

# The study of relationship between parenting styles of mothers with physical activity levels and overweight among female students

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## Annotation:

**Objective** — the purpose of the present study was to determine whether mothers parenting styles are associated with physical activity levels and Overweight in 14- to 17-years old female students lived city of Rasht. Study would focus on that mothers influence their children by what ways and which were the most effective.

**Methods** — the target population consisted entirely of female students of Rasht City. Then, according to Odineski table 360 females, 80 ninth graders, 148 tenth graders 132 eleventh graders with mean age of 15.59±1.1 years, height 164.23±6.94 cm, weight 57.32±11.71 kg and body mass index 21.19±3.81 kg.m<sup>2</sup> respectively volunteered to participation in this study. The study used questionnaire to collect data on parenting styles and children's physical activity. Purpose and necessity of study for every experiment have been explained. For data analysis, the descriptive (mean and standard deviation), Kolmogorov-Smirnov test and Pearson correlation coefficient were used.

**Results** — the result showed that there were no significant correlation between the indices of physical activity levels and Authoritarian (r=0.083), Authoritative (r=0.104) and Permissive (r=-0.031) in Mother.

**Conclusions** — Future studies should include longitudinal data and/or they should use the information from this study to design studies that will examine the effects of intervention activities on a child's attraction to physical activity and to promote physical activity, public health professionals could encourage Mothers to increase logistic support for their Girls physical activity. Also Strategies to promote physical activity among adolescents should focus on increasing levels of family cohesion, parental engagement, parent-child communication and adolescent self-esteem.

**Ноошин Бенар, Айуб Бехрози. Вивчення взаємовідношення між батьківськими стилями матерів з фізичними рівнями діяльності і надлишковою вагою дівчат студенток.**

**Завдання.** Мета справжнього вивчення повинна була визначити, чи зв'язуються стилі виховання матерів з фізичними рівнями діяльності і надлишковою вагою 14-17-річних дівчат студенток, що проживають в місті Решта. Дослідження зосереджене на тому, як матери впливають на своїх дітей і які шляхи були найбільш ефективними.

**Методи.** Цільова група складалася повністю з дівчат міста Решта. Потім, згідно таблиці Одінеськи, 360 жінкам, 80 вчать у дев'ятих, 148 вчать у десятих, 132 вчать у одинадцятих класах з середнім віком 15.59±1.1 року, зростом 164.23±6.94 см, вагою 57.32±11.71 кг і індексом маси тіла 21.19±3.81 кг.м<sup>2</sup>, відповідно, були залучені до участі в даному дослідженні. У дослідженні використувувалася анкета, яка включала питання про батьківські стилі і фізичну діяльність дітей. Учасникам були пояснені мета і необхідність вивчення для кожного експерименту. Для аналізу даних використовувалися, описові (середнє і стандартне відхилення), тест Холмогорова-Смирнова і коефіцієнт кореляції Пірсона.

**Результати.** Результат показав, що не спостерігається ніякою істотною кореляцією між індексами фізичних рівнів діяльності матерів – авторитарним (r=0.083), авторитетним (r=0.104) і по-благливим (r=-0.031).

**Висновок.** В майбутньому дослідження повинні включати подовжні дані і/або вони повинні використовувати інформацію з цього дослідження, щоб проєктувати навчання з розглядом ефективних дій на залученні дитяти до фізичної діяльності. Також, щоб сприяти фізичній діяльності, заохочувати заходи охорони здоров'я з тим, щоб матери сприяли і логістично підтримували фізичну діяльність дівчаток. Також дотримуватися стратегії, щоб сприяти фізичній діяльності серед хлопців і зосередити увагу на рівні що підвищення сімейного впливу, материнських зобов'язань, комунікації батьків і дітей і юнацького відчуття власної гідності.

**Ноошин Бенар, Айуб Бехрози. Изучение взаимоотношения между родительскими стилями матерей с физическими уровнями деятельности и избыточным весом девушек студенток.**

**Задача.** Цель настоящего изучения должна была определить, связываются ли стили воспитания матерей с физическими уровнями деятельности и избыточным весом 14-17-летних девушек студенток, проживающих в городе Решта. Исследование сосредоточено том, как матери влияют на своих детей и какие пути были наиболее эффективными.

**Методы.** Целевая группа состояла полностью из девушек города Решта. Затем, согласно таблицы Одінеськи, 360 женщинам, 80 учащимся девятих, 148 учащимся десятих, 132 учащимся одинадцятих классов со средним возрастом 15.59±1.1 года, ростом 164.23±6.94 см, весом 57.32±11.71 кг и индексом массы тела 21.19±3.81 кг.м<sup>2</sup>, соответственно, были привлечены к участию в данном исследовании. В исследовании использовалась анкета, которая включала вопросы о родительских стилях и физической деятельности детей. Участникам были объяснены цель и необходимость изучения для каждого эксперимента. Для анализа данных использовались, описательные (среднее и стандартное отклонение), тест Холмогорова-Смирнова и коэффициент корреляции Пирсона.

**Результаты.** Результат показал, что не наблюдается никакой существенной корреляции между индексами физических уровней деятельности матерей – авторитарным (r=0.083), авторитетным (r=0.104) и снисходительным (r=-0.031).

**Заключение.** В будущем исследовании должны включаться продольные данные и/или они должны использовать информацию из этого исследования, чтобы проєктировать обучение с рассмотрением эффективных действий на привлечении ребенка к физической деятельности. Также, чтобы способствовать физической деятельности, поощрять здравоохранительные меры с тем, чтобы матери способствовали и логистически поддерживали физическую деятельность девочек. Также поддерживать стратегии, чтобы способствовать физической деятельности среди юношей и сосредоточить внимание на повышающемся уровне семейного влияния, материнских обязательств, коммуникации родителей и детей и юношеского чувства собственного достоинства.

## Key words:

parenting style, physical activity, levels, overweight, children, parents.

батьківський стиль, фізична діяльність, рівні, перевага, діти, батьки.

родительский стиль, физическая деятельность, уровни, перевес, дети, родители.

## Introduction.

Unhealthy eating patterns have been associated with prevalence of overweight and obesity in children and adolescents in cross-sectional studies [1]. In addition, unhealthy eating behavior's often come together with physical inactivity increasing the risk for developing health problems [2]. Physical inactivity is increasing among adolescents in the U.S., especially among girls [3]. However, individuals at risk of low levels of physical activity

(e.g. girls) may be more responsive to parental influences. Therefore, gender differences in the relationship between parental influences and physical activity must be critically examined. Despite the centrality of family influences on child development, few studies have examined the causal relationship between family-related factors and adolescent physical activity [4]. An understanding of these relationships is essential to the development of family-focused interventions programs that promote adolescent physical activity, and ultimately prevent overweight and

obesity. also it did suggest that increased awareness about identification and causes of overweight is necessary [5]. Actually, both parents of children have in influence on their children, father role modeling and enjoyment and mother's encouragement are important factor facilitating children's attraction to physical activities [6]. Moreover, Snethen et al. (2008) stated that the essential of mothers' role is to increase children's self esteem [7]. For these reasons, many researchers and scholars have directed their research work toward a better understanding of the social and motivational factors that may underlie children's Physical Activity. Therefore, the initial steps for increasing children's participation in physical activity is to change their life style through different socialization agencies, then the most powerful socialization agency for children are their parents and peer, especially during the childhood years [8, 9]. Anderssen and Wold (1992), reported that for adolescent girls, after friends, support from their mothers was the most significant predictor of exercise [10]. For example, in the longitudinal study conducted by Bois and colleagues, mothers' perceptions of their children's sport competence directly influenced children's perceptions of their own sport competence [11]. Showed that mother-daughter relations typically improve when they participate in physical activity together (Ransdell et al., 2001) [12]. Parker's (1983) "optimal parenting" range, indicating positive relations between mothers and daughters before and after the interventions [13]. When, examining the gender relationships between parental physical activity orientation and overweight children's attraction to physical activity, boys received significant influence from both parents but girls did not [14]. Previous research has yielded conflicting evidence about the comparative importance of mothers versus fathers on children's physical activity [15]. For reason, we would pay attention to how Mothers influent their girls overweight and participation in physical activities. In fact, Parenting styles describe how a parent communicates with his/her child [16]. In general, previous studies due, Four parenting styles have been defined: authoritarian (demand obedience), authoritative (use reasoning), permissive (acquiesce to child's demands), and uninvolved [17]. In contrast, Baumrind's (1978) work reduced these multiple groups into three (Authoritarian, Authoritative and Permissive) in order to study parental style in younger children and mainly in relation to consumption behaviour [18]. Yusuf (2004) found one of the reasons for the poor performance of the students may be due to the parenting style adopted by their parents [19]. Specifically, there is evidence suggesting that parenting style is associated with adolescent over weight, and physical exercise. [20]. Generally, Results of study showed that Parental monitoring for activity was positively related to children's activity and Parental use of reinforcement styles for activity was positively related to children's physical activity And Parental discipline was not significantly related to children's unhealthy eating or physical activity and also Parental control was not significantly associated with children's healthy eating or physical Activity [21]. Schmitz and colleagues found that adolescent girls whose mothers demonstrated an authoritative parenting style

reported higher levels of physical activity and lower levels of sedentary behavior [4]. Several cross-sectional studies have found an association between authoritative parenting style (high responsiveness, high demandingness) and lower youth BMI, more frequent physical activity [21]. A recent US study with 76 US youths reported that children with permissive mothers were the most active and logistic support for activity was associated with increased activity [22]. In contrast, reflect other evidence that parenting behaviors which are too directive or restrict children's autonomy are associated with lower levels of child physical activity [23]. Also, research showed that parents who are authoritarian (i.e. highly directive, demanding and strict) regarding health behaviors increase their children's risk for overweight. Maternal permissive parenting was associated with higher levels of physical activity than authoritative parenting, but associations differed by child gender and type of physical activity [24]. In general, previous studies due it are also unclear whether activity-related parenting practices differ by parenting style. We have been interested in exploring how and why children may or may not develop such a positive collection of beliefs. Less frequently, the associations between parents physical activity and children's physical activity are studied according to sex – Mothers  $\approx$  daughters (or sons); Fathers  $\approx$  sons (or daughters) [25]. For reason Given the lack of research in Rasht families on the relationship between parenting styles of mothers with physical activity levels and overweight among female students the purposes of this research were (a) to assess links between mothers' parenting strategies and girls' physical activity; and (b) to examine the influence of mothers on girls' physical activity. (c) to examine the influence of mother on girls overweight. (d) to assess links between mothers' parenting strategies and girls' over weight.

### Participants and methods

The target population consisted entirely of female students among high schools in city of Rasht in Iran. Among them 360 female selected randomly. Details on sampling and methods have been reported elsewhere [26]. Current study is functional in a descriptive way from view of using attained results. The target population consisted entirely Three hundred sixty 14- to 17- years- old students from 11 high schools in Rasht of city. The study was approved by a University of Guilan ethics committee, and informed parental consent was obtained. Purpose and necessity of study for every experiment have been explained.

### Procedures

The Parenting Style Questionnaire (PSQ) was used to measure parenting practices of parents [27]. The PSQ consists of 32 items which under 3 scale: Authoritarian (12 question, including: 2, 4, 6, 10, 13, 16, 19, 23, 26, 28, 30, 32), Authoritative (15 question, including: 1, 3, 5, 7, 9, 11, 12, 14, 18, 21, 22, 25, 27, 29, 31) and Permissive (5 question, including: 8, 15, 17, 20, 24). After translate of standard Parenting Style Questionnaire (PSQ), and adjust of some question, questionnaires were evaluated by professors of faculty of physical education and sport sciences. The reliability guided Cronbach Alpha value of 0.83. A 5-point Likert scale, form never (1) to always (5)

was used with the PSDQ in this study. Also the Physical Activity Questionnaire for Adolescents (PAQ-A) provide a general measure of physical activity levels for youth from grades 4-12 (approximately ages 8-20). After translate of standard Physical Activity Questionnaire (PAQ), and adjust of some question, questionnaires were evaluated by professors of faculty of physical education and sport sciences. The reliability guided Cronbach Alpha value of 0.85. The Physical Activity Questionnaire for Adolescents (PAQ-A; Kowalski, Crocker, & Kowalski, 1997) [28], were developed and validated. The PAQ-A is self-administered, 7-day recall questionnaires that measure general moderate to vigorous physical activity levels during the school year. Generally, the PAQs have had relatively strong correlation coefficients with other physical activity measures compared to other recall measures [28, 29]. The PAQs' measurement of general physical activity levels is one its strengths because it is difficult to precisely measure intensity, frequency, and duration of young people's activities, especially with self-report [29]. The Physical Activity Questionnaire for Adolescents (PAQ-A) have been used to classify children and adolescents into different activity levels [28, 30]. The PAQ-A (a modified version of the PAQ-C) was developed to measure general levels of physical activity in adolescents. This instrument uses nine questions to assess a child physical activity in a variety of situations and time (e.g., school, recess, after school, evening, weekend, etc.). Each item is scored on a 5- point Likert scale with higher scores reflecting a greater level of physical activity. The average of the items is used as the activity level for the child (score range from 1 to 5). Validation studies have demonstrated good reliability and convergent validity. How to calculate the final PAQ- A activity summary score – Once you have a value from 1 to 5 for each of the 8 items (items 1 to 8) used in the physical activity composite score, you simply take the mean of these 8 items, which results in the final PAQ-A activity summary score. A score of 1 indicates low physical activity, whereas a score of 5 indicates high physical activity.

### Analysis

For data analysis the descriptive (mean and standard deviation), Kolmogorov -Smirnov test and Pearson correlation coefficient were used. Highest education within the household was obtained by Mothers report. To account for the season of assessment, the hours of daylight on the first day of data collection was calculated. Also height and weight were measured, and a body mass index ( $\text{kg}/\text{m}^2$ ) standard deviation score (BMI SDS) was calculated [31].

### Results

Subject anthropometric data are present in table 1. In figure 1 Show mean percentage physical activity levels among female students.

Mean and standard deviation of the physical activity levels among female are shown in table 2.

In Table 3, the result shows that, there were no significant correlation between the indices physical activity levels and Authoritarian ( $r=0.083$ ), Authoritative ( $r=0.104$ ) and Permissive ( $r=-0.031$ ) in mother.

In the table 4, Results shows that Parenting Style mother (Authoritarian and Authoritative) and prevalence overweight in female students were significant and were not significant between parenting style (Permissive) and overweight in female students.

### Discussion

We also know that parental modeling of physical activity is positively associated with a child's physical activity [9]. For reasons that few studies have assessed mediators of parenting influence on adolescent physical activity [32]. the purpose of the present study was to determine whether mothers parenting styles are associated with physical activity levels and Overweight in 14- to 17-years old children lived city of Rasht in Iran. The result table 3 showed that were not significant correlation between the indices of physical activity levels and Authoritarian, Authoritative and Permissive parenting styles among mother. These data are similar to the study done by Summers et al (2006) [33]. Also reports the lack of association between parental monitoring and physical activity, although inconsistent with studies examining the effects of parental monitoring on other children's health behaviors [34]. but, in contrast Schmitz and colleagues found that adolescent girls whose mothers demonstrated an authoritative parenting style reported higher levels of physical activity and lower levels of sedentary behavior [4]. Also, this is consistent with the limited amount of research in this area [34, 35]. Rathunde (2001) has shown that children in high support/high challenge families, when compared to other family types, spend the greatest amount of time in what he calls a state of "undivided interest," whereby they have both positive mood and a clear focus on the activity itself [36]. reflect other evidence that parenting behaviors which are too directive or restrict children's autonomy are associated with lower levels of child physical activity [23]. Also, the result table 4 shows that Parenting Style mother (Authoritarian and Authoritative) and prevalence overweight in female students were significant and were not significant between parenting style (Permissive) and overweight in female students. These data are similar to the study done by Jago et al reported that parents who are authoritarian (i.e. highly directive, demanding and strict) regarding health behaviors increase their children's risk for overweight [37]. Parents' physical activity orientation and parenting parenting style (e.g., role modeling, encouragement, and enjoyment) can universally and positively influence an overweight child's physical activity involvement [46]. These data are contrast to the study done by Gortmaker et al and Dennison et al that reports a number of effective parenting styles can reduce the risk of childhood overweight. Parental monitoring of children's dietary intake and physical activity has been associated with children's health practices [38,39]. This contradiction may be due to a variety of factors influence such as age of subjects, culture, physical activity levels and other factors. Communication between parent and child has been recognized as a relevant factor within physical activity contexts [40]. In most cases, parent-child communication has been studied as parental encouragement for their children to participate in PA or as

Table1. Subjects' (Mother and Female) characteristics

Subject	N	Age	Weight	Height	BMI
Mother	360	33.8±1.21	72.12±12.78	166.31±8.93	26.17±4.87
Female	360	15.59±1.1	57.32±11.71	164.23±6.94	21.19±3.81

\*Note: BMI: Body mass index. The values are present as mean ± SD

Table2. Mean and standard deviation of the physical activity levels among female

	Gender	N	Mean ± SD
Physical activity levels	Female	360	59.75±11.32

\* Significant at level of  $p < 0.05$

Table3. Associations between physical activity levels and Parenting Style (Authoritarian, Authoritative and Permissive)

Parenting Style	Physical activity levels	
		Mother
Authoritarian		0.083
Authoritative		0.104
Permissive		-0.031

\* Significant at level of ( $p < 0.05$ )

Table4. Associations between Body Mass Index and Parenting Style (Authoritarian, Authoritative and Permissive)

Body Mass Index		Authoritarian	Authoritative	Permissive
		Mother	Mother	Mother
Female		$r=0.187$ $Sig=0.020$	$R=0.167$ $Sig=0.048$	$r=0.070$ $Sig=0.408$

\*Significant at level of  $p < 0.05$

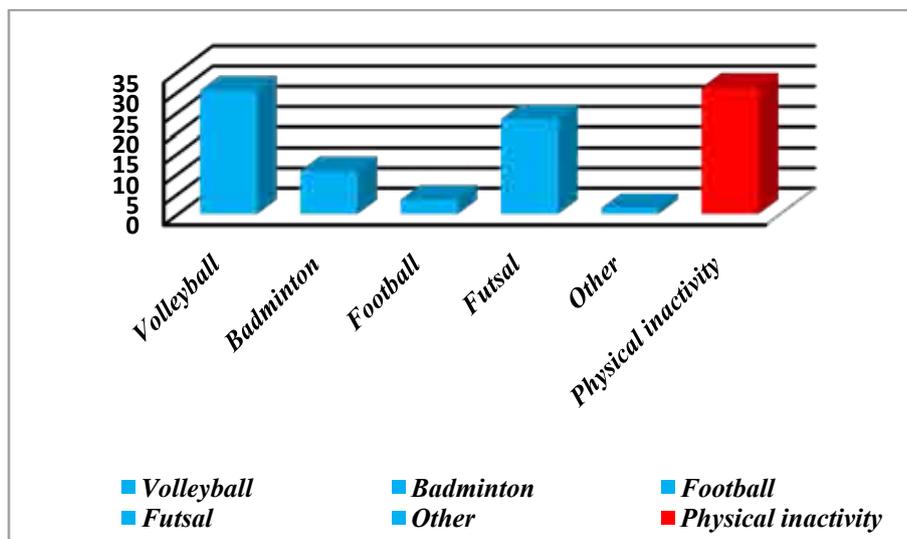


Fig 1: mean percentage physical activity levels among female.

parental feedback given in response to their children's PA performances [41]. In a longitudinal study of adolescents, Ornelas and colleagues [40] did not find an association between parental monitoring and physical activity despite their hypothesis that this type of parenting strategy -if either too directive or restrictive - may negatively impact children's physical activity. Specifically, children who perceived a high support/high challenge parenting style had a significantly stronger fitness task goal orientation than children who perceived a low support/low challenge family environment [42]. The ensuing discussion will focus on the importance of these relationships for children's participation in physical activity and some practical implications for future work in this area. Additionally, this study was cross-sectional in nature. Future studies should include longitudinal data and/or they should use the information from this study to design studies that will examine the effects of intervention activities on a child's attraction to physical activity. Despite limitations, this study is the first, to our knowledge, to examine the associations among culture, gender, parenting, and Rasht children's attraction to physical activity. Several practical findings can potentially influence future attempts to increase physical activity in an increasingly sedentary Rasht society. Also this is the first study of which we are aware that has explored the connections between parenting style of Mothers and children's beliefs pertaining to Physical activity. However, findings from this study shows that there were not significant correlation between the indices of physical activity levels and Authoritarian, Authoritative and Permissive in mother. There may be several potential reasons why we found few relationships between parenting style of mothers and activity-related parenting practices. First, the sample size was small. Although sufficient to run these analyses, the loss of accelerometer data was slightly higher than expected and additional studies with larger sample sizes are warranted. Second, these findings suggest that more work is needed to understand the goals and values parents place on their child's physical activity that may differ from their general views of parenting. Also recent studies have shown that peers and the built environment also influence adolescent physical activity [ 8, 9, 4]. Our study was not able to control for these factors in our analyses. Further studies should assess the comparative influence of parent support within the context of peer and environmental influences.

### Conclusions

Mothers' parenting style was not associated with levels of physical activity and overweight among 14- to 17 years- old students. Future research could build on this study by examining associations between parental support and children's activity using more diverse samples and families with alternative living situations by using a longitudinal design to assess the temporal sequence of parental support and children' physical activity, by assessing additional domains of parental support, and by using a direct measure of physical activity. Finally, the measure of activity-related parenting practices may be useful in future research. For example, the scale could be modified to be completed by children with reference to their parents, it could be used to assess change in parental

practices across time, and it could be used to assess mediation models in intervention research. Together with the results of other studies, our results indicate that an essential component of a health promoting household environment is a well-functioning family system [43]. Thus, efforts to engage families to spend time together, communicate with each other, and develop strong family bonds are likely to promote self-esteem and, thereby, physical activity among adolescents. Also Our findings add to the growing evidence base, which suggests that parents need to be aware of their behaviors that may or may not have unintended consequences on their child's health [44]. Future studies in this area are warranted to promote physical activity, public health professionals could encourage parents to increase logistic support for their children's physical activity. should explore the intersectionality of factors [45] such as socioeconomic status, ethnicity, Furthermore, future research race and locality with regards to the issue of family structure and children's engagement in physical activity.

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