

# Self-Esteem level in school-going adolescents across the slums of Karachi, Pakistan. A cross-sectional analysis

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*Submitted to Journal:*

Frontiers in Child and Adolescent Psychiatry

*Specialty Section:*

Developmental Psychopathology and Mental Health

*Article type:*

Original Research Article

*Manuscript ID:*

1175826

*Received on:*

28 Feb 2023

*Revised on:*

19 Apr 2023

*Journal website link:*

[www.frontiersin.org](http://www.frontiersin.org)

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### *Conflict of interest statement*

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest

### *Author contribution statement*

HN proposed the study concept and study design, prepared the manuscript, HN assisted in the literature review; TS and HN gathered and organized the data; SS was involved in biostatistics analysis and the result interpretation. HS finalized the manuscript and supervised the study and final review.

### *Keywords*

self-esteem, adolescents, Students, Slum areas, Parenting style, Parent's literacy level

### *Abstract*

Word count: 243

**Introduction:** For individuals to live their lives and integrate into society, self-esteem is an essential feeling. Self-esteem development depends on the environment in which children are nurtured. Assessment techniques using questionnaires include Rosenberg's self-esteem scale.

**Objective:** The study aims to assess the self-esteem of school-going adolescents in slum areas.

**Methodology:** This school-based cross-sectional study was conducted in three understudied slum areas of Karachi, Pakistan. A standardized scale Rosenberg Self-esteem Scale (RSES), and a pre-tested demographic scale was used to assess the impact of gender, weight, the academic performance of adolescent, tuition, and parent's education level along with parent's strictness on the self-esteem of the understudied population adolescents aged between 11-19 years were included in the study. Parent consent was obtained before visiting the school.

**Findings:** As per the collected data on self-esteem among 539 school-going adolescents. 232 (43%) were males, and 307 (57%) were females. Most students, 324 (60%), belong to the 14-16 age range. Parents' education status and strictness towards their children, academic performance, and adolescent body mass index (BMI) influenced self-esteem levels.

**Conclusion:** The study found that age, Parent's education, as well as parent's strictness, BMI and academic performance were linked to the level of self-esteem in the target population regardless of their gender. The children's surroundings play an imperative role in developing lower or higher self-esteem in children. Assessing children's self-esteem can be a valuable way to develop considerate circumstances and is beneficial to treatment for children with psychosomatic complaints.

### *Contribution to the field*

The study put valuable addition in the behavioral sciences especially those public health psychologists who are working on children as well as adolescents' behavior because as per our surveyed data and present reported numbers, self-esteem greatly impact on children and adolescents' academic performance [1] and to refine diagnoses if there is any psycho-social factors are affected. This kind of survey can also assist individuals in better understanding their own strengths and weaknesses in order to become the best version of themselves. Secondly, the target areas itself is a value addition as there are limited or no studies conducted in these neglected areas. Teachers and parents can also be aware that a high level of self-esteem is crucial in this developmental period of children and adolescents.

### *Ethics statements*

#### *Studies involving animal subjects*

Generated Statement: No animal studies are presented in this manuscript.

#### *Studies involving human subjects*

Generated Statement: The studies involving human participants were reviewed and approved by SINA's Ethical Review Board (SINA-ERB) . Written informed consent to participate in this study was provided by the participants' legal guardian/next of kin.

#### *Inclusion of identifiable human data*

Generated Statement: No potentially identifiable human images or data is presented in this study.

*Data availability statement*

Generated Statement: The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

In review

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**Keywords:** *Self-esteem, adolescents, students, slum areas, parenting style, Parent's literacy level.*

**The study adds:** the study put valuable addition in the behavioral sciences especially those public health psychologists who are working on children as well as adolescents' behavior because as per our surveyed data and present reported numbers, self-esteem greatly impact on children and adolescents' academic performance [1] and to refine diagnoses if there is any psycho-social factors are effected. This kind of survey can also assist individuals in better understanding their own strengths and weaknesses in order to become the best version of themselves. Secondly, the target areas itself is a value addition as there are limited or no studies conducted in these neglected areas. Teachers and parents can also be aware that a high level of self-esteem is crucial in this developmental period of children and adolescents.

### **Introduction:**

Numerous definitions of self-esteem have been developed over time. According to Rosenberg, one's attitude about themselves, whether positive or negative, directly affects how satisfied one feels with their life. [2] Positive self-esteem shields children and adolescents from mental discomfort and despondency and enables them to cope appropriately with challenging and stressful life events [3]. When entering school, a child develops a broad assessment of self-worth. The degree to which adolescent experiences success and failure in their lives influence how they feel about themselves. The value is based on the number of activities in which a child excels or falls, as well as the feedback from parents regarding performance. [4].

Different studies have been conducted related to self-esteem assessment among children and adolescents. In the USA, researchers assessed the relationship between Self-esteem and academic achievement and found that these are significantly linked [5]. Another study in Bangladesh found that academic achievements come with positive self-esteem and self-study [19]. Gender differences also show a different kind of pattern in self-esteem. One of the studies was conducted in the USA and England [6]. Found that girls have lower self-esteem than boys at their adolescent age.

Similarly, another study conducted in Canada also found the same results: Boys have higher self-esteem than girls [7]. However, researchers from India found no influence of gender on self-esteem [8]. Moreover, different meta-analyses found an association between parenting style with self-esteem. According to a popular notion, authoritative parenting increases children's self-esteem, whereas authoritarian and controlling parenting have the opposite effect [9-11]. Parents may encourage social skills by modeling kind and encouraging behavior, which promotes positive relationships with others and serves as a source of self-esteem [12]. Research from Bangladesh also found that parenting is imperative in growing children's and adolescents' self-esteem [13]. Systematic reviews and meta-analyses also demonstrate the impact of obesity on many aspects of psychological health, such as self-esteem and body image [14]. Compared with healthy-weight peers, self-esteem is lower in adolescents with obesity [15]. Past research by Dubow et al. in 2009 has demonstrated that parental education is a powerful positive predictor of children 's development [16]. Another factor that can contribute to the development of self-esteem is attending private tutoring. According to Khim Raj Supedi from Nepal (2018), private tutoring has positive consequences in developing self-confidence through improved learning and immediate support from their teachers [17].

Minimal studies have been conducted in Pakistan to examine self-esteem among adolescents in Pakistan [18]. This study found that adolescents from the urban area showed comparatively more self-esteem than the rural population. In addition, Male adolescents show higher self-esteem than female adolescents.

### **Study Rationale:**

Education offers an opportunity for society and its people to be empowered. It is a tool for socioeconomic development. Education enhances social, sentimental, and psychological advancement and society. However, only some have profited from the advantages of the current education system. Throughout this context, slum children's education in the country remains a major topic of concern. A diverse range of factors contributes to the absence of even more than half of Pakistan's school-age children. Pakistan faces a significant challenge in ensuring that all children attend, stay, and learn in schools, especially the most vulnerable. While enrollment and retention rates are improving, progress in enhancing learning indicators in Pakistan could be more active. A predicted 22.8 million children and adolescents aged 5 to 16 are not attending school [20,21].

**Objectives:** the study aims surround the following two objectives:

1. To determine the gender-based analysis regarding the levels of self-esteem among school-going adolescents of three highly densely inhabited slum areas of Karachi, Pakistan.
2. To assess the impact of BMI on the self-esteem of adolescents of Karachi, pk
3. To assess the impact of academic performance on the self-esteem of adolescents of Karachi, Pakistan.
4. To assess the impact of Parents' education on the self-esteem of adolescents of Karachi, Pakistan.
5. To check the impact of parents' strictness on the self-esteem of adolescents of Karachi, Pakistan.
6. To assess the impact of tuition or non-tuition adolescents in slum areas of Karachi, Pakistan.

### **Hypothesis:**

On the Bases of the prior research discussed in the published researches, the following research questions were formulated for the present study:

H1: there would be significant impact of gender on Self-esteem school-going adolescents?

H2: There would be significant effect of BMI of adolescents on their self-esteem of slums area of Karachi, Pakistan,

H3: There would be substantial impact of parent's education on the self-esteem of adolescents of slums area of Karachi, Pakistan.

H4: There is significant contribution of parent's strictness towards self-esteem of adolescents of slum areas of Karachi, Pakistan.

H5: There is noteworthy impact of Self-esteem of adolescents belong to slum areas of Karachi, who are attending tuition centers along with the schools

H6: There is noteworthy association between self-esteem and academic performance of adolescent of slum area of Karachi, Pakistan.

### **Methodology:**

#### **Study site:**

This school-based cross-sectional study was conducted in three large slum areas of Karachi, i.e., Landhi district, Korangi district, and Baldia Town. 18 cities in Karachi contain nearly 70% of the

slums [22]. Some of the major towns are shown in figure 1, along with the targeted town where schools for this Study were accessed to assess the self-esteem among children and adolescents.

### **Data Collection Tools:**

Two scales were used to collect the required data from children and adolescents.

**Demographics:** The initial stage was to collect demographic information specific questions from participants, such as age, gender, education, income of their parents, residential location so on so forth. Parent's strictness was assessed by asking if any of the parent is strict and if yes then whose more stricter. Parent's education was measured with the father's or mother's highest level of educational attainment.

**Rosenberg Self-esteem Scale (RSES):** In second part of the study, participants screened the Rosenberg self-esteem scale to assess the self-esteem. The RSES consists of a 10-item questionnaire self-report that assesses overall perceptions of worth and acceptance. The respondent was required to directly state their feelings about themselves on all ten items to Research associates. The evaluation is done on a four-point scale: strongly agree, agree, disagree, and strongly disagree with 1, 2, 3, and 4, respectively, for positive items, but they score reverse for negative items. [23]. The range for the total score is 10 to 40. The higher scores show a high level of esteem. Numerous research found that the RSES has strong validity and reliability. [24]. It has a unidimensional factor structure. [25]. RSES scale was translated from English to Urdu before being administered to the targeted population to prevent the language barrier and understand the questions to fulfil the study objectives. Research associates and data collectors, collect the data through face-to-face.

**Participants of the Study:** Adolescents aged 11 to 19 years were the targeted participants of the Study from three slum locations in Karachi, Pakistan.

**Inclusion and Exclusion criteria:** Adolescents were included in the study after their parent's written consent to participate in the Study. Those who were suffering from any identified psychological or suffered from disease or were reluctant to answer any question were excluded from the Study.

**Data Size, Study Duration, and Data size calculation:** Out of the total schools in the targeted towns, three schools (government and private) were included in the Study using a random number table. A sample of five hundred thirty-nine (539) children and adolescents of 11-19 years of age was selected after approval was obtained from the SINA-Ethical Review Board SINA-ERB in two months, i.e., October to Dec 2022. Since the population at large was unaware of how self-esteem is determined, especially in slum areas, we assumed the prevalence as 50% through a literature search, with 5% absolute precision and a 95% degree of confidence. and 20% of no response rate with  $\pm 7$  patients of missing data inflated to 539.

Patient sample size  $= (4pq/d^2) * 20\%$  NRR (no response rate)

where  $p$  = anticipated the prevalence,  $q = (1-p)$ ,  $d$  = margin of error,  $d = 5\%$

Patient sample size  $= ((4*50*(1-50))/(5*5)) * 20\%$

Patient sample size=  $392 \times 20\% = 470 + 23 = 493 \pm 7 = 500$

### **Statistical analysis:**

Before being entered into Microsoft Excel 2007 and exported to SPSS version 24 for analysis, all collected data were checked for accuracy and uniformity. To characterize the self-esteem, clinical variables, and sociodemographic characteristics, the data were summarized through descriptive statistics (frequencies, tables, percentages, and averages). To analyze the mean differences in self-esteem level of students, the independent sample t-test was used on basis of gender (male vs female), age, parents strictness (father vs mother), take tuition (yes vs no), BMI (normal weight vs overweight), parents' education level (educated vs uneducated), and academic performances of students (below the average vs above the average). In order to establish whether there is statistical support that the associated population means are statistically significantly different, we used this test to obtain an exact representation of the sample by comparing the means of two independent groups.

### **Results:**

We conducted independent sample t-tests to estimate the mean differences among the different study groups. The descriptive analysis of study variables summarized in Table 1 represents the total number of participants, and the percentages. The total number of females 307(57%) were higher than males 57(43%). There is a very limited number of high levels of self-esteem present in our studied population. Adolescents of age 11-19 years participated in the study. The 14-16 contributed to more than half of the total population, 324(60%). After calculating BMI from height and Weight of respondents, we found they had significantly affected the levels of self-esteem. There were 341(63%) overweight children and 198(37%) were of normal weight. Parents of most of the children were not educated 338 (63%) whereas only 201(37%) parents got some education. In addition, 210(39%) students were above the average in academic performance while 329(61%) were below the average. 212(39%) students used to take tuition. 344(64%) children and adolescent had strict fathers and 195(36%) had strict mothers.

In our collected data, we found out that there is a significant association between the level of self-esteem with weight, the strictness of parents at home, parent's education status, and academic achievement of student. Table 2 is showing the self-esteem level and mean difference of normal weight BMI and overweight BMI group. We found the significant difference in mean in self-esteem level of overweight students ( $M = 21.35$ ,  $SD = 3.05$ ) and normal weight students ( $M = 20.76$ ,  $SD = 3.489$ );  $t(537) = -2.057$ ,  $p = 0.040$ . Table 3 is showing the self-esteem level and mean difference of students' whose parents are educated and uneducated. We found the significant difference in mean of students' self-esteem level whose parents are uneducated ( $M = 21.42$ ,  $SD = 3.095$ ) and educated ( $M = 20.67$ ,  $SD = 3.405$ );  $t(537) = -2.622$ ,  $p = 0.009$ . Table 4 is showing the difference in mean in self-esteem level of students' having strict father or mother. We found the significant difference in mean in self-esteem level of student whose father was strict ( $M = 20.99$ ,  $SD = 3.169$ ) and mother ( $M = 21.41$ ,  $SD = 3.33$ );  $t(537) = -1.45$ ,  $p = 0.007$ . Table 5 is showing the mean difference in self-esteem level of students with their academic performance. The significant difference in mean in self-esteem level of students was found



whose average/below the average ( $M = 21.47$ ,  $SD = 3.088$ ) and above the average ( $M = 20.62$ ,  $SD = 3.387$ );  $t(537) = -2.997$ ,  $p = 0.003$ .

We also perform independent sample t-test with gender group (Male/Female) and student who takes tuition for studies in Table 6 and 7 respectively. Our data showing no significant mean difference between genders (male and female) and students who are taking tuitions or not.

## **Discussion:**

This school-based study was designed to assess self-esteem among adolescents using RSES by measuring positive and negative feelings about the self.

Many factors influence the self-esteem of adolescents. Our present study found that weight, parents' education, the strictness of parents at home, and academic performance are significantly associated with self-esteem among adolescents in slum areas of Karachi, Pakistan.

Our study found that weight substantially impacted adolescents' self-esteem; hence we accepted the H2 hypothesis. A study conducted by Sahin et al in 2013 on Turkish students on overweight of children and adolescents has also revealed that their weight condition significantly affects their overall self-perception [26]. Similarly, a study by Gow ML et al. in California proved that self-esteem is lower in children and adolescents if they are overweight compared to peers having healthy weight [27]. According to Hamidreza Zakeri, a researcher from Iran, overweight children experience bullying at school and are more likely to develop poor self-esteem and depression [28].

Yılmazel and Günay (2012) and Gelbal et al. (2010) reported a positive association between parents' education status and the self-esteem of children and adolescents, influencing us to accept the H3 hypothesis. Likewise, our present research concluded that adolescent self-esteem increases with the increase in their parent's education level [29,30]. Our findings complement and expand upon those from earlier research. Conversely, Keskin (2010) concluded from a study that there were no appreciable variations in the children's self-esteem scores based on the parent's education level [31]. Moreover, in our study, most of the parents in the slum areas of Karachi were not educated enough. School-going children receive no study help from their parents which may indirectly impact their self-esteem. School-going adolescents also feel hesitant to take their uneducated parents to school meetings.

In addition, our study suggests that parenting practices also influence adolescent self-esteem. We concluded that adolescents whose fathers are stricter than their mothers experience mild to moderate levels of self-esteem. This may be because of Pakistani culture, which is a more man-dominant society, so the father of most families is the sole earner and stricter. Therefore school going youth behavior reveals their home environment. Girls in slum areas mostly stay at home; therefore, their self-esteem affects more than boys. Khodarahimi S et al. (2011) also enlightened in their study that daughters with low self-esteem if their fathers are strict [32]. In terms of the connections between parenting styles, and adolescent self-esteem, the dimensions of effect, communication, and sense of humor were found by Reina et al. to favorably impact self-esteem and life satisfaction in a representative sample of Spanish adolescents aged 12 to 17. In contrast, psychological control had the opposite effect [33]. Hence we need to reject the H4 hypothesis. Based on our study, academic performance is another predictor that contributes to adolescents' self-esteem development. According to Georgiou SN (2010), Students encounter a wide range of self-referenced, task-related, and social emotions in academic contexts [34]. Alam from

California (2013) also pointed out that students who reported having more significant levels of self-esteem performed better academically when compared to students who reported having lower levels of self-esteem [35]. Hence we accept the H6 hypothesis.

In both developed and emerging countries, private tuition has constantly enhanced the traditional conventional education system [36]. Some previous studies also showed that tuition-going students could develop self-esteem and a sense of achievement because it helps them to keep up with their fellows and to expand their learning further [37]. Our study did not support the idea of self-esteem association with tuition-going and non-tuition-going adolescents. This may be due to less practice of sending adolescents to tuition in slum areas because of low income among families. Surprisingly this study found no gender differences in the level of self-esteem.

However, previous studies show that gender influences self-esteem among adolescents. In previous studies, girls constantly scored significantly lower on self-esteem measures than boys, highlighting the more adverse effects of low self-esteem in adolescent girls [38]. Hence we rejected H1 and H5 hypotheses as there is no impact of tuition and gender on the self-esteem of the school-going adolescents among our target population.

### **Conclusion:**

Low self-esteem needs further investigation as a possible target for identifying adolescents at risk of internalizing psychopathology. The RSES is a simple instrument, and the scale's midpoint may be used as a cutoff for low self-esteem, increasing its value in contexts such as schools. Teachers, parents, therapists, and others should concentrate on increasing self-esteem, assuming that high self-esteem will result in various benefits and advantages.

**Strength of the Study:** This is the first study on adolescents in slum areas of Karachi. In the past, no studies were reported on children, especially in slums. A high level of self-esteem is fundamental for every child to progress in his/her future. This study will help to evaluate any mental health disorder in the early stage. The target population was highly vulnerable, and due to some limitations, these populations should have been addressed for such productive studies. This study can be carried out in other cities of Pakistan and among youth so we can quickly figure out the problem area and work on their mental well-being.

**Limitation of the Study:** The data were collected within one month and could have been more significant and productive if we considered the data duration of at least three to six months. Moreover, in slum areas, the parents are not literate, so they could not become aware of such kinds of studies and knowledge about the outcome of this research. The schools in the slums area were community-based, where people disagreed with or trusted the people outside the community and did not show interest in sharing their information.

### **Abbreviations:**

RSES: Rosenberg self-esteem scale  
BMI: Body Mass Index  
SINA ERB SINA ethical review board  
SD: Standard deviation  
df: Degrees of freedom  
p-value: Probability value  
M: Mean  
SPSS (Statistical Package for the Social Sciences)

**Ethical Consideration:** The participants completed questionnaires after getting their parents' written consent and were reported as unidentified. The first proposal was presented to

the SINA's Ethical Review Board (SINA-ERB) before the beginning of the study, which granted its approval via ERB no ERB0000010/09-22.

**Consent for publication:** This study's findings are available for publication.

**Availability of data and materials:** The datasets used and assessed during the current work are accessible from the corresponding author upon request.

**Competing interests:** The authors claim that the study was carried out without commercial or financial ties; hence there is no possible conflict of interest.

**Funding:** The study was constructed, and the manuscript was prepared without funding.

**Authors' contributions:** HN proposed the study concept and study design, prepared the manuscript, HN assisted in the literature review; TS and HN gathered and organized the data; SS was involved in biostatistics analysis and the result interpretation. HS finalized the manuscript and supervised the study and final review.

**Acknowledgements:** All the authors would like to thank the management of the schools for allowing us to collect data.

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**Legend of the Tables:**

**Table 1:** Descriptive statistical analysis of demographic characteristics of the study sample (N = 539) and impact in Self-esteem on Children & Adolescents.

**Table 2:** Comparison of different variables on Self-esteem level among adolescents

**Legend of the figures:**

**Figure-1:** Different Towns of Karachi city

**Figure-2:** Inclusion and exclusion criteria for participating Children and adolescents of slum areas of Karachi, Pakistan

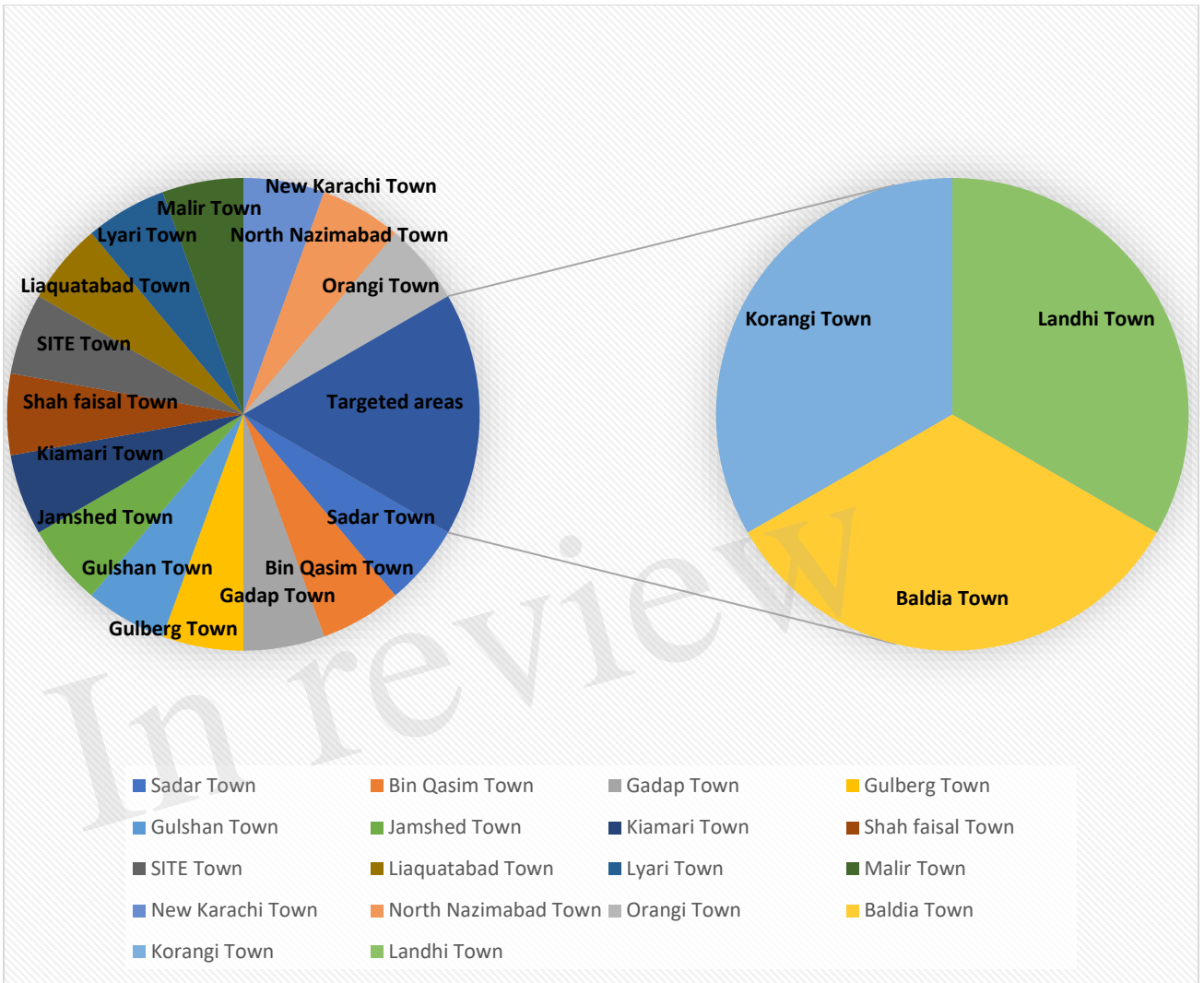
**Table 1: Descriptive Statistical analysis of Demographic Characteristics of the Study Sample (N = 539)**

<b>Variables</b>	<b>Total</b>	<b>%</b>
<b>Gender</b>		
Male	232	43
Female	307	57
<b>Age</b>		
11 years -13 years	153	28
14 years - 16 years	324	60
17 years - 19 years	62	12
<b>BMI</b>		
Normal weight	198	37
Over weight	341	63
<b>Parent's education level</b>		
Educated	201	37
Uneducated	338	63
<b>Ethnicity</b>		
1. Urdu Speaking	380	71
2. Punjabi	65	12
3. Sindhi	9	2
4. Balochi	7	1
5. Pathan	50	9
6. Others	28	5
<b>Who is strict</b>		
Father	344	64
Mother	195	36
<b>Do you take tuition?</b>		
Yes	212	39
No	327	61
<b>Academic performance</b>		
Below the average	329	61
Above the average	210	39

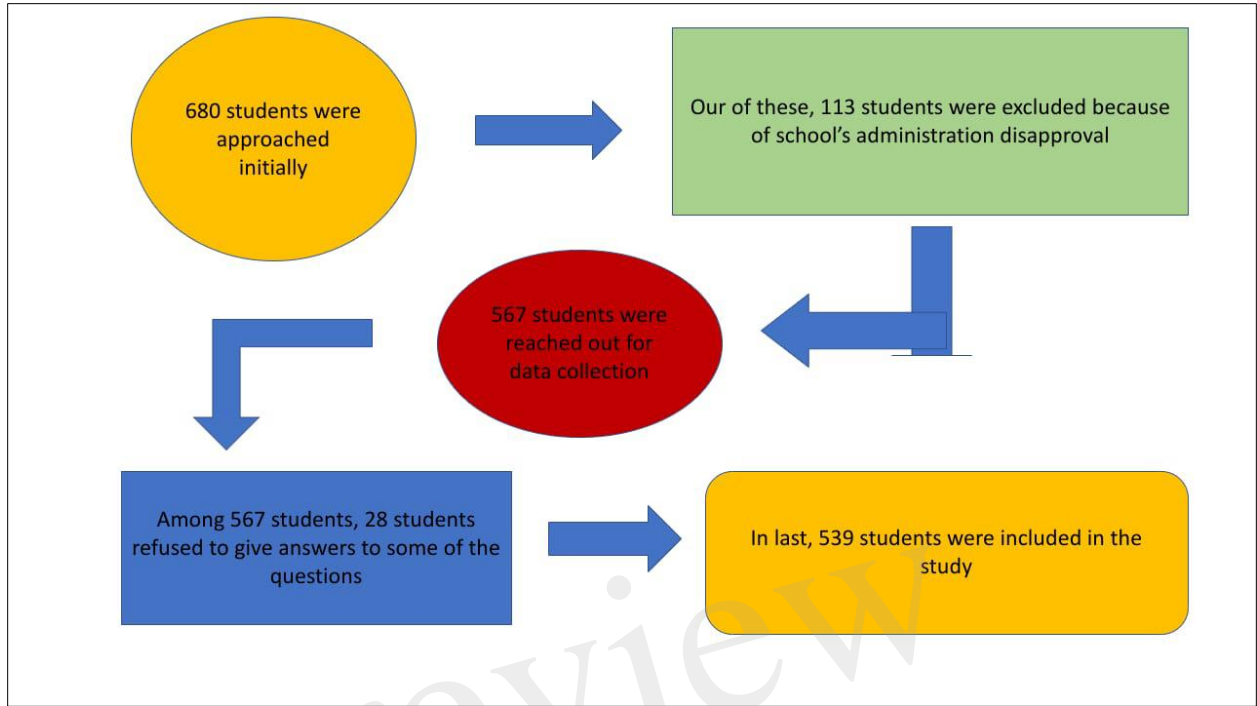
Table 2: Comparison of different variables on Self-esteem level among adolescents

<b>BMI</b>	<i>Number</i>	<i>Mean</i>	<i>SD</i>	<i>Df</i>	<i>t-value</i>	<i>p (sig-value)</i>
Normal weight	198	20.76	3.489	537	-2.057	0.04
Overweight	341	21.35	3.05			
<b>Parents' education</b>	<i>Number</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t-value</i>	<i>p (sig-value)</i>
Educated	201	20.67	3.405	537	-2.622	0.009
Uneducated	338	21.42	3.095			
<b>Parents' strictness</b>	<i>Number</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t-value</i>	<i>p (sig-value)</i>
Father	344	20.99	3.169	537	-1.45	0.007
Mother	195	21.41	3.33			
<b>Academic progress</b>	<i>Number</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t-value</i>	<i>p (sig-value)</i>
Above the average	210	20.62	3.387	537	-2.997	0.003
Below the average	329	21.47	3.088			
<b>Gender</b>	<i>Number</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t-value</i>	<i>p (sig-value)</i>
Male	232	21	3.289	537	-1.162	0.246
Female	307	21.32	3.15			
<b>Tuition</b>	<i>Number</i>	<i>Mean</i>	<i>SD</i>	<i>df</i>	<i>t-value</i>	<i>p (sig-value)</i>
No	327	21.32	2.922	537	1.643	0.101
Yes	212	20.85	3.647			





**Figure 1: Different Towns of Karachi city**



**Figure 2: Inclusion and exclusion criteria for participating Children and adolescents of slum areas of Karachi, Pakistan.**

Figure 1.JPEG

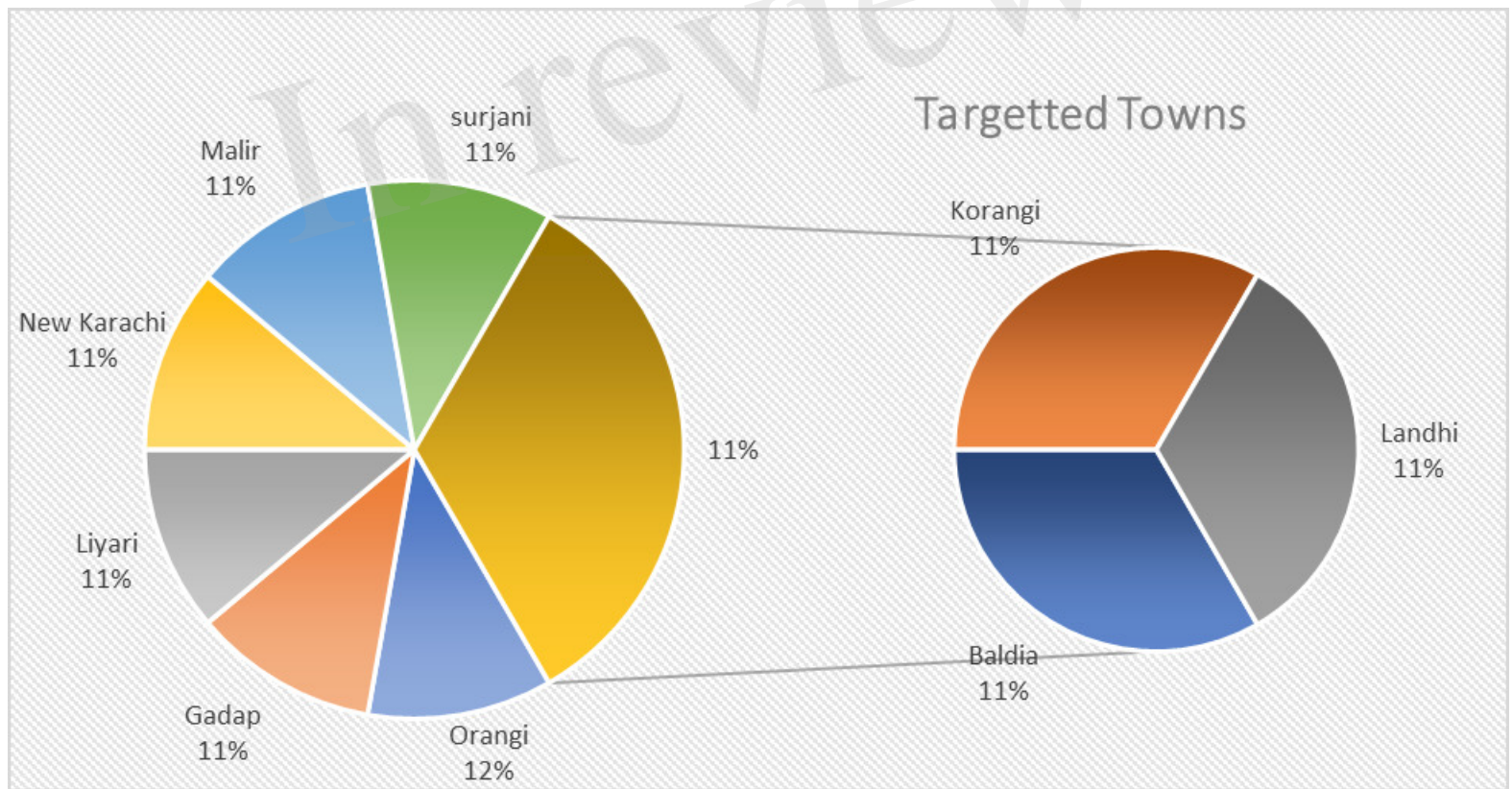


Figure 2.JPEG

