"Peace less adolescent girls"- An introspective study of the challenges faced by adolescent girls in the present social and educational scenario using fuzzy cognitive map model

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ABSTRACT

A thorough understanding of adolescence in today's society depends on information from various perspectives, most importantly from the areas of psychology, biology, history, sociology, education and anthropology. Within all of these perspectives, it is safe to say that adolescence is viewed as a transitional period whose chief purpose is the preparation of children for adult roles. During this transition period, adolescence people are facing many challenges due to the incredible changes in physically, mentally, emotionally, intellectually and psychologically. Due to the gender, adolescent girls' challenges in the above aspects are higher only. The present study investigates almost all the relevant factors that are acting as the challenges faced by adolescent girls in the present social and educational scenario. A cognitive map shows a representation of how humans think about a particular issue, by analyzing, arranging the problems and graphically mapping concepts that all interconnected. In addition, it identifies causes and effects and explains causal links with exact degree [1]. As the problems of adolescents' belong to an unsupervised data, the most suitable tool is Fuzzy Cognitive Map (FCM) which is the cognitive map with fuzzy degree. Hence analyzing the problems of adolescent girls by giving structured and organized outline of the appropriate factors and revealing the most important and other impactful factors is the objective of this study. In this manner, this study guarantees that its results are much more useful for psychologists, physiologists, educationists, adolescent girls and their parents to understand the problems that adolescent girls really facing in the present scenario.

Introduction

"How do I Evolve from Confusion and Chaos to a Capable, Strong, and Compassionate Woman?" –Girl of age 15.

For a complex set of reasons, most of what is known about adolescent girls focuses on the problem they face. The fact that many adolescent girls are showing remarkable strength, resiliency, and "hardiness" during the stressful time of adolescence needs to be explored. Instead of focusing on the storm and stress of adolescence, a new understanding of adolescent girls that affirms theirs strength and resilience needs to be developed. Although the current day risks and stresses in the lives of adolescent girls must be understood, they should not be the defining factors in discussion of adolescent girls. There must be a focus on what is working for adolescent girls, and why to assist adolescent girls, in navigating risks during their development.

To this end, the American Psychological Associations (APA'S) presidential Task Force on Adolescent Girls: Strengths and Stresses was created by Dorothy, W. Cantor during her presidential year (1996). The Task Force's mission statement is as follows:

The mission of the APA Presidential Task Force on Adolescent Girls: Strengths and Stresses is to integrate current knowledge regarding adolescent girls in order to focus on the Strengths, Challenges, and Choices of adolescent girls today. The task force will also identify gaps and inconsistencies in research, education, practice and public policy. In this endeavor, the task force is committed to the inclusion of the voices and lives of a range of adolescent girls in terms of age, racial and ethnic diversity, socioeconomic status, geographical area, and sexual orientation. The task force will work to raise public and professional consciousness in regard to adolescent gush with a particular focus on those who impact their lives including parents, educators, health care professionals, and policymakers. Through its activities, is to the new frontiers of next century through a critical examination of the policy issues, current knowledge, and researcher approaches to understanding adolescent girls [2].

By noting down the above facts, this present study aims to pursue a critical examination of the challenges faced by adolescent girls in two aspects viz., a) Social b) Educational Scenario. The reason for considering the educational scenario is due to the following reports and results. In 2010, there was a slight decrease in the number of out-of school adolescents from 75 million is 2009 (UNESCO, 2009)[3] to 7 million in 2010 of which 55% are girl (UNESCO, 2010)" [4].

Many research results declares that girls' schooling is beneficial to their success and to society ([5], [6], [7], [8]). Girls' secondary education is associated with increased social benefits to the society though increased political and civic participation reduced instance of sexual harassment, and a lowered probability of young women being trafficked for labour and sex [8]. Moreover with secondary education and beyond, girls get a renewed sense of responsibility – One that enables

them on to take charge of shaping their own future, without leaving it in the hands of their father or future husbands [9]. Despite the realization that educating girls has immense benefits, girls continue to face constraints in various contexts- the school, within their families, in their communities/ neighborhood, individual aspects and in general impact of media. The constraints, an outcome of the way girls have been constructed in the broader society, influence investment in their education and negate the positive impact of girls on their respective societies [10].

For purposes of this paper, we focus on those barriers and relevant factors in terms of the contexts viz., Individual, School, Family, Media & Society are discussed. Moreover the intensity of the relationship between the factors also has been taken care of .For the sake of the above aim, the most adapted tool is Fuzzy Cognitive Map(FCM). Using this technique we can observe the significance of each factor, the impact of each factor onto the other which is not possible in the current practices.

In the second Section the foundations of FCM is discussed. In the third Section Research Methodology is proposed. Section four reveals the relevant factors for the adolescent girl's challenges. Section five explains the method of analysis in detail. Discussion of final results is given in section six. Section seven concludes the study..

Fuzzy Cognitive Map Foundations

Cognitive maps are signed directed graphs that provide feedback. They model a given environment as a collection of concepts and causal relations between concepts. Many research studies that apply the basic concept of cognitive maps have been presented in the field of business and other social sciences [11] Cognitive maps well used for the first time by [12] to represent the causal relationships between factors in order to outline a decision – making process. These cognitive maps have been widely applied in areas related to political science, sociology, organizational theories and international relations [13] although it uses in the area of IS/ IT has been less frequent. Cognitive maps possess, as their main limitation, the impossibility of quantifying relationships between variable. With the purpose of offering a solution to the weakness and enhancing cognitive maps, fuzzy numbers have been conjugated with cognitive maps [11]

Fuzzy cognitive maps were introduced by [14] and allow us to provide fuzzy causation measures for the cognitive maps proposed by [12]. As we analyze the cognitive maps the causal value that they establish is the sign +or –however a fuzzy cognitive map substitutes these signs by a fuzzy value between -1 and 1 where the zero value indicates the absence of causality. FCMs compared to cognitive maps allow for a wider interpretation of the problem [15,16,17]

$$E \;=\; \begin{array}{c} \\ 1 \\ 2 \\ 3 \end{array} \begin{array}{ccc} 1 & 2 & 3 \\ \left[\begin{array}{ccc} + & & - \\ - & & + \\ & + & \end{array}\right] \end{array}$$

Fig 1: Adjacency matrix associated with CM

In Fig 2, e_{ij} indicates the relationships between the i and j concepts, enabling us to obtain values in the range [-1, 1]. Three types of relationships can be seen.

i) $e_{ij} > 0$, indicating a positive relation between 'i' & 'j'

ii) $e_{ij} < 0$, indicating a negative relation between 'i' & 'j'

iii) $e_{ij} = 0$, where no relation between 'i' & 'j' exits.

$$E = \begin{array}{c} \\ 1 \\ 2 \\ 3 \end{array} \begin{array}{ccc} 1 & 2 & 3 \\ \left[\begin{array}{ccc} e_{11} & e_{12} & e_{13} \\ e_{21} & e_{22} & e_{23} \\ e_{31} & e_{23} & e_{33} \end{array}\right] \end{array}$$

Fig 2: Adjacency matrix associated with FCM

Research Methodology

In fuzzy cognitive map, it is more difficult to establish a consensus (general / common agreement) between the experts if various consultations are made. It is relatively easy to coincide in the sign of a specific relationship in cognitive maps. But when the experts must quantify such relationships it is quite different.

In this sense our research has focused on identifying a model for analyzing challenges faced by Adolescent Girls in the Present Social and Educational Scenario (CFAGPSES). In order to do this let us first explain the methodology used to determine the factors of the model, as well as explaining the technique proposed to complete the model and its later application.

Delphi Methodology

The Delphi method has proven a popular tool in information systems research for identifying and prioritizing issues for managerial decision- making. Especially its application in Information Systems(IS) research [18,19,20,21,22,23,24,25,26,27] and Tool selections[27] are enormous. The Delphi methodology is a method used to structure the process of communication of a group of experts in order to reach a consensus regarding a complex problem [28,29]. One of the main advantages of the Delphi study is when the experts receive feedback reports; they have the opportunity of improving their own opinion based on this feedback [28, 30]. Final Delphi method results can be obtained by implementing two rounds of questioning which provided the experts with information such as averages, medians or typical deviations from prevision rounds to try to obtain consensus and get all experts to go toward the average. Correcting value not only for the causal degree but also the sign between the cognitive map relationships as well. The main special feature of Delphi method is to provide the possibility of reaching measures about the intensity and sign of the relationship by mean of revisiting the values by consultations of panel of experts. This feature is warmly welcomed by FCM.
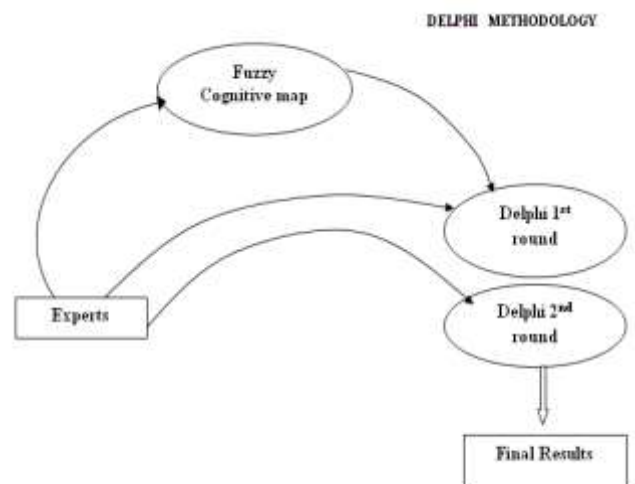

Fig 3. Delphi Methodology

Selection of the Panel Experts

For the purpose of obtaining the relevant factors for the task ie., CFAGPSES tool selection, Questionnaire method, Interviewing were conducted from a panel of 15 experts. The experts belong to the field of psychology, sociology, education & physiology. This panel suggests many factors actually adolescents girls are facing. In addition some journals, e-information were also used. A total of 25 factors were identified. According to the study [31] which provides strong guidelines for the process of selecting appropriate experts and detailed principles for making decision choices, an ideal number for each panel of experts is in the range of 10 to 18. This present study followed those guidelines including the range.

Factors for CFAGPSES Selection

As mentioned earlier, 25 factors are considered as the major challenges faced by Adolescent Girls in the Present Social and Educational Scenario. Once the factors were identified, 25 factors are categorized into five constructs viz., Individual aspects, Education centre, Societal aspects Media and Family aspects. These five constructs are considered to be the main areas for decision makers for focusing and drawing final results (Table 1). In order to provide an organized outline of the factors for CFAGPSES Selection a cognitive maps application has been proposed (Fig 4).

Once the cognitive map is decided upon and the factors our objective is to determine the type of relationship (inverse or direct or no relationship) between each of the factors and the degree (intensity) of the relationship. This is the relationship that we adopt to the fuzzy number to.

In order to adopt Delphi methodology, the relationship sign and the relationship intensity have been taken as two autonomous elements.

Method of Analysis

In the first round, while comparing the degree of relationships between the experts, experts do not get the consensus towards the intensity and the sign of the relationship. Normally in these cases a consensus is reached either because the experts are influences by the others in the second round or because they realize that their previous opinion was erroneous. However, by referring Table 2, we can draw certain results that

a) There is no null respond for all relationships exist. This reveals the   fact that all the factors are interrelated with some degree (either positive or negative). So the influence of all factors is significant.

b) Majority of the experts agree to one another in signing as well as assigning intensity also. So there is a existence of majority consensus among the experts opinion.

c) When we discuss about other relationships, the relationship between 'Health condition of Adolescence' with respect to 'Individual Aspects', (5-2) 2 experts responded as positive while 8 experts responded as negative. In the same way in the relationships between 'Realization of individual's potential' with respect to 'Individual Aspects' (6-2), 2 experts believed that it is positive whereas 8 experts believed that it is negative. Likewise we can note the relationships viz., 8-2, 50% agreed that there is a positive relation and the rest 50% disagreed. Similarly we observe the relationships between ' The link between school and family with respect to ' Education centre' and 'Financial factor' with respect to family aspects' shown that more or less half of the experts believe it could be positive and the remaining are negative.

On the other hand, there is a consensus between the experts 100% in the following links.

- 'Individual aspects' with respect to 'Challenge for Adolescent Girls(AG)'
- 'Physiological changes' with respect to 'Individual aspects'
- 'Psychological changes' with respect to 'Individual aspects
- 'Education centre' with respect to 'Challenges for AG'
- 'Societal aspects' with respect to 'Challenges for AG'
- 'Media aspects' with respect to challenges for AG'
- 'Family aspects' with respect to 'Challenges for AG'
- 'Lack of reading habits due to search engines' with respect to 'Media'
- 'Usage of technological development and Impact of Media' with respect to 'Media'
- 'Family aspects' with respect to 'Challenges for AG'

With respect to the relationship intensity table (Table 3), it is easier to reach a consensus in the sign of the relationship than is the intensity of the relationship. This is due to the fact that in the case of intensity, the value range is wider than the +/- of the sign. In addition, another factor that accentuates the absence of consensus is the specific and previous experience of each expert who will be very probably different from the remaining.

The results we came know that there is a variation in the expert's opinion. The largest difference in opinion were reached in those relationships with a typical deviation close to 0.26 or greater, those relationship that obtained maximum and minimum extremes. Those relationships are:

❖Physical appearance dissatisfaction with respect to Individual aspects (8-2),

❖Proper decision making skill with respect Individual aspects (10-2), RS by peers /friends /relatives due to poverty and lower complexion with respect to Societal aspects (17,16) Early marriage /teenage pregnancy with respect to Societal aspects (20-16) sexual harassment within families /outside with respect to Family aspects (31-24). The larger disparity between experts opinion exists in the above relationships.

❖When Delphi methodology is applied, a consensus is reached when most of the opinion are found lie within the interquatile range [29]. This consensus can also be observed when a value is reached between the first and third qualities. This indicates that a much more homogeneous opinion exists.

Observing the results obtained in the first round, it is to be noted that the interquartile range of most of the relationships have a disparity of less than 0.5 points difference. This fact reveals that there in a lower degree of consensus between the experts opinion due to the fact that they have different opinion as they belong to different fields.

A larger consensus can be reached in most of the relationships in the last round. A most of them reach 0.26 or less in the standard deviation and in most cases these values are closer to 0.1 or less.

With respect to the rest of the statistics, results have also been reached that permit us to claim that the expert positions have come close. Min and Max values are assured as extreme values i.e., 0.9 & 0.1, 0.9 & 0.2, 0.9 & 0.2 corresponding Physical appearance dissatisfaction with respect to Individual aspects (5-2), RS by pears / friends / relatives due to poverty with respect to social aspects (17-16), Early marriage / Teenage illegal pregnancy with respects social aspects (20-16). This shows that there is a observed disparity between experts thoughts for assigning the weight age to the relationships.

Discussion of final results

Based on the Delphi methodology fuzzy cognitive map (fig 5) ie, cognitive map with fuzzy number by taking median of the relationship values reached in round two [32, 33, 34, 35] and taking the sign which is used by the majority of the expects in each of the relationships. This fuzzy cognitive map beautifully visualizes the objective of reaching a model that outlines the factors for CFAGPSES Selection.

The fuzzy cognitive map as we drawn with fuzzy magnitudes as arc weights depicts a clear outline of the factors influences to the problems. Among the five contexts we have taken, viz., individual aspects, Education centre, Social aspects, Media, Family aspects, the most impactful factor is 'Family aspects'. Experts believed that the complexity in the family affects a adolescent girls a lot. Next impactful factor is Individual aspects. For the better mind, Physic of a adolescent, individual aspects viz., psychological changes, Physiological changes and other sub-factors as we mentioned are considerably valued ones. If a person with good health condition, stress less mind, healthy emotional thoughts ,can survive without any depression in this pressurized scenario. This is declared here by the experts.

Now we go for the third more impactful factor i.e., Media. In attains a high degree very close to the previous factors. Because to access to media has increased so quickly through a vast number of mediums such as computers, Mobiles, Stereos and televisions, adolescent's use of media has sky rocked in the past decade. American life project [36] declares that almost all American households have at least one television more than three quarters of all adolescents' homes have access to Internet and more than 90% of American adolescents use the Internet at least occasionally. So the adolescents started to have the behaviors like   drug use, committing criminal acts, unfair link with guys, smoking habits, drinking habits behaviors for weight control, and Teen's violent behavior. So the influence of media to adolescents is vast.

Next impactful factor is considered to be Education center. The Girls Education challenge will be a competitive process that encourages organizations to set up schemes targeting marginalizes girls of the adolescent stage. Moreover, due to the tough competition in the present educational scenario, girls worry about combining family responsibilities with the demands of a career. Preparation for a career in science seems to be very hard, long and expensive. Girls get discrimination in school admission, education and employment. Greets do not consider themselves bright and talented enough to succeed. These observations make girls to be more stressful.

The last factor for the talk is Societal aspects. Generally adolescents don't think about the society and the views of expectations of the society. That is why this is the least impactful factor.

Now let us broaden our eyes to the close view of the factors inside the contexts. In the first context, Individual aspects, Psychological changes impacts in a high manner. Very close to it, physiological changes, fluency in global language matters a lot. This result is 100% true when we consider today's adolescent girls problems, they may be in any use of the factors as we mentioned above. When we refer psychological facts regarding adolescents' cognitive development, adolescence is a time for rapid development [37]. Piaget describes adolescence as the stage of life in which the individual's thoughts start taking more of an abstract form and the egocentric thoughts decrease.

This allows the individual to think and reason in a wider perspective[38]. A combination of behavioral and FMRI studies have demonstrated development of executive function skills that enable the control and coordination of thoughts and behavior, which are generally associated with the prefrontal cortex [39]. The thoughts, ideas and concepts developed at this period of life greatly influence one's future life, playing a major role in character and personality formation [40]

In studying adolescent physiological development [41], adolescence can be defined biologically, as the physical transition period marked by the onset of puberty and the termination of physical growth, cognitively as changes in the ability to think abstractly and multi- dimensionally; or socially, as a period of preparation for adult roles. These chronological and legal changes in physic and mind makes adolescent girls to be more stressful till they become comfortable. So our results go along with the psychological facts and medical results.

Language barrier is another adolescent's challenge. In the present competitive era, without fluency in English adolescents are limited to constrained social situations that don't allow them to advance intellectually or economically. Even though fluency in English is necessary, research suggests that those immigrants who keep their native language tend to have a better relationship with their parents[42] Also, national policies, state standards and local mandates focus almost exclusively on foundational literacy's, the literacy necessary to be successful in school such as: decoding and reading comprehension of print-based texts; written composition of academic texts; and, oral fluency with Standard English grammar and vocabulary [43].

With respect to family aspects discrimination due to gender in the family affects a lot. Adolescence marks a rapid change in one's role within a family. Young children tend to assert themselves forcefully but are enable demonstrate [44]. Today's adolescents are increasingly expected the parents to treat them in a better way and as equal as with all siblings. Hence if the parents avoid them, they are affecting more. The common discriminations are treating boys in a good manner (providing healthy food, high education, imparting the view that they are for only outside work not for domestic work), allowing girls to do domestic work , neglecting to send for higher studies etc., The Convention on the Elimination of All Forms of Discrimination against Women (1979) supports women's rights to reproductive health information and services and to equity in productive decision-making and matters of sexual health. In 1999, the committee that oversees the implementation of this treaty urged state signatories to accept that whenever the Convention uses the term 'women' it applies to girls and female adolescents as well[45]. Also with respect to family aspects, financial   support,   weak   rapport,   role   modeling   and communication in the family, Sexual harassment within family are possessing high degrees. Of course, it is well known that the above factors affects adolescents a lot. The Commonwealth Fund survey [46] provides the first national data on the extent of physical and sexual abuse of adolescent girls and the link to risky health behaviors. The Commonwealth Fund survey found that health care providers and parents may be missing opportunities to promote the health of adolescent girls and give them support. Though girls say they would like to discuss sensitive health problems with their doctors, they are often reluctant or embarrassed to bring up these topics themselves. Only about a quarter of the girls surveyed discussed sensitive topics, such as drinking, smoking, or sex, with their doctor. In

addition, a significant number of girls (36 percent) said they sometimes did not get medical care when they needed it because they did not want to tell their parents about the problem. More effective communication with physicians and parents is necessary, particularly for girls in danger because of abuse or their own risky behaviors. "There is a medical syndrome called 'failure to thrive' when infants do not grow as they should. We are discovering a similar failure among adolescents, a problem that can lead to a difficult future," said Ellen V. Futter, president of the American Museum of Natural History and chair of The Commonwealth Fund Commission on Women's Health. "Girls need more emotional nourishment and support, and we must find ways to give it to them." High rates of risky behaviors by girls, including smoking, drinking, and using drugs, indicate a substantial need for counseling and support. The survey found that girls are now engaging in risky behaviors at about the same rate as boys: about a third of older boys and girls reported either smoking, drinking, or using drugs. Eating disorders, however, were much more prevalent among girls: 18 percent of high school girls reported that they had binged and purged, compared with only 7 percent of high school boys. The survey also found that abused girls are more likely than non abused girls to engage in risky behaviors. Rates of smoking, drinking, and using drugs were twice as high for abused girls, and a third of abused girls reported bingeing and purging. Abused girls' apparent efforts to self-medicate are likely to have further negative effects on their health, making their need for counseling especially crucial.

If we move on to academic part of adolescents, the pressure for adolescents nowadays is unprecedented. With so many high-achieving kids, it's no wonder that teens—and their parents—feel as if a child has to have a multi-page resume, be a world-class athlete or manage her own business by the time she is 18. But that just isn't possible for everyone. There are lots of kids out there who are just that—kids—and there is a place for everyone. And a college for everyone[47]. There is no denying that these teen years set the stage for your child's future. In high school, grades and extracurricular activities become part of that all-important "permanent record." And if a child wants to get into a good college, she will have to go the extra mile. In particular, influence of friendship is in a high degree. Thomas J.Berndt [48], beautifully explains how friendship influences adolescents attributes, behavior and development. Next, while coming to Media influence, the mass media greatly exaggerates adolescent problem behaviors. Media portrayals of drug use, sexual encounters, and psychological and behavioral disorders are rarely accurate. Every year , approximately 13% of adolescents are sexually solicited online, and about 4% of the solicitations are also followed with solicitation for contact not through a computer medium ([49],[50]). The impact of Internet use on cognitive development has not been widely studied. However, there isn't any evidence that Internet use benefits or has any negative effects on the school performance of adolescents.

The least impact factor is 'Societal Aspects'. In this context, 'Tough competition in the current scenario' and 'Attraction to Opposite sex that leads unwanted link with guys' plays an important role. Of course, these two challenges must be overcome by competing oneself and possessing self discipline.

Conclusion

Henceforth, almost all the tough tasks faced by adolescent girls in the present educational and social scenario are discussed in detail using Fuzzy Cognitive Model. This research believes that the results of this study achieves its goal to pinpoint the troubles one by one with the degree of influence. Moreover all the findings we drawn do agree with the medical results , psychological facts, and results of researchers from various fields. Surely this study helps researchers, educationist for better clarity of the problems adolescents in their context wise namely, Individual, Social, Education Centre, Media and Family.

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Table 1: Relevant factors for CFAGPSES Selection

Category	Factors
	Factors
Individual Aspects	Physiological changes due to puberty Psychological changes Health Condition Realization of individual's potential Faith in God Physical appearance dissatisfaction Fluency in global language, more preferably English Proper decision making skill
Education Centre	The link between family and school Teachers motivation/ caring towards Personal and academic contexts Cushioned girls against hardship Influence of friendship that leads unwanted habits
Societal Aspects	Rejection Sensitivity (RS) by peers/ friends / relatives due to poverty, lower complexion. Tough Competition in the current educational and career scenario. Attraction to opposite sex that leads unfair link with guys. Early marriage / Teenage illegal pregnancy/ Teen violent behavior due to socio crimes
Media	Lack of reading habits due to search engines viz., Google, Yahoo, etc. Usage of technological development (Mobile, web services, face book) and Impact of Media (TV, films)
Family Aspects	Risks within families –family set up Discrimination in the family due to gender Financial support Uncaring / unconcerned parents / mothers / guardians Mothers ignoring their daughters Lack of Role modeling, Weak rapport, and communication in the family Sexual harassment within family / outside

Table 2 :Results Relationship sign

Relationships	Positive Responds	Negative Responds	Null Responds
2-1	10	-	-
3-2	10	-	-
4-2	10	-	-
5-2	2	8	-
6-2	2	8	-
7-2	3	7	-
8-2	5	5	-
9-2	6	4	-
10-2	3	7	-
11-1	10	-	-
12-11	6	4	-
13-11	7	3	-
14-11	7	3	-
15-11	8	2	-
16-1	10	-	-
17-16	8	2	-
18-16	10	-	-
19-16	6	4	-
20-16	8	2	-
21-1	10	-	-
22-21	10	–	–
23-21	10	-	-
24-1	10	-	-
25-24	8	2	-
26-24	9	1	-
27-24	6	4	-
28-24	10	-	-
29-24	10	-	-
30-24	9	1	-
31-24	10	-	-

Table 3 : Results: Relationships Intensity

Relation	Sum	Mean	Mode	Median	Max	Min	SD	Qu 1	Qu 3
2-1	7.4	0.74	0.8	0.8	0.9	0.5	0.13499	0.625	0.8
3-2	5.7	0.57	0.4	0.6	0.8	0.3	0.182878	0.4	0.7
4-2	6.7	0.67	0.8	0.75	0.9	0.4	0.200278	0.5	0.8
5-2	4.6	0.46	0.6	0.45	0.9	0.2	0.164655	0.325	0.6
6-2	4.9	0.49	0.4	0.4	0.8	0.2	0.196921	0.4	0.675
7-2	4.5	0.45	0.7	0.45	0.7	0.2	0.195789	0.3	0.6
8-2	5.9	0.59	0.7	0.65	0.9	0.1	0.264365	0.425	0.775
9-2	6.2	0.62	0.9	0.6	0.9	0.3	0.229976	0.425	0.85
10-2	6.1	0.61	0.7	0.7	0.9	0.1	0.292309	0.55	0.775
11-1	5.6	0.56	0.4	0.55	0.8	0.4	0.142984	0.425	0.675
12-11	4.1	0.41	0.4	0.4	0.7	0.2	0.152388	0.325	0.5
13-11	4.2	0.42	0.3	0.35	0.6	0.3	0.139841	0.3	0.575
14-11	5.2	0.52	0.4	0.5	0.8	0.3	0.154919	0.4	0.6
15-11	7.5	0.75	0.9	0.8	0.9	0.5	0.164992	0.625	0.9
16-1	4.9	0.49	0.3	0.4	0.9	0.3	0.228279	0.3	0.65
17-16	5.6	0.56	0.7	0.65	0.9	0.2	0.250333	0.35	0.7
18-16	7.8	0.78	0.8	0.8	0.9	0.5	0.122927	0.7	0.9
19-16	7.5	0.75	0.8	0.8	0.9	0.5	0.108012	0.7	0.8
20-16	5.5	0.55	0.9	0.55	0.9	0.2	0.271825	0.325	0.775
21-1	7.3	0.73	0.7	0.7	0.9	0.6	0.105935	0.7	0.775
22-21	6.4	0.64	0.7	0.65	0.9	0.5	0.201108	0.6	0.7
23-21	7.9	0.79	0.6	0.8	0.9	0.6	0.11005	0.7	0.9
24-1	7.7	0.77	0.9	0.8	0.9	0.3	0.182878	0.725	0.9
25-24	4.3	0.43	0.2	0.35	0.8	0.2	0.245176	0.225	0.625
26-24	5	0.5	0.7	0.55	0.7	0.1	0.210819	0.425	0.675
27-24	4.9	0.49	0.5	0.5	0.8	0.2	0.159513	0.4	0.575
28-24	4.3	0.43	0.2	0.35	0.8	0.2	0.245176	0.225	0.6
29-24	4.4	0.44	0.4	0.4	0.8	0.2	0.177639	0.325	0.6
30-24	6	0.6	0.5	0.6	0.9	0.3	0.169967	0.5	0.675
31-24	5.1	0.51	0.5	0.5	0.9	0.2	0.242441	0.325	0.675

Table 4 : Results : Experts opinion inside / outside Interquartile range

Relationships	Inside	outside
2-1	8	2
3-2	9	1
4-2	9	1
5-2	9	1
6-2	10	0
7-2	9	1
8-2	8	2
9-2	8	2
10-2	7	3
11-1	7	3
12-11	8	2
13-11	7	3
14-11	7	3
15-11	7	3
16-1	8	2
17-16	9	1
18-16	10	0
19-16	10	0
20-16	9	1
21-1	7	3
22-21	8	2
23-21	8	2
24-1	9	1
25-24	9	1
26-24	9	1
27-24	10	0
28-24	9	1
29-24	8	2
30-24	9	1
31-24	10	0

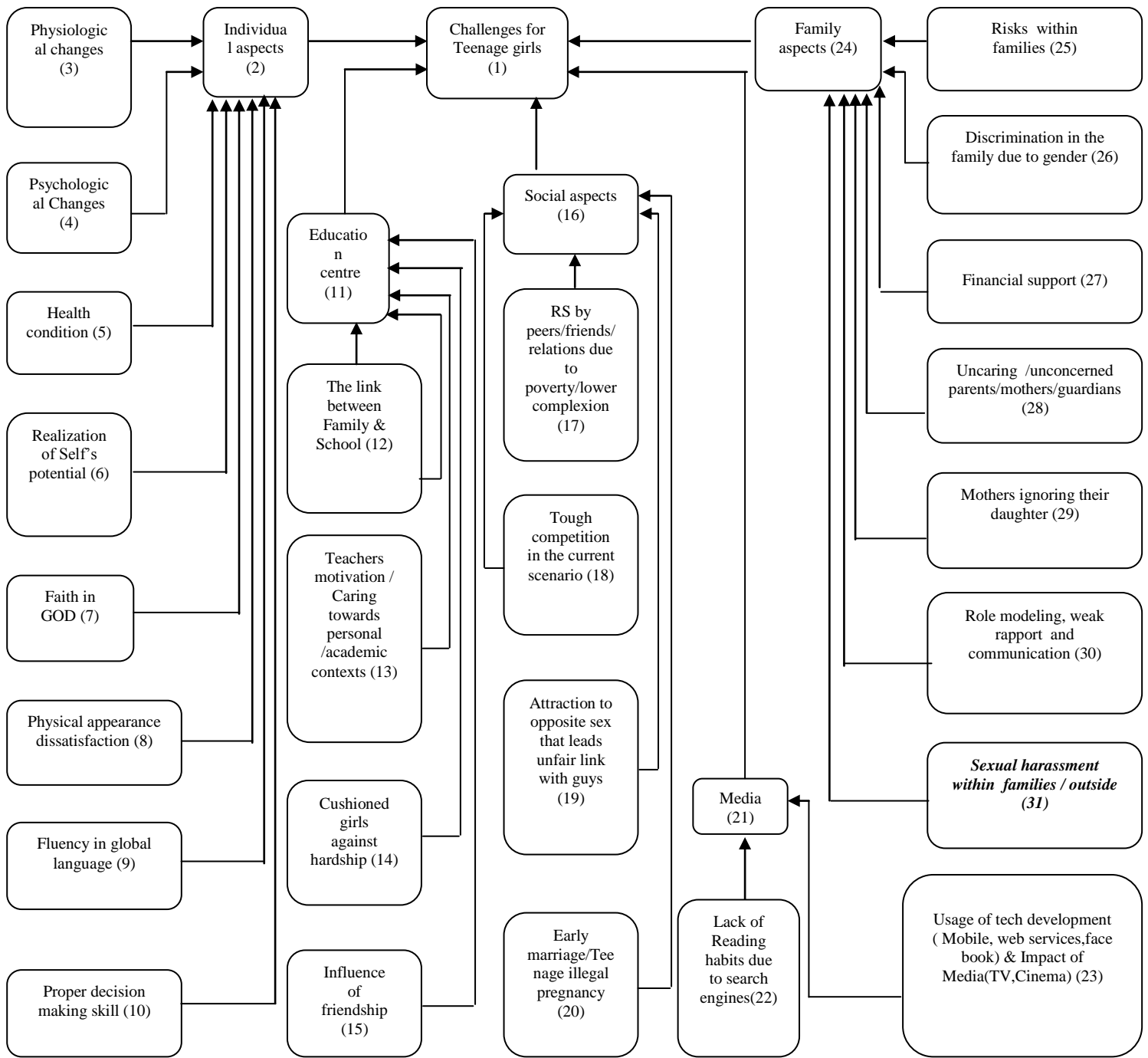**Fig 4. CHALLENGES FACED BY ADOLESCENT GIRLS (CFAGPSES) REFLECTION CM**

Fig.5. CHALLENGES FACED BY TEENAGE / ADOLESCENT GIRLS (CFAGPSES) REFLECTION CM