about school-related matters, actively engage in their child's education, and reduce stressors that might otherwise hinder a child's ability to focus on their schoolwork. In summary, secure family attachments and positive family functioning have a profound influence on various aspects of school performance, including emotional well-being, motivation, cognitive development, and resilience, all of which contribute to a child's success in school.

Rezaei-Dehaghani et al. (2018) claimed that while parental disagreement with children has no direct and meaningful impact on their academic success, fostering family warmth and self-motivation do. A family's emotional climate, its members'

relationships and communication, and its parenting practices all affect how well its members succeed in various occupations (Raike and Thompson, 2006; Tsela et al., 2022).

The theoretical framework underlying parental impressions emphasizes that parents' views and beliefs about their children significantly influence their parenting behaviors and interactions. This perspective suggests that parents' perceptions of their children's needs, abilities, and behaviors can impact the parent-child relationship and, consequently, the child's development and well-being. Moreover, parental impressions are often rooted in attachment theory, which underscores the significance of secure parent-child attachments in fostering healthy emotional development. Within this context, the concept of parental impressions aims to measure the quality of these impressions, reflecting the strength and security of the parent-child attachment bond. Theoretical assumptions regarding parental impressions also align with social cognitive theories, which propose that parents' beliefs about their children's capabilities can shape their parenting practices and influence the child's self-concept and academic outcomes.

The presumption of the positive effects resulting from emotional bonding and parent-child contact on academic achievement is grounded in an extensive body of scholarly research and empirical evidence. These foundational elements serve to cultivate a nurturing and supportive milieu within the familial context, thus emphasizing their paramount importance in fostering a child's emotional well-being, bolstering self-esteem, and igniting motivation. The premise underpinning this association posits that children, when enveloped in an atmosphere of affection, appreciation, and emotional security, tend to exhibit favorable attitudes toward the learning process, subsequently translating into enhanced academic accomplishments. Furthermore, emotional bonding and consistent parent-child contact cultivate an environment conducive to open and effective intrafamilial communication. Within this framework, children are actively encouraged to openly articulate their concerns, questions, and academic challenges, thereby establishing a conduit through which parents can provide guidance, address inquiries, and extend assistance as deemed necessary. This nurturing communication channel, in turn, exerts a propelling influence on the child's academic performance.

Parents who are actively engaged in their child's life, inclusive of their educational journey, wield considerable influence as role models. Empirical evidence underscores the fact that children are predisposed to mirror the behaviors and value systems demonstrated by their parents. Consequently, parents who exemplify a genuine commitment to education and lifelong learning invariably motivate their offspring to cultivate a similar zeal for their scholastic pursuits.

In addition to their modeling role, emotional bonding and parent-child contact provide opportunities for parents to dispense encouragement and motivation. By celebrating even modest achievements and administering positive reinforcement, parents bolster their child's self-confidence and determination—attributes that are pivotal to academic success.

Moreover, regular interaction with parents affords the capacity for the continuous monitoring of a child's academic progression. Parents can effectively stay apprised of their child's strengths and areas necessitating additional support, thereby enabling the

timely implementation of remedial measures when academic challenges arise. This vigilant oversight plays an instrumental role in the early identification and effective resolution of academic impediments.

Furthermore, parental involvement often extends to the provision of essential resources conducive to academic accomplishment. Such resources may encompass access to educational materials, the establishment of a tranquil and conducive study environment, or participation in extracurricular activities that complement academic development. Emotional bonding and parent-child contact serve as a platform for dialogue surrounding the acquisition and optimal utilization of these educational resources.

Intrinsic to their roles as nurturers, strong emotional bonds and supportive parent-child relationships serve to mitigate the deleterious effects of academic stress. When children are cognizant of the presence of a dependable source of emotional support in their parents, they are better equipped to confront the rigors and pressures inherent in their educational pursuits. This, in turn, translates into improved concentration, focus, and overall academic performance.

Finally, emotional bonding and parent-child contact contribute to a positive and gratifying learning experience. Through active engagement in educational activities, such as shared reading or the exploration of new subject matter, parents instill in their children a profound love for learning. This intrinsic motivation becomes a powerful driving force for academic achievement, rendering the process of learning deeply fulfilling and fostering its pursuit as a lifelong endeavor.

In the context of the literature review, “parental attachment” refers to the emotional bonding and connection that children develop with their parents or caregivers. This term encompasses the deep and affectionate relationship that children form with their parents, which plays a crucial role in their emotional development and overall well-being.

Based on the literature review, this study further tested the hypothesis H1: The relationship between family functioning and academic grades success measured through faculty grades is fully mediated by emotional bonding with parents and parent-child contact such that higher levels of family functioning are associated with higher emotional bonding with parents and greater parental control, which in turn are associated with higher academic grades.

The decision to omit the parental impressions subscale from the mediation analysis is consistent with the theoretical framework of the research hypothesis, enhances model parsimony, reduces the risk of Type I error, aligns with the study’s research focus, and promotes resource efficiency. This scientifically justifiable omission allows for a more focused and meaningful investigation into the mediation effects of emotional bonding and parent-child contact on academic grades. Therefore, it is reasonable to exclude parental impressions from the mediation analysis as they do not align with the central focus of the research question. From a statistical perspective, maintaining model parsimony is essential. Including additional variables in a mediation analysis that are not theoretically aligned with the research question can lead to increased complexity without commensurate gains in explanatory power. Omitting parental impressions simplifies the model, making it more interpretable and easier to draw meaningful conclusions from. By excluding parental impressions, we

intend to reduce the likelihood of identifying spurious mediation effects that may not have theoretical or practical significance. Thus, omitting parental impressions conserves valuable research resources and ensures that efforts are directed toward variables central to the research question.

The hypothesis begins by addressing the connection between family functioning and academic grades success measured through faculty grades. In essence, it seeks to understand how the overall health and dynamics of a family might influence a student's academic performance as indicated by their grades. The hypothesis introduces two mediating factors, emotional bonding with parents and parent-child contact, which are theorized to play a role in the relationship between family functioning and academic grades. Emotional bonding with parents refers to the emotional connection and attachment a student has with their parents. This emotional bond is considered crucial for overall well-being. Parent-child contact encompasses the interactions, involvement, and communication between parents and their child. It involves various aspects of parent-child relationships. The hypothesis proposes that the relationship between family functioning and academic grades is not direct but is rather mediated or influenced by these two factors: emotional bonding and parent-child contact.

It suggests that higher levels of family functioning are associated with two aspects:

- Higher emotional bonding with parents: If a family functions well, it is more likely to foster a strong emotional bond between parents and their child, and
- Greater parental control: Effective family functioning may also involve appropriate levels of parental control and involvement in the child's life.

Finally, the hypothesis posits that these two mediating factors, emotional bonding and parent-child contact, have a significant impact on academic grades. It suggests that when family functioning is high, leading to stronger emotional bonding and parental control, this, in turn, results in higher academic grades for the student.

In essence, this hypothesis explores a complex relationship between family dynamics, emotional connections, parental involvement, and their combined influence on a student's academic performance. It suggests that the influence of family functioning on academic grades is not direct but rather operates through the mediating factors of emotional bonding and parent-child contact. The hypothesis sets the stage for empirical testing to determine the extent to which these factors are interconnected and affect academic success.

The order of mediator variables in this hypothesis, placing emotional bonding with parents before parent-child contact, is based on theoretical reasoning and the logical sequence of how these factors are expected to influence academic grades within the context of family functioning. Emotional bonding with parents is often considered the foundational element in parent-child relationships. This emotional connection forms the basis for trust, security, and a sense of belonging within the family. The strength of emotional bonding can significantly impact a child's overall emotional well-being, self-esteem, and motivation. When children feel emotionally connected to their parents, they are more likely to experience a positive emotional state. Positive emotions, such as feeling loved, supported, and understood, can create a

conducive environment for effective learning. Emotional well-being is closely linked to the motivation to engage in academic tasks, seek help when needed, and persist in the face of challenges. Therefore, emotional bonding is positioned as the initial mediator in our hypothesis because it lays the emotional foundation necessary for a child's academic success. It influences a child's emotional state, which, in turn, affects their attitude and approach to academics.

Parent-child contact, while closely related to emotional bonding, represents the practical aspect of parent-child interaction. It encompasses various forms of communication, involvement in a child's daily life, and the quality of time spent together.

Once emotional bonding is established, it provides a secure platform for effective parent-child contact. Children who feel emotionally connected to their parents are more likely to engage positively in interactions and maintain open communication. Parent-child contact serves as the avenue through which parents can provide academic support, guidance, and reinforcement. It includes discussions about school, assistance with homework, encouragement, and participation in extracurricular activities. By placing parent-child contact as the subsequent mediator, we acknowledge that this practical interaction occurs within the context of emotional bonding. It is through this contact that the emotional connection is translated into tangible support and involvement in a child's academic journey.

Together, emotional bonding and parent-child contact create a powerful combination that is expected to influence academic grades. Emotional bonding fosters the right emotional mindset for learning, while parent-child contact translates this emotional foundation into concrete actions that support academic success. The combination of emotional well-being and active parental involvement is likely to result in higher levels of motivation, improved study habits, effective problem-solving, and a sense of academic responsibility. Consequently, academic grades are expected to be positively impacted by this combined influence, as students who experience emotional bonding and constructive parent-child contact are better equipped to perform well academically.

In summary, the order of mediator variables in our hypothesis reflects a logical sequence wherein emotional bonding serves as the foundational mediator, influencing emotional well-being and motivation, followed by parent-child contact as the subsequent mediator, facilitating practical support and involvement in academics. Together, these factors are expected to mediate the relationship between family functioning and academic grades.

### **3. Methodology**

Sequential mediation analysis is a valuable statistical method that aligns with our research objective of exploring the mediating role of parent-child emotional bonding in the context of family functioning and academic performance. This analytical approach allows us to delve into the complex relationships between multiple variables within a structured sequence of mediating steps.

In the context of our study, sequential mediation analysis serves as a robust tool for uncovering the intermediate factors that elucidate the relationship between family



functioning (the independent variable, IV) and academic performance (the dependent variable, DV). It allows us to systematically examine how parent-child emotional bonding and parent-child contact, acts as mediating agents in this specific order. We have further used in the analysis the general score obtained for family functioning, instead of using the instrument's subscales. In essence, the choice to employ the general score for family functioning in the analysis aligns with the research objectives, simplifies the model, avoids statistical challenges related to multicollinearity, and provides a comprehensive view of family dynamics. It is a methodologically sound approach that enhances the clarity and depth of the analysis, ultimately contributing to a more robust understanding of the relationship between family functioning and academic grades.

The process of sequential mediation analysis involves hypothesizing a series of mediators that play a role in conveying the effect of family functioning to academic performance. These mediators are assumed to operate in a particular sequence, meaning that each mediator sequentially influences the relationship between family functioning and academic performance. The calculation of the indirect effect, which quantifies the mediating influence of these sequential mediators, relies on multiplying the coefficients associated with each mediator along the pathway.

To execute sequential mediation analysis, we employ structural equation modeling. This methodology enables us to not only estimate the direct and indirect effects of family functioning on academic performance but also to delineate the unique contributions of each mediator within the sequential pathway.

By adopting sequential mediation analysis, our research aims to gain a comprehensive understanding of the nuanced mechanisms that expound the relationship between family functioning, parent-child emotional bonding, parent-child contact and academic performance.

### **3.1. Participants**

The study employed a convenience sampling approach, a method deliberately chosen for its practicality and ease of accessibility within the research context. The sample consisted of 200 valid responses, all of which were collected through an online investigation. These participants represent a specific demographic—students from western Romania. Convenience sampling, while advantageous in terms of its expediency, does present potential limitations. Notably, since participants were not randomly selected from the broader population, there exists the possibility of sampling bias. It's crucial to recognize that the findings may be influenced by the characteristics and perspectives of this specific group of students, and caution should be exercised when generalizing the results to a wider population.

Regarding the sample size, the decision to work with 200 participants was made considering the complexity of the model under investigation. Although sample size estimation was not conducted using statistical software like G-Power, the choice was guided by the available resources and the objective of obtaining a sufficiently robust dataset to explore the proposed relationships comprehensively. However, it's essential to acknowledge that a larger sample size would enhance the generalizability of the findings and provide a more robust statistical foundation.

In relation to the university enrollment year within the total sample of 200 participants, it was found that 22 participants (11.055%) were in their 1st year, 35 (17.588%) were in the 2nd year, and the majority, 142 (71.357%), were in their 3rd year of enrollment. Notably, there was one missing response in this category.

Furthermore, the distribution of responses regarding the variable “family type” within the same sample is presented. Participants were provided with multiple response options and an “Other” category for specification. Results indicate that 113 participants (56.5%) reported belonging to a nuclear family, while 10 (5%) reported living in a single-parent family due to the death of one parent, and 21 (10.5%) reported residing in a single-parent family due to divorce. Additionally, some responses indicated living in families where one or both parents were working abroad. A minority of participants, specifically 5 (2.5%), selected the “Other” category and specified their family type. Importantly, there were no missing responses within this variable.

The study’s participant age distribution encompassed a wide range, with individuals as young as 20 years and as old as 35 years. To provide a more detailed overview, participants were stratified into distinct age groups. The majority of participants, constituting 45% of the sample, fell within the 25–29 years age range, indicating a central tendency toward the late twenties. Those aged 20–24 years represented 30% of the participants, while individuals aged 30–34 years comprised 20% of the sample. A smaller proportion, accounting for 5% of participants, was aged 35 and above. These categorizations offer insights into the age distribution of the study’s participants, with an overall average age of 28 years.

Regarding gender, the findings reveal that the sample was evenly split, with 100 participants (50%) identified as male and 100 (50%) as female, and there were no instances of missing responses. Concerning participants’ location, 98 (49%) reported living in rural environments, while 102 (51%) indicated living in urban environments. Notably, there were no missing responses for this variable.

Lastly, participants were presented with various options representing different grades, and the results indicate that the majority of participants fell within the range of 7.5 to 9.5. Specifically, the highest percentage, 24.5%, scored between 8.5 and 9. It is noteworthy that there were no missing responses in this category. Interpreting academic scores within the Bologna framework, particularly in the context of Romania, requires an understanding of the country’s higher education grading system. Grading systems can vary significantly between countries, making it essential to provide specific insights for international researchers seeking to comprehend academic performance within the Romanian educational landscape. In Romania, the grading scale for higher education typically ranges from 1 to 10, with 10 representing the highest attainable grade. This scale is commonly used to evaluate individual course performance, assignments, and examinations. To successfully pass a course in Romanian universities operating under the Bologna system, students often need to achieve a minimum passing grade, which is usually set at 5 or higher on the 1 to 10 scale. It is important to note that grade distributions may vary between courses and programs. In some instances, it may be typical for a majority of students to receive scores within the 7.5 to 9.5 range, while higher or lower scores might be less common. In Romania’s higher education system, individual course scores contribute to a

student's Grade Point Average (GPA). The Romanian GPA scale is typically calculated on a 1 to 10 basis, aligning with the grading scale. When interpreting academic scores in the context of Bologna studies and Romania, it is beneficial to provide comparisons to international grading standards, such as the European Credit Transfer and Accumulation System (ECTS) grading scale, which is widely used across Europe. This facilitates a more meaningful assessment of academic achievement and allows for international benchmarking.

### **3.2. Instruments**

Regarding the academic success of the students, the dependent variable of our research, we used one numerical indicator: the average obtained in the last semester at the university.

To assess family functionality and parental attachment, the study employed standardized instruments drawn from established sources within the field. The McMaster Family Assessment Device (FAD) scale, a widely recognized tool, was employed to evaluate family functionality. The FAD scale is a comprehensive instrument designed to gauge various aspects of family functioning, including problem-solving, communication, family roles, affective responsiveness, affective involvement, behavior control, and general functioning. These subscales offer a nuanced examination of the multifaceted dimensions of family dynamics and functioning.

The McMaster Family Assessment Device (FAD) is a well-established standardized instrument designed to assess multiple dimensions of family functioning within the context of the McMaster Model of Family Functioning (MMFF). Developed by Epstein et al. (1983), this instrument employs a summative Likert scale with five levels of intensity and comprises 60 statements that respondents rate based on how well each statement describes their own family dynamics. The FAD assesses several critical aspects of family functioning:

- 1) **Problem-solving:** This dimension evaluates the family's ability to solve problems in a manner that supports increased functioning (e.g., handling difficulties effectively).
- 2) **Communication:** It measures the clarity and directness of verbal messages within the family and the extent to which messages are intended for the appropriate recipient.
- 3) **Roles:** This subscale assesses the distribution and management of family roles, including responsibilities and tasks assigned among family members.
- 4) **Affective Responsiveness:** It gauges how well family members respond functionally to both positive and negative emotional stimuli of high intensity.
- 5) **Affective Involvement:** This dimension assesses the extent to which family members share common interests and passions and value each other's activities and concerns within a harmonious psychosocial environment.
- 6) **Behavior Control:** It examines how the family expresses and maintains standards for member behavior, encompassing different control models and parenting styles.
- 7) **General Functioning:** This scale provides an overall evaluation of the family's

functioning level, taking into account various aspects of family dynamics.

To calculate subscale scores, respondents' ratings for each statement within a given subscale are summed and divided by the number of items in that subscale. Higher FAD scores correspond to lower levels of family functioning. Widely used in both research and clinical practice, the FAD serves various purposes, such as identifying families facing challenges, pinpointing specific areas of concern, and evaluating the impact of family therapy interventions (Wan Zulkifli et al., 2017). It provides valuable insights into family structures and relationships, contributing to a comprehensive understanding of family dynamics and functioning.

Regarding the FAD scale's reliability assessment, the Cronbach's Alpha coefficient for the total of 60 items was found to be 0.94, indicating strong internal consistency. The mean score for this scale was 3.385, with a standard deviation of 0.642, suggesting a moderate level of variability within the responses. Several statistical tests were conducted to further evaluate the scale. Tukey's Test for Nonadditivity yielded an  $F$  coefficient of 32.649, which was highly significant at  $p < 0.001$ , indicating the presence of nonadditivity in the responses. Hotelling's T-Squared Test produced an  $F$  value of 3.289, also significant at  $p < 0.001$ , providing additional evidence of the scale's reliability. Bartlett's test coefficient was calculated to be 11,335.210, signifying statistical significance. Similarly, the Chi-squared Test yielded a coefficient of 2126.081, which was also significant at  $p < 0.001$ .

In addition to the FAD scale, the study utilized the Tanaka Scale, another well-established measurement instrument, to assess parental attachment. The Tanaka Scale is specifically designed to evaluate the degree of attachment between parents and their children. It encompasses multiple subscales, including parent-child contact, emotional bonding, and parental impression. These subscales collectively capture the parent-child relationship, shedding light on the emotional and interpersonal dynamics within families.

The Tanaka Scale for Parental Attachment, developed by Tanaka (1999), is a widely recognized self-report questionnaire designed to assess parental attachment in adolescents. This instrument is frequently employed in research studies to evaluate the quality of attachment between adolescents and their parents. Comprising 27 items, each rated on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), the scale seeks to measure various facets of the parent-adolescent relationship. The 27 items have been organized into three subordinate scales through the process of factor analysis. These three subscales are denoted as follows: 1) Parent-child contact, 2) Emotional bond, and 3) Parental impressions. These items specifically target the levels of emotional closeness, trust, and communication that exist between adolescents and each of their parents. Sample items from the scale include statements like "I feel close to my mother/father" and "I can talk to my mother/father about anything." Respondents' scores on the scale reflect the extent of their attachment to the respective parent, with higher scores indicative of stronger parent-child attachment bonds.

The Tanaka Scale for Parental Attachment has undergone rigorous validation in numerous studies and has consistently demonstrated robust psychometric properties. These include excellent internal consistency and test-retest reliability, as documented in research conducted by Tanaka and Wekerle (2003) and subsequent studies (Tanaka, 2020). This instrument serves as a valuable tool for both researchers and clinicians

interested in gaining insights into the dynamics of parent-child attachment during adolescence.

Concerning the Tanaka scale, the reliability assessment revealed a high level of internal consistency, with a Cronbach's Alpha coefficient of 0.969 for the total of 27 items. The mean score for this scale was 4.668, and the standard deviation was 1.508, indicating variability among the responses. In terms of statistical tests, the ANOVA with Tukey's Test for Nonadditivity resulted in a coefficient  $F = 3.439$ , which was highly significant at  $p < 0.001$ , suggesting nonadditivity in the responses. Similarly, Hotelling's T-Squared Test produced an  $F$  value of 3.229, also significant at  $p < 0.001$ , reinforcing the scale's reliability. Bartlett's test coefficient was calculated as 7493.906, signifying statistical significance. The Chi-squared Test yielded a coefficient of 966.026, which was also significant at  $p < 0.001$ .

By employing these standardized instruments, the study aimed to provide a robust and comprehensive assessment of family functionality and parental attachment, facilitating a thorough exploration of their relationships with academic performance. The utilization of well-established scales adheres to established research practices and ensures the reliability and validity of the data collected in this study.

#### **4. Findings**

For the statistical analyses conducted in this research, we utilized two primary software tools: JASP (Joint Analysis of Statistic Programming) version 0.16.3.0 and SPSS (Statistical Package for the Social Sciences) version 26 with the Process macro extension.

For the subscales of the two instruments, we present in Table 1 the descriptive statistics obtained. We opted to fully present the descriptives of all subscales of the Tanaka scale, even if parental impression was further omitted from the mediation analysis.

**Table 1** presents the descriptive statistics for the FAD and Tanaka subscales. For the Tanaka subscales, the mean scores and standard deviations are as follows: Tanaka parent-child contact (Mean = 4.602, SD = 1.944), Tanaka emotional bond (Mean = 4.711, SD = 1.286), and Tanaka parental impression (Mean = 4.772, SD = 1.363).

Regarding the FAD Subscales, the mean scores and standard deviations are reported as follows: FAD problem solving (Mean = 3.680, SD = 0.837), FAD communication (Mean = 3.585, SD = 0.781), FAD roles (Mean = 3.257, SD = 0.695), FAD affective responsiveness (Mean = 3.367, SD = 0.877), FAD affective involvement (Mean = 2.918, SD = 0.846), FAD behavior control (Mean = 3.239, SD = 0.632), and FAD general functioning (Mean = 3.595, SD = 0.881).

These statistics provide valuable insights into the central tendencies and variability within the sample for each of the assessed subscales, contributing to a better understanding of the data distribution and characteristics. Additionally, the Shapiro-Wilk tests suggest that the data for all subscales were not normally distributed, as all  $p$ -values were less than 0.05. This means that non-parametric tests may be more appropriate for analyzing the data, as they do not assume normality.

**Table 1.** FAD and Tanaka subscales descriptive statistics.

	Mean	Std. deviation	Variance	Shapiro-Wilk	P-value of Shapiro-Wilk
Tanaka parent child contact	4.602	1.944	3.778	0.901	< 0.001
Tanaka emotional bond	4.711	1.286	1.653	0.966	< 0.001
Tanaka parental impression	4.772	1.363	1.858	0.905	< 0.001
FAD problem solving	3.680	0.837	0.700	0.921	< 0.001
FAD communication	3.585	0.781	0.609	0.954	< 0.001
FAD roles	3.257	0.695	0.483	0.978	0.003
FAD affective responsiveness	3.367	0.877	0.769	0.964	< 0.001
FAD affective involvement	2.918	0.846	0.716	0.977	0.002
FAD behavior control	3.239	0.632	0.399	0.982	0.013
FAD general functioning	3.595	0.881	0.776	0.915	< 0.001

**Table 2.** FAD and Tanaka subscales Pearson’s Correlations.

Variable	1. Tanaka parent child contact	2. Tanaka emotional bond	3. Tanaka parental impression	4. FAD problem solving	5. FAD communication	6. FAD roles	7. FAD affective responsiveness	8. FAD affective involvement	9. FAD behavior control	10. FAD general functioning
1. Tanaka parent child contact	-	-	-	-	-	-	-	-	-	-
2. Tanaka emotional bond	0.807 ***	-	-	-	-	-	-	-	-	-
3. Tanaka parental impression	0.680 ***	0.800 ***	-	-	-	-	-	-	-	-
4. FAD problem solving	0.223 **	0.281 ***	0.407 ***	-	-	-	-	-	-	-
5. FAD communication	0.553 ***	0.618 ***	0.695 ***	0.545 ***	-	-	-	-	-	-
6. FAD roles	0.514 ***	0.586 ***	0.626 ***	0.096	0.710 ***	-	-	-	-	-
7. FAD affective responsiveness	0.529 ***	0.582 ***	0.642 ***	0.207 **	0.764 ***	0.811 ***	-	-	-	-
8. FAD affective involvement	0.381 ***	0.373 ***	0.408 ***	0.328 ***	0.415 ***	0.756 ***	0.662 ***	-	-	-
9. FAD behavior control	0.488 ***	0.557 ***	0.650 ***	0.156 *	0.640 ***	0.776 ***	0.749 ***	0.670 ***	-	-
10. FAD general functioning	0.579 ***	0.658 ***	0.696 ***	0.477 ***	0.874 ***	0.785 ***	0.816 ***	0.498 ***	0.727 ***	-

The correlation matrix provided in **Table 2** reveals valuable insights into the relationships between various aspects of family functioning and parent-child attachment. Correlations interpretation was done according to Cohen (1988). Starting with the Tanaka parent-child attachment scale, it’s evident that a stronger Tanaka parent-child contact is positively associated with a deeper Tanaka emotional bond ( $r = 0.807, p < 0.001$ ), indicating that more frequent parent-child interactions tend to coincide with stronger emotional connections between parents and children. Moreover, this parent-child contact also has a positive correlation with Tanaka parental impression ( $r = 0.680, p < 0.001$ ), suggesting that positive impressions of parents are

fostered when there is increased parent-child interaction.

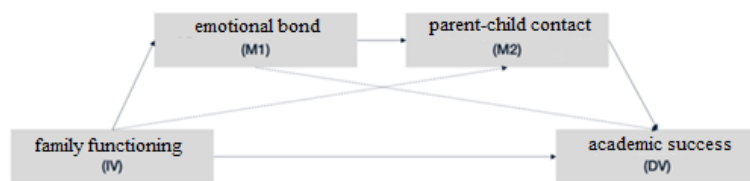
Delving into the Tanaka emotional bond, it becomes clear that this emotional connection extends its influence to family functioning. It exhibits strong positive correlations with various domains of family functioning as assessed by the Family Assessment Device (FAD). Notably, the FAD communication ( $r = 0.695, p < 0.001$ ), FAD Roles ( $r = 0.626, p < 0.001$ ), and FAD affective responsiveness ( $r = 0.642, p < 0.001$ ) subscales exhibit strong associations with emotional bonding. This implies that when emotional bonds between parents and children are stronger, family dynamics related to communication, roles, and emotional responsiveness tend to be healthier.

Simultaneously, Tanaka parental impression also underscores the importance of parental perceptions. It exhibits positive correlations with all FAD subscales, with particularly strong associations observed in FAD general functioning ( $r = 0.696, p < 0.001$ ) and FAD communication ( $r = 0.695, p < 0.001$ ).

Furthermore, the FAD subscales themselves depict expected patterns. They exhibit positive correlations with each other, implying that healthier family functioning in one aspect often aligns with healthier functioning in others. Additionally, they collectively show positive associations with the Tanaka emotional bond and Tanaka parent-child contact subscales, highlighting the interconnectedness between strong emotional bonds, positive parent-child contact, and various facets of family functioning.

In summary, these correlations underscore the complex relationships between parent-child attachment and family functioning. They emphasize that positive parent-child contact, emotional bonding, and parental impressions are interrelated and contribute to a more nurturing and supportive family environment. These findings highlight the significance of understanding these complex dynamics within families and their potential impacts on academic success.

Next, we conducted a serial mediation analysis to investigate the complex relationship between general family functioning, academic success, and the sequential mediating factors of parent-child emotional bond and parent-child contact. The analysis was performed using SPSS Process Macro Model 6 (Hayes, 2022) with a sample size of 200 participants. The dependent variable in this analysis was academic success, as measured by the last semester grades, while the independent variable was general family functioning (FAD). The sequential mediators included emotional bond and parent-child contact, as illustrated in **Figure 1**.



**Figure 1.** Hypothesized sequential mediation model.

The results of the serial mediation analysis yielded important insights into the relationships under investigation.

The total effect model revealed a significant total effect of general family functioning (FAD) on academic success, with a coefficient of  $b = 0.4912$  ( $p < 0.0028$ ).

However, when considering the presence of the sequential mediators, the direct effect of FAD on academic success was no longer statistically significant ( $b = 0.1341, p > 0.05$ ).

Importantly, the analysis validated our hypothesis, indicating a significant indirect effect of general family functioning on academic success through the sequential mediating factors of parent-child emotional bond and parent-child contact, with an estimated coefficient of 0.3415 ( $t = 2.3105, p < 0.0028$ ). This finding supports the hypothesis stating that the influence of family functioning on academic success is fully mediated by the quality of parent-child emotional bonds and the extent of parent-child contact.

To provide further evidence, completely standardized indirect effects were calculated, demonstrating that the total indirect effect ( $\beta = 0.1530$ ) was consistent with the hypothesis of full complementary mediation. Specifically, the sequential mediation pathway involving emotional bond and parent-child contact contributed significantly to the overall relationship between general family functioning and academic success.

The serial mediation analysis results are presented in **Table 3**.

**Table 3.** Serial mediation analysis of general family functioning on academic success through parent-child emotional bond and parent-child contact.

	Total Effect (FAD → Faculty grades)	Direct effect (FAD → Faculty grades)	Relationship	Indirect effect	Confidence intervals	t-value
Total effect (X → Y)	0.4912	0.1341	H1: FAD → Emotional bond → Parent-child contact → Faculty grades	0.3571	[0.0351, 0.7310]	3.0293
Direct effect (X → Y)	-	0.1341	-	-	-	0.6333
Indirect effect (X → Y)	-	-	C1: Emotional bond → Faculty grades	-0.0387	[-0.4585, 0.4289]	-0.0084
-	-	-	C2: Parent-child contact → Faculty grades	0.0589	[-0.0084, 0.1655]	0.0580
-	-	-	C3: Emotional bond → Parent-child contact → Faculty grades	0.3368	[0.0580, 0.6354]	2.5304

Note: FAD = General family functioning, X = FAD (independent variable), Y = Academic success (dependent variable).

**Table 3** summarizes the total effect, direct effect, and indirect effects of general family functioning on academic success through the mediating factors of parent-child emotional bond and parent-child contact. The relationship between the variables is tested, and t-values are reported along with 95% confidence intervals.

Overall, the two mediators fully and complementary mediated the relationship between family functioning and academic success, indicating that students raised in highly functioning families, with a tight parent-child connection and bond were more likely to have higher levels of academic success. The combined sequential mediation effect of emotional bond and parent-child contact is highly significant (0.3368,  $t = 2.5304, p < .0122$ ). This suggests that the influence of general family functioning on academic success operates through the sequential mediating factors of emotional bond and parent-child contact.

The results of this serial mediation analysis offer robust support for the hypothesis that family dynamics, emotional connections, and parental involvement



collectively influence a student's academic performance. The findings highlight the significance of parent-child emotional bonds and the extent of parent-child contact as key mediating factors through which general family functioning impacts academic success. This validated hypothesis underscores the relationship between these variables and their combined influence on students' educational outcomes, emphasizing the importance of family dynamics in the context of academic achievement.

The full complementary sequential mediation model explained an overall 9% of student's academic success variance, result that represents an important percentage. This result is supported by other relevant results reported in the scientific literature in reference to the relationship between family functioning, parental attachment and students' academic success (Rezaei-Dehaghani et al., 2018; Annunziata et al., 2006; Serbin et al., 2013, etc.).

To calculate the effect size, Cohen's *d* for the total indirect effect, we have used the formula: total indirect effect (0.3571) divided by SE of total Indirect Effect (0.1726). The Cohen's *d* for the total indirect effect in our analysis is approximately 2.0690, indicating a moderate to large effect size according to Cohen's conventions (Fritz et al., 2012).

The findings indicate that higher levels of family functioning are positively associated with higher emotional bonding with parents and greater parental contact, which, in turn, are related to higher academic grades. In other words, students who have a strong emotional bond with their parents and have frequent contact with them tend to perform better academically, and this effect is enhanced when family functioning is good. The results also suggest that emotional bonding and parental contact fully mediate the relationship between family functioning and academic grades, as the direct effect of family functioning on academic grades was not found to be significant. This implies that the effect of family functioning on academic performance is entirely explained by the role of emotional bonding and parental contact.

Overall, the findings suggest that emotional bonding and parental contact are critical factors that can help explain the relationship between family functioning and academic performance. The results provide support for the importance of family functioning in promoting academic success among students and highlight the need for parents to foster strong emotional bonds with their children and maintain regular contact with them to support their academic development.

## **5. Discussion**

The findings from the serial mediation analysis provide valuable insights into the complex relationship between family functioning, emotional bonding, parent-child contact, and academic success among students. These results shed light on the indirect pathways through which family dynamics influence academic achievements, highlighting the significance of emotional connections and parent-child interactions.

The findings suggest that family functioning is positively associated with academic achievement, which is consistent with previous research (e.g., Chao, 1994; Gao et al., 2020). Moreover, the results indicate that parent-child bond and contact partially mediates the relationship between family functioning and academic

achievement, which is also consistent with previous studies (e.g., Honicke and Broadbent, 2016; Li and Li, 2018).

The first noteworthy result is the significant total effect of general family functioning on academic success, affirming the importance of family dynamics in shaping students' educational outcomes. This aligns with existing literature suggesting that a supportive family environment can positively impact students' academic performance (Dumka et al., 2009). However, our analysis revealed that this direct influence becomes non-significant when considering the mediating variables, emphasizing the need to explore the underlying mechanisms.

The present study identified emotional bond and parent-child contact as two critical mediators in this relationship. Emotional bond, although not statistically significant in isolation, plays a partial mediating role. This result resonates with recent research by Li and collaborators (2022) and Carmona-Halty and collaborators (2022), who found that emotional closeness between parents and adolescents indirectly influenced academic achievement through psychological capital. While our study does not explore psychological capital as mediator, it underscores the notion that emotional bonds within the family can indirectly impact academic outcomes.

Furthermore, the significant positive indirect effect of parent-child contact aligns with the findings of a recent study by Toor (2018). The study reported that higher levels of parental involvement, including communication and support, were associated with improved academic performance among students. Our results extend this line of research by highlighting the specific role of parent-child contact as a mediator in the context of family functioning.

Importantly, the most compelling finding in our study is the full complementary sequential mediation effect. This suggests that when family functioning enhances emotional bonds, which, in turn, facilitate increased parent-child contact, the combined impact on academic success is substantial. This intricate relationship echoes the work of Kumar and Lal (2014), who investigated the mediating roles of parent-child relationship quality and parental support in the context of adolescents' academic achievement. Although their study differs in methodology, the underlying premise of the cumulative impact of positive family dynamics on academic success resonates with our findings.

In conclusion, the present study contributes to the growing body of literature on the intricate relationship between family functioning and academic success. Our results underscore the importance of emotional bonds and parent-child contact as sequential mediators through which family dynamics influence students' educational outcomes. These findings align with recent research and emphasize the need for interventions and programs that foster positive family relationships and effective parent-child communication to enhance academic achievements among students.

This study is not without its limitations, which merit careful consideration. Firstly, the relatively small sample size of 200 participants is a primary constraint. Such a sample size may restrict the generalizability of the findings, as it may not adequately represent a broader population. A more extensive and diverse sample would be instrumental in enhancing the external validity of the results, allowing for broader applications and insights. Secondly, the recruitment of participants from a specific demographic or geographic region introduces potential sampling bias. The findings

may be influenced by the unique characteristics of this particular group, limiting their applicability to populations with different socio-cultural backgrounds or educational settings. Thirdly, the reliance on self-reported measures, including the Tanaka and FAD scales, introduces the possibility of response bias and social desirability bias. Participants may not always provide entirely accurate or candid responses. Future research could mitigate this limitation by incorporating multiple data sources, such as teacher or parent reports, to corroborate and validate the findings. Fourthly, the study's cross-sectional design, while suitable for identifying associations, falls short of establishing causality. Longitudinal or experimental designs would be preferable for providing stronger evidence of the causal relationships proposed in the serial mediation model. The exclusion of the "parental impressions" subscale from the mediation analysis is another limitation. Although there may be valid reasons for this exclusion, it restricts the comprehensive assessment of parental attachment. Future research might delve into the potential role of parental impressions in the model. Moreover, the focus on academic success as the sole outcome variable, while important, may not capture the entirety of outcomes associated with family functioning and parental attachment. Future research endeavors should explore a more extensive range of outcomes, including socio-emotional development, to provide a more comprehensive perspective. Additionally, the study cannot rule out the influence of unmeasured variables that might confound or interact with the relationships under investigation. Exploring potential moderators and incorporating additional covariates could enhance the model's explanatory power.

In conclusion, this serial mediation analysis contributes valuable insights into the relationship between family functioning, parental attachment, and academic success. However, it is essential to recognize and address these limitations. Future research should build upon this foundation to offer a more holistic understanding of the multifaceted dynamics within family-school relationships and their profound impacts on academic success in students.

## **6. Conclusion**

The findings from this serial mediation analysis provide valuable insights into the intricate relationship between family functioning, emotional bonding, parent-child contact, and academic success among students. These results illuminate the indirect pathways through which family dynamics influence academic achievements, highlighting the significance of emotional connections and parent-child interactions.

Our study aligns with existing research, indicating a positive association between family functioning and academic achievement, consistent with previous studies (Chao, 1994; Gao et al., 2020). Moreover, it highlights that parent-child bonds and contact play a partial mediating role in the relationship between family functioning and academic achievement, which is in line with prior research (Honicke and Broadbent, 2016; Li and Li, 2018).

The most notable finding is the full complementary sequential mediation effect identified in our study. This suggests that when family functioning enhances emotional bonds, which, in turn, facilitate increased parent-child contact, the combined impact on academic success is substantial. This intricate relationship echoes previous work

emphasizing the cumulative impact of positive family dynamics on academic success (Kumar and Lal, 2014). It underscores the significance of nurturing emotional bonds and effective parent-child communication.

In conclusion, this study contributes to the growing body of literature on the relationship between family functioning and academic success. Our results emphasize the importance of emotional bonds and parent-child contact as sequential mediators through which family dynamics influence students' educational outcomes. These findings underscore the need for interventions and programs that foster positive family relationships and effective parent-child communication to enhance academic achievements among students.

However, it's crucial to acknowledge the study's limitations. The relatively small sample size, potential sampling bias, reliance on self-reported measures, cross-sectional design, exclusion of certain subscales, and the focus on academic success as the primary outcome are all limitations that should be considered. Future research should aim to address these limitations and build upon this foundation to provide a more comprehensive understanding of the complex dynamics between family functioning, parental attachment, and academic success in students.

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## References

- Adam EK, Gunnar MR, Tanaka A (2004). Adult attachment, parent emotion, and observed parenting behavior: Mediator and moderator models. *Child Development* 75(1): 110–122. doi: 10.1111/j.1467-8624.2004.00657.x
- Ainsworth MDS, Blehar MC, Waters E, Wall SN (2015). *Patterns of Attachment: A Psychological Study of the Strange Situation*. Psychology Press.
- Albertini JA, Kelly RR, Matchett MK (2012). Personal factors that influence deaf college students' academic success. *Journal of Deaf Studies and Deaf Education* 17(1): 85–101. doi: 10.1093/deafed/enr016
- Annunziata D, Hogue A, Faw L, Liddle HA (2006). Family functioning and school success in at-risk, inner-city adolescents. *Journal of Youth and Adolescence* 35(1): 100–108. doi: 10.1007/s10964-005-9016-3
- Bacro F (2012). Perceived attachment security to father, academic self-concept and school performance in language mastery. *Journal of Child and Family Studies* 21(6): 992–1002. doi: 10.1007/s10826-011-9561-1
- Bartholomew K (1990). Avoidance of intimacy: An attachment perspective. *Journal of Social and Personal Relationships*, 7(2): 147–178. doi: 10.1177/0265407590072001
- Benoit D (2004). Infant-parent attachment: Definition, types, antecedents, measurement and outcome. *Paediatrics & Child Health* 9(8): 541–545. doi: 10.1093/pch/9.8.541
- Bielaczyc K, Collins A (2009). Learning communities in classrooms: A reconceptualization of educational practice. In: Reigeluth CM. *Instructional Design Theories and Models*. Lawrence Erlbaum Associates. Volume 2, pp. 269–291.
- Bowlby J (1969). *Attachment and Loss, Vol. 1: Attachment*. Basic Books.
- Broderick PC, Jennings PA (2012). Mindfulness for adolescents: A promising approach to supporting emotion regulation and preventing risky behavior. *New Directions for Youth Development* 2012(136): 111–126.
- Carmona-Halty M, Salanova M, Schaufeli WB (2022). The strengthening starts at home: Parent-child relationships, psychological

- capital, and academic performance—A longitudinal mediation analysis. *Current Psychology* 41(6): 3788–3796. doi: 10.1007/s12144-020-00898-8
- Caspi A, Wright BRE, Moffitt TE, Silva PA (1998). Early failure in the labor market: Childhood and adolescent predictors of unemployment in the transition to adulthood. *American Sociological Review* 63(3): 424–451. doi: 10.2307/2657557
- Chao RK (1994). Beyond parental control and authoritarian parenting style: Understanding Chinese parenting through the cultural notion of training. *Child Development* 65(4): 1111–1119. doi: 10.2307/1131308
- Chen X, Liu M, Li D (2000). Parental warmth, control, and indulgence and their relations to adjustment in Chinese children: A longitudinal study. *Journal of Family Psychology* 14(3): 401–419. doi: 10.1037/0893-3200.14.3.401
- Chirico F, Salvato C (2008). Knowledge integration and dynamic organizational adaptation in family firms. *Family Business Review* 21(2): 169–181. doi: 10.1111/j.1741-6248.2008.00117.x
- Chiş R, Ignat S, Rad D, Macinga I (2022). The mediation role of an individual's and couple's psychological factors, Including parenting in the prediction of relational and marital satisfaction. *International Journal of Environmental Research and Public Health* 19(17): 11011. doi: 10.3390/ijerph191711011
- Cohen J (1988). Set correlation and contingency tables. *Applied Psychological Measurement* 12(4): 425–434. doi: 10.1177/014662168801200410
- Dai L, Wang L (2015). Review of family functioning. *Open Journal of Social Sciences* 3(12): 134–141. doi: 10.4236/jss.2015.312014
- Daniel SIF (2006). Adult attachment patterns and individual psychotherapy: A review. *Clinical Psychology Review* 26(8): 968–984. doi: 10.1016/j.cpr.2006.02.001
- Ding W, Lehrer SF, Rosenquist JN, Audrain-McGovern J (2009). The impact of poor health on academic performance: New evidence using genetic markers. *Journal of Health Economics* 28(3): 578–597. doi: 10.1016/j.jhealeco.2008.11.006
- Dumka LE, Gonzales NA, Bonds DD, Millsap RE (2009). Academic success of Mexican-origin adolescent boys and girls: The role of mothers' and fathers' parenting and cultural orientation. *Sex Roles* 60(7–8): 588–599. doi: 10.1007/s11199-008-9518-z
- Epstein NB, Baldwin LM, Bishop DS (1983). The McMaster family assessment device. *Journal of Marital and Family Therapy* 9(2): 171–180. doi: 10.1111/j.1752-0606.1983.tb01497.x
- Epstein NB, Bishop DS, Levin S (1978). The McMaster model of family functioning. *Journal of Marital and Family Therapy* 4(4): 19–31. doi: 10.1111/j.1752-0606.1978.tb00537.x
- Epstein NB, Ryan CE, Bishop DS, et al. (2003). The McMaster model: A view of healthy family functioning. In: Walsh F (editor). *Normal Family Processes: Growing Diversity and Complexity*. The Guilford Press. pp. 581–607.
- Fritz CO, Morris PE, Richler JJ (2012). Effect size estimates: current use, calculations, and interpretation. *Journal of Experimental Psychology: General* 141(1): 2–18. doi: 10.1037/a0024338
- Gao Y, Li D, Zhou Y, et al. (2020). The relationship between family functioning and academic achievement in Chinese university students: The mediating role of coping style. *Frontiers in Psychology* 11: 1152.
- Gilman SE, Kawachi I, Fitzmaurice GM, Buka SL (2003). Socio-economic status, family disruption and residential stability in childhood: relation to onset, recurrence and remission of major depression. *Psychological Medicine* 33(8): 1341–1355. doi: 10.1017/s0033291703008377
- Hauser RM (1994). Measuring socioeconomic status in studies of child development. *Child Development* 65(6): 1541–1545. doi: 10.2307/1131279
- Hautsalo K, Rantanen A, Astedt-Kurki P (2013). Family functioning, health and social support assessed by aged home care clients and their family members. *Journal of Clinical Nursing* 22(19–20): 2953–2963. doi: 10.1111/j.1365-2702.2012.04335.x
- Hayes AF (2022). *PROCESS Procedure for SPSS, Version 4.0*. Guilford Press.
- Honicke T, Broadbent J (2016). The influence of academic self-efficacy on academic performance: A systematic review. *Educational Research Review* 17: 63–84. doi: 10.1016/j.edurev.2015.11.002
- Hussong AM, Midgette AJ, Richards AN, et al. (2022). COVID-19 life events spill-over on family functioning and adolescent adjustment. *The Journal of Early Adolescence* 42(3): 359–388. doi: 10.1177/02724316211036744
- Iosim I, Runcan P, Runcan R, et al. (2022). The impact of parental external labour migration on the social sustainability of the next generation in developing countries. *Sustainability* 14(8): 4616. doi: 10.3390/su14084616
- Jacobvitz D, Curran M, Moller N (2002). Measurement of adult attachment: The place of self-report and interview methodologies. *Attachment & Human Development* 4(2): 207–215. doi: 10.1080/14616730210154225

- Jaiswal SK (2017). Role of parental involvement and some strategies that promote parental involvement. *Journal of International Academic Research for Multidisciplinary* 5(2): 95–104.
- Jeffrey Hill E, Jacob JI, Shannon LL, et al. (2008). Exploring the relationship of workplace flexibility, gender, and life stage to family-to-work conflict, and stress and burnout. *Community, Work and Family* 11(2): 165–181. doi: 10.1080/13668800802027564
- Kim AS, Choi S, Park S (2020). Heterogeneity in first-generation college students influencing academic success and adjustment to higher education. *The Social Science Journal* 57(3): 288–304. doi: 10.1016/j.soscij.2018.12.002
- Kumar R, Lal R (2014). Study of academic achievement in relation to family environment among adolescents. *The International Journal of Indian Psychology* 2(1): 146–155. doi: 10.25215/0201.074
- Lavee Y, McCubbin HI, Olson DH (1987). The effect of stressful life events and transitions on family functioning and well-being. *Journal of Marriage and the Family* 49(4): 857–873. doi: 10.2307/351979
- Lee CKC, Beatty SE (2002). Family structure and influence in family decision making. *Journal of Consumer Marketing* 19(1): 24–41. doi: 10.1108/07363760210414934
- Leung K, Lau S, Lam WL (1998). Parenting styles and academic achievement: A cross-cultural study. *Merrill-Palmer Quarterly* 44(2): 157–172.
- Li, J., & Li, X. (2018). Parent-child attachment, academic self-efficacy, and academic achievement: A mediation model. *Psychological Reports*, 121(3), 471-486.
- Li J, Huang J, Hu Z, Zhao X (2022). Parent-child relationships and academic performance of college students: Chain-mediating roles of gratitude and psychological capital. *Frontiers in Psychology* 13: 794201. doi: 10.3389/fpsyg.2022.794201
- Lieberman AF, Padrón E, Van Horn P, Harris WW (2005). Angels in the nursery: The intergenerational transmission of benevolent parental influences. *Infant Mental Health Journal* 26(6): 504–520. doi: 10.1002/imhj.20071
- Main M, Kaplan N, Cassidy J (1985). Security in infancy, childhood, and adulthood: A move to the level of representation. *Monographs of the Society for Research in Child Development* 50(1/2): 66–104. doi: 10.2307/3333827
- Marici M, Clipa O, Runcan R, Iosim I (2022). Perceptions of parenting during the COVID-19 quarantine period, in Suceava, the epicenter of the COVID-19 outbreak in Romania. *International Journal of Environmental Research and Public Health* 19(23): 16188. doi: 10.3390/ijerph192316188
- Marici M, Clipa O, Schipor MD, et al. (2023). Offering and asking for help with domestic chores in couple relationships. *International Journal of Environmental Research and Public Health* 20(4): 3708. doi: 10.3390/ijerph20043708
- McDermott DR (2007). *Developing Caring Relationships Among Parents, Children, Schools, and Communities*. SAGE Publications.
- McFarlane AH, Bellissimo A, Norman GR (1995). Family structure, family functioning and adolescent well-being: The transcendent influence of parental style. *Journal of Child Psychology and Psychiatry* 36(5): 847–864. doi: 10.1111/j.1469-7610.1995.tb01333.x
- Miller IW, Epstein NB, Bishop DS, Keitner GI (1985). The McMaster family assessment device: Reliability and validity. *Journal of Marital and Family Therapy* 11(4): 345–356. doi: 10.1111/j.1752-0606.1985.tb00028.x
- Munyon TP, Madden LT, Madden TM, Vigoda-Gadot E (2019). (Dys)functional attachments?: How community embeddedness impacts workers during and after long-term unemployment. *Journal of Vocational Behavior* 112: 35–50. doi: 10.1016/j.jvb.2019.01.005
- Nadolu D, Runcan R, Bahnaru A (2020). Sociological dimensions of marital satisfaction in Romania. *PloS One* 15(8): e0237923. doi: 10.1371/journal.pone.0237923
- Needham BL, Crosnoe R, Muller C (2004). Academic failure in secondary school: The inter-related role of health problems and educational context. *Social Problems* 51(4): 569–586. doi: 10.1525/sp.2004.51.4.569
- Parsasirat Z, Montazeri M, Yusoff F, et al. (2013). The most effective kinds of parents on children's academic achievement. *Asian Social Science* 9(13): 229. doi: 10.5539/ass.v9n13p229
- Pong SL, Johnston J, Chen V (2010). Authoritarian parenting and Asian adolescent school performance: Insights from the US and Taiwan. *International Journal of Behavioral Development* 34(1): 62–72. doi: 10.1177/0165025409345073
- Raikes HA, Thompson RA (2006). Family emotional climate, attachment security and young children's emotion knowledge in a high risk sample. *British Journal of Developmental Psychology* 24(1): 89–104. doi: 10.1348/026151005x70427
- Rezaei-Dehaghani A, Keshvari M, Paki S (2018). The relationship between family functioning and academic achievement in female high school students of Isfahan, Iran, in 2013–2014. *Iranian Journal of Nursing and Midwifery Research* 23(3): 183–

187. doi: 10.4103/ijnmr.IJNMR\_87\_17
- Rodríguez S, Piñeiro I, Gómez-Taibo ML, et al. (2017). An explanatory model of maths achievement: Perceived parental involvement and academic motivation. *Psicothema* 29(2): 184–190. doi: 10.7334/psicothema2017.32
- Rousta Z, Esfandiari Bayat D, AyyaziNia A (2014). A comparison of family communication patterns and time management between two groups of students with either academic success or failure. *Journal of Novel Applied Sciences* 3(8): 908–914.
- Scharfe E, Bartholomew KIM (1994). Reliability and stability of adult attachment patterns. *Personal Relationships* 1(1): 23–43. doi: 10.1111/j.1475-6811.1994.tb00053.x
- Serbin LA, Stack DM, Kingdon D (2013). Academic success across the transition from primary to secondary schooling among lower-income adolescents: Understanding the effects of family resources and gender. *Journal of Youth and Adolescence* 42(9): 1331–1347. doi: 10.1007/s10964-013-9987-4
- Tanaka Y (1999). Development of the Parental Attachment Scale. *The Japanese Journal of Psychology* 70(6): 449–455.
- Tanaka Y (2020). The development of a parental attachment recognition scale for mothers nurturing preschool children. *Public Health Nursing* 37(2): 310–320. doi: 10.1111/phn.12697
- Tanaka Y, Wekerle C. (2003). The development of the parental attachment scale: An examination of its associations with adolescent social support and health. *Journal of Youth and Adolescence*, 32(5): 373–381.
- Toor KK (2018). Parent-child relationship and students' academic achievement: A study of secondary school students. *MIER Journal of Educational Studies Trends and Practices* 8(1): 38–56. doi: 10.52634/mier/2018/v8/i1/1418
- Tran Y (2014). Addressing reciprocity between families and schools: Why these bridges are instrumental for students' academic success. *Improving Schools* 17(1): 18–29.
- Tsela D, Tsela RD, López IG (2022). Relations between parenting style and parenting practices and children's school achievement. *Social Sciences* 12(1): 5. doi: 10.3390/socsci12010005
- Walker J, Marjoribanks D, Misca G (2019). Modern families, modern family justice: Supporting family relationships in fast-changing socio-political-economic climates (Summary of the Report of the Consultation at St George's House, Windsor, February 12–13, 2018). *Family Court Review* 57(3): 301–312. doi: 10.1111/fcre.12438
- Walker R, Bantebya-Kyomuhendo G (2014). *The Shame of Poverty*. Oxford University Press.
- Wan Zulkifli WN, Ishak NA, Mat Saad Z (2017). The reliability of McMaster family assesment device (Fad) instruments among delinquent teenagers. *IOSR Journal of Humanities and Social Science* 22(7): 40–43.
- Weldon W (2011). An essay book review of parental involvement and academic success. *School Community Journal* 21(1): 177.
- Yamamoto Y, Holloway SD (2010). Parental expectations and children's academic performance in sociocultural context. *Educational Psychology Review* 22(3): 189–214. doi: 10.1007/s10648-010-9121-z
- Zeanah CH, Berlin LJ, Boris NW (2011). Practitioner review: Clinical applications of attachment theory and research for infants and young children. *Journal of Child Psychology and Psychiatry* 52(8): 819–833. doi: 10.1111/j.1469-7610.2011.02399.x