



THE STUDY OF THE EFFECTS OF DIVORCE ON MENTAL HEALTH PROBLEMS IN CHILDREN OF DIVORCE IN ZARGHAN

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ABSTRACT

Increased divorce rates during the recent years has led to an increase in the number of children of divorce whose problems and issues are hidden from many. Of course, for most children, the separation of parents is a dire event. Research conducted in this area indicate that these children face various psychological and social damages during their lives. This study aims to investigate the prevalence of psychological problems in children of divorce in two age groups (10-15 and 15-20) in Zarghan, Iran. The population of the study includes children of divorce in two age groups of 10-15 years and 15-20 years in 2016, Zarghan, Iran which involves 140 children in two groups. Simple random sampling was used to collect data to cover the sample size. One hundred children were selected as the sample. To collect data, the researcher used SCL-90-R questionnaire. Derogatis's psychological symptom questionnaire was used to determine the symptoms of mental health problems in the study. The factors include: physical complaints, obsessive compulsive disorders, interpersonal relationships, depression, anxiety, phobic anxiety, paranoid ideation, psychosis and mental health (GSI).

The results of the study suggests that children of divorce in Zarghan city, exhibit psychiatric symptoms. In addition, girls suffer from mental health problems more than boys. Our findings show that divorce children, compared to children raised in other families, have lower psychological health indexes in all study aspects. Particularly, the physical complaints, obsessive compulsive disorders, interpersonal relationships, depression, anxiety, phobic anxiety, paranoid ideation, psychosis and GSI scores were higher for divorce children.

The results also revealed that some factors affect differently based on gender; while anxiety and depression has a greater impact on divorce girls, aggression and delinquency is more dominant in divorce boys than girls.

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Introduction

Progressive divorce trends, during recent years had resulted in increased number of divorce children whose problems and issues had been staying hidden from many. Undoubtedly, separation of parents for many children is dire. Researches indicate that these children face numbers of mental and social damages [3].

Negative effects of divorce on emotional, social, moral and educational growth had been highlighted in many researches [7]. Separation is a very stressful factor that affects both parents and their offspring and reduces their psychological wellbeing drastically. In many countries worldwide, many laws had been legislated for divorce that many of which are to support children. These laws reduce the harsh circumstances of life for divorce children, but they do not fulfill their needs [2]. Children with separated parents, in addition to having natural needs like others, have specific problems and needs that are negative results of their parent's separation or divorce. All divorce children, experience similar emotions such as: helplessness, loneliness, rejection, anxiety, guilt, sorrow, privation, uninterested about school and education, inappeasable, frustration, anger and aggression [8].

Many researches indicate that in most social harms there are footprints of a divorce child, and psychological studies approve diverse effects of divorce on their psychological health. Parent's divorce is considered as perished safety umbrella of children

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that can affect their social and psychological wellbeing. Although sometimes breaking this bound is a solution for some problems. Problems such as watching parent's constant fighting, releasing children from some harms that might be experienced in families with social deviation and so on. But researchers believe that being in a troubled family is rather better than being in a divorced one. Accordingly, family is an important element in children's social and psychological safety and wellbeing and divorce is a destructive factor [4]. Generally, we're able to say that according to mentioned articles, the status of family and separation of parents has a big impact on the amount of mental and behavioral problems. Researches, that were conducted in this field did not evaluate the amount of mental harms accurately and directly and also didn't address the difference between mental problems present in divorce children compared to other children divided by type of disorder. Therefore, it is necessary to study these subjects. So, the current study attempts to answer this question: How much divorce children are troubled by psychological problems?

The current study attempts to study the epidemiology of mental problems in divorce children two age groups (10-15 and 15-20) in Zarghan, Iran and measure its contrast to children in normal families.

Method and Material

Statistical society of this study includes divorce children in age groups of 10-15 and 15-20 in 2016, Zarghan, Iran, and their total number in the studied group are 140 children in two groups.

3-4 Statistical sample

Required sample volume was calculated according to the following Kokaran's sample volume calculation formula [1]:

$$n = \frac{\frac{Z^2}{4d^2}}{1 + \frac{1}{N} \left(\frac{Z^2}{4d^2} - 1 \right)} = \frac{\frac{1.96^2}{4 \times 0.05^2}}{1 + \frac{1}{140} \left(\frac{1.96^2}{4 \times 0.05^2} - 1 \right)} = 100$$

After that the selection took place by using random sampling method to cover the sample volume. Accordingly, 100 children were selected as sample volume and a total of 100 attributable questionnaires were given to them. To collect information related to theoretical foundations of the study and the literature of the subject the library method was used and to collect information related to hypothesis test and information analysis the R90SCL questionnaire was utilized. To determine the symptoms of psychological problems in this study the mental symptoms questionnaire that was presented by Derogatis [5]. was used. This questionnaire, consists of 90, 5-scale questions that vary as follows: Not at all, A little bit, moderately, quite a bit and extremely. These indexes measure 9 different symptoms of mental problems that are: physical complaints, obsessive compulsive disorder, sensitivity in interpersonal relationships, depression, anxiety, aggression, phobias, paranoia and psychosis. Interviews with subjects were performed to extract their biography, special conditions and their financial situation. In the interview, information such as their sex, age, number of siblings, subject's position in the family, how old he was at the time of divorce, causes of divorce and who got the custody after divorce, were gathered. Derogatis (1976) reported the simultaneous nine aspects, validity factor of this test around %36 to %73 in which they all were significant at $P > 0.01$ level. Dimatteo et al. [6] showed that the stability of examination in in all scales of this study except the aggression, phobia, and paranoia scales were all more than 0.8. Construct validity showed that this test can be used as a tool for screening and diagnosing mental disorders. In this study, the admissibility and condition of questionnaire was confirmed by related supervisors. Subject's consent was asked before handing questionnaires over to them and participants were aware that they have full authority to skip questions if they don't want to answer and they were aware that the information they provide will remain confidential.

Statistical Analysis

To analyze the questionnaire data to describe current situation and categorize study groups by aspects like opposite characteristics and describing characteristics of the statistical society the descriptive statistical indexes such as abundance, central orientation indexes (average) and scatter oriented indexes (standard variance) were used. In inferential statistics, the questions in questionnaire that were used in the study were addressed. Pearson correlation examination was used to measure the correlation between studied variables, and to review questions in the study multivariable regression and the step by step method were utilized.

Results

The results of the study will be analyzed and presented in this section. [Table 1] presents the average and standard variance of aggression, anxiety, obsessive compulsive, interpersonal sensitivity, physical complaints, psychosis, paranoia, depression and phobia variables for the divorce children and kids from normal families.

Table 1. Average, standard variance and Cronbach's alpha variables for both groups.

| Variables | Divorce group | | Normal group | | Cronbach's alpha |
|----------------------------------|---------------|-----------|--------------|-----------|------------------|
| | <u>M</u> | <u>SD</u> | <u>M</u> | <u>SD</u> | |
| Aggression | 02.2 | 94.0 | 96.0 | 50.0 | 79.0 |
| Anxiety | 88.1 | 92.0 | 72.0 | 37.0 | 88.0 |
| Obsessive Compulsive | 93.1 | 80.0 | 10.1 | 46.0 | 82.0 |
| Interpersonal Sensitivity | 98.1 | 89.0 | 1 | 50.0 | 82.0 |
| Physical Complaints | 59.1 | 84.0 | 60.0 | 36.0 | 90.0 |
| Psychosis | 58.1 | 76.0 | 63.0 | 32.0 | 80.0 |
| Paranoia | 32.2 | 85.0 | 33.1 | 60.0 | 80.0 |
| Depression | 95.1 | 85.0 | 87.0 | 52.0 | 90.0 |
| Phobia | 12.1 | 67.0 | 30.0 | 25.0 | 78.0 |
| General Symptoms Index | 80.1 | 66.0 | 81.0 | 28.0 | 98.0 |

To insure similarity of demographic aspects of both groups, the Chi-squared test was utilized (Table 2).

Table 2. Divorce history percentage for both groups.

| Properly | Divorce | | Normal | | =1)df(χ^2 |
|---------------------------|----------|------|----------|------|-----------------|
| | <u>n</u> | % | <u>n</u> | % | |
| Divorce history | 1 | 3.6 | 1 | 3.4 | 0.001 |
| No divorce history | 27 | 96.4 | 28 | 96.6 | |

P<0.001

As presented above, Chi-squared test is not significant and there is no difference in divorce history between the two groups.

Findings of the study are presented here according to study questions:

Q1. How much is the prevalence of psychological disorders among divorce children and other children at the age of 10 to 20 in Zarghan, Iran?

To answer this question Chi-square test was utilized and the results are presented in (Table 3).

Table 3. Prevalence of general symptoms among divorce and normal kids.

| Disorder status | Normal =30)n(| Divorce =30)n(| =1)df(χ^2 |
|----------------------------|------------------|-------------------|-----------------|
| Without problem(normal) | 24 | 8 | |
| Significant problem | 6 | 22 | 14.17** |
| Extreme problem(psychosis) | 0 | 0 | |

** p<0.001

As presented in [Table 3], %27 of divorce children are without problem, %73 have significant problems and %0 had extreme problem. In normal children %80 were without problem, %20 had significant problems, and %0 had extreme problems (psychosis).

Q2. Are there differences between the two groups in psychological problems?

To answer this question multivariable variance was used to analyze. But what should be considered before analyzing, are topics related to observance and studying statistical assumptions. One of the defaults that are applied in analyzation is assumption of normal that is presented in (Table 4).

Table 4. Normal test for variables.

| Variables | group | Shapiro-Wilkes | Significance level |
|------------------------|---------|----------------|--------------------|
| Aggression | Divorce | 93.0 | 06.0 |
| | Normal | 95.0 | 21.0 |
| Anxiety | Divorce | 96.0 | 30.0 |
| | Normal | 92.0 | 02.0 |
| Obsession | Divorce | 95.0 | 26.0 |
| | Normal | 96.0 | 36.0 |
| Individual sensitivity | Divorce | 96.0 | 37.0 |
| | Normal | 94.0 | 12.0 |
| Physical complaints | Divorce | 96.0 | 38.0 |
| | Normal | 95.0 | 24.0 |
| Psychosis | Divorce | 95.0 | 21.0 |
| | Normal | 91.0 | 02.0 |
| Paranoid thoughts | Divorce | 96.0 | 44.0 |

| | | | |
|-----------------------|---------|------|------|
| | Normal | 95.0 | 28.0 |
| Depression | Divorce | 94.0 | 13.0 |
| | Normal | 93.0 | 08.0 |
| Phobias | Divorce | 97.0 | 61.0 |
| | Normal | 85.0 | 01.0 |
| General Symptom Index | Divorce | 91.0 | 02.0 |
| | Normal | 97.0 | 58.0 |

As indicated in (Table 4), since the results obtained using Shapiro–Wilk test is insignificant for most of the variables (above 0.05), statistical distribution is normal.

Another assumption is the test for homogeneity of covariance matrices. The results of Box’s M for homogeneity of covariance matrices is statistically significant and indicates that covariance matrices for dependent variables are not equal at different levels and the condition is not met. Therefore, Pillai’s Trace is used to determine the group effect on linear combination of indicators of mental disorder.

Bartlett’s test of sphericity was statistically significant (approximate chi-square = 65.610, $p > 0.001$) which proves appropriate correlation between the dependent variables.

To determine the significance level of the group effect on linear combination of mental disorder indicators, the researcher used Pillai’s Trace. For determining inter-subject effect ANOVA test is used the results of which are shown in (Table 4 And 5).

Levene test was used to examine the homogeneity assumption of the variance of the dependent variables in both groups. Levene results are shown in (Table 5).

Table 5. Levene results

| Variables | F |
|---------------------------|---------|
| Aggression | 12.45 |
| Anxiety | **16.04 |
| Obsession | **13.56 |
| Interpersonal sensitivity | **12.36 |
| Somatization | **16.61 |
| Psychosis | **21.51 |
| Paranoia | **5.75 |
| Depression | **9.01 |
| Phobia | **24.57 |
| General symptom index | **14.57 |

** $P < 0.001$

The above table indicates that variance for some of the dependent variables in both groups is not equal and shows significant differences. Therefore, caution must be exercised in interpreting the findings.

Table 6. Multivariate and univariate variance analysis for measuring mental disorder indicators

| Source | Univariate | | | | | | | | | | | | | |
|--------|--------------|---------|------------|----------|-----------|------------------------|---------------------|-----------|-------------------|------------|----------|-----------------------|--|--|
| | Multivariate | | aggression | Anxiety | Obsession | Individual sensitivity | Physical complaints | Psychosis | Paranoid thoughts | Depression | Phobias | General Symptom Index | | |
| | Df | F | | | | | | | | | | | | |
| Groups | 1 | ** 85.6 | ** 89.16 | ** 19.20 | ** 25.10 | ** 55.14 | ** 71.14 | ** 66.13 | ** 72.14 | ** 70.17 | ** 18.10 | ** 56.10 | | |

**P>0.001, *P>0.005

Note: Multivariate F-ratio is obtained from Pillai’s statistical indicator.

The results of Pillai’s Trace show that there is a significant difference between the groups with respect to combination of the dependent variables (i.e. aggression, anxiety, obsessive-compulsive, interpersonal sensitivity, somatization, psychosis, paranoia, depression, phobia, general symptoms).

ANOVA results indicate that there is a significant difference between the two groups with regard to all dependent variables. To determine which group gets a higher score for mental disorders, the researcher compared the means for both groups using the results of (Table 6).

According to (Table 6), compared to non-divorce children, children of divorce in the study obtained scored higher for aggression, anxiety, obsessive-compulsive, interpersonal sensitivity, somatization, psychosis, paranoia, depression, phobia and general symptoms.

Q3: Is level of mental disorder different for children of divorce and non-divorce with respect to gender?

To answer this question, the researcher used multi-variate variance analysis.

Prior to multi-variate variance analysis, the statistical assumptions need to be examined.

Among the assumptions in multi-variate variance analysis, is normality test which is shown in (Table 7).

Table 7. Normality test for the variables

| Variables | Group | Sex | Kalomogrov-Smirnov | Significance level |
|------------|---------|------|--------------------|--------------------|
| Aggression | Divorce | Boy | 49.0 | 96.0 |
| | | Girl | 57.0 | 89.0 |
| | Normal | Boy | 69.0 | 72.0 |
| | | Girl | 49.0 | 96.0 |
| Anxiety | Divorce | Boy | 66.0 | 76.0 |
| | | Girl | 79.0 | 55.0 |
| | Normal | Boy | 57.0 | 89.0 |
| | | Girl | 75.0 | 61.0 |
| Obsession | Divorce | Boy | 55.0 | 91.0 |
| | Girl | 79.0 | 55.0 | |

| | | | |
|------------------------|-------------|------|------|
| | Boy | 51.0 | 95.0 |
| | Normal | | |
| | Girl | 49.0 | 96.0 |
| | Boy | 39.0 | 99.0 |
| | Divorce | | |
| | Girl | 91.0 | 37.0 |
| Individual sensitivity | Boy | 59.0 | 86.0 |
| | Normal | | |
| | Girl | 61.0 | 83.0 |
| | Boy | 50.0 | 96.0 |
| | Divorce | | |
| | Girl | 45.0 | 98.0 |
| Physical complaints | Boy | 76.0 | 61.0 |
| | Normal | | |
| | Girl | 50.0 | 96.0 |
| | Boy | 53.0 | 93.0 |
| | Divorce | | |
| | Girl | 72.0 | 66.0 |
| Psychosis | Boy | 67.0 | 75.0 |
| | Normal | | |
| | Girl | 73.0 | 65.0 |
| | Boy | 60.0 | 86.0 |
| | Divorce | | |
| | Girl | 76.0 | 59.0 |
| Paranoid thoughts | Boy | 76.0 | 60.0 |
| | Normal | | |
| | Girl | 72.0 | 66.0 |
| | Boy | 65.0 | 78.0 |
| | Divorce | | |
| | Girl | 65.0 | 79.0 |
| Depression | Boy | 71.0 | 69.0 |
| | Normal | | |
| | Girl | 41.0 | 99.0 |
| | Boy | 60.0 | 86.0 |
| | Divorce | | |
| | Girl | 70.0 | 70.0 |
| Phobias | Boy | 83.0 | 49.0 |
| | Normal | | |
| | Girl | 06.1 | 20.0 |
| | Divorce Boy | 79.0 | 55.0 |
| | Girl | 88.0 | 41.0 |
| Overall Symptoms | Boy | 40.0 | 99.0 |
| | Normal | | |
| | Girl | 66.0 | 77.0 |

P<0.001

As shown in (Table 7), significance level for all variables is above 0.05. Therefore, the variables are distributed normally.

Among other assumptions is MANOVA test for homogeneity of variance matrices. The results of Box's M for covariance matrices is statistically significant (P<0.0001, M=145.84) which indicates that covariance matrices for dependent variables for independent variables (the groups) is not equal and the condition is not met. Therefore, Pillai's Trace was used to determine the significance level for group and gender effects on linear combination of mental disorder indices.

Bartlett's test of sphericity was statistically significant (approximate Chi-square = 342.40, P<0.001) which shows that there is enough correlation between the dependent variables.

Levene test was used to examine the variance of the dependent variables in both groups. The results are shown in [Table 8].

Table 8. Levene results

| Variables | F |
|------------------------|----------|
| aggression | ** 96.6 |
| Anxiety | ** 27.6 |
| Obsession | ** 19.5 |
| Individual sensitivity | * 81.3 |
| Physical complaints | ** 92.4 |
| Psychosis | ** 90.4 |
| Paranoid thoughts | 46.2 |
| Depression | 03.1 |
| Phobias | ** 93.11 |
| Overall symptom Index | ** 30.4 |

P<0.001

As the (Table 9) reveals, variances for the dependent variables in both groups are not equal and reveal a significant difference. Therefore, caution needs to be exercised in interpreting the results.

Table 9. Multi-variate and univariate variance analysis for mental disorder indices

| Source | Multivariate | | Univariate | | | | | | | | | |
|--------------|--------------|---------|------------|----------|-----------|------------------------|---------------------|-----------|-------------------|------------|----------|-----------------------|
| | Df | F | Aggression | Anxiety | Obsession | Individual sensitivity | Physical complaints | Psychosis | Paranoid thoughts | Depression | Phobias | Overall Symptom Index |
| | | | | | | | | | | | | |
| Groups | 10 | ** 06.6 | ** 49.23 | ** 13.34 | ** 61.18 | ** 81.21 | ** 82.29 | ** 63.32 | ** 51.22 | ** 55.29 | ** 47.33 | ** 99.48 |
| Sex | 10 | * 14.2 | 16.2 | * 76.4 | 40.3 | 90.2 | ** 11.10 | * 23.5 | 37.0 | ** 99.13 | 07.0 | 85.7 |
| Groups * Sex | 10 | 77.1 | 85.2 | * 22.7 | 34.0 | 76.2 | ** 23.10 | 81.2 | * 70.6 | * 58.5 | 89.0 | ** 7 |

Note: multi-variate f-ratation is obtained from Pillai's Trace.

**p>0.01, *p>0.05

The primary multi-variate effect for the groups (divorce and non-divorce children) with F = 6.06 is statistically significant which shows that there is a difference between the dependent variables. Drawing upon the results of ANOVA test, girls and boys are different in anxiety, physical complaints, psychosis and depression. To determine which group scored higher in mental disorders, the means for both groups were compared (Table 10).

Table 10. Mean and standard deviation variables for boys and girls

| Variables | Boy (26 N =) | | Girl (34 N =) | |
|------------------------|--------------|-----------|---------------|-----------|
| | <u>M</u> | <u>SD</u> | <u>M</u> | <u>SD</u> |
| Aggression | 22.1 | 83.0 | 70.1 | 94.0 |
| Anxiety | 98.0 | 65.0 | 55.1 | 1 |
| Obsession | 25.1 | 65.0 | 72.1 | 81.0 |
| Individual sensitivity | 21.1 | 69.0 | 70.1 | 94.0 |
| Physical complaints | 73.0 | 46.0 | 37.1 | 91.0 |
| Psychosis | 81.0 | 53.0 | 32.1 | 82.0 |
| Paranoid thoughts | 66.1 | 70.0 | 95.1 | 1 |
| Depression | 96.0 | 65.0 | 76.1 | 90.0 |
| Phobias | 60.0 | 49.0 | 79.0 | 75.0 |
| Overall Symptom Index | 01.1 | 51.0 | 53.1 | 76.0 |

As shown in Table 10, girls score higher than boys in anxiety, physical complaints, psychosis and depression.

Finally, the interactive multivariate effect of the groups was not significant ($F=1.77$).

Conclusion

According to results presented, %27 of divorce children were without problem, %73 had significant problems, but %0 had extreme problems. The children in normal families %80 were without problem, %20 had significant problems, and %0 had extreme problems (psychosis). Divorce children, had higher rates in aggression, anxiety, obsessive disorders, interrelationships, physical complaints, psychosis, paranoia, depression, phobia and general symptoms in comparison to children with normal families. Children and teenagers of divorced families show more problematic behavior compared to their peers, many of these behaviors are common symptoms of fundamental psychological disorders. These children are more passive towards stress because of being in persistent pressures and being exposed to stress. When the results were divided by gender, girls had higher rates in anxiety, physical complaints, psychosis, and depression in comparison to boys. However, both genders show significant differences in aggression, when compared to children of normal families, while there are differences visible between the two genders. So, abnormal behaviors are different based on gender; accordingly, depression and anxiety in girls were more than boys and aggression and legal offences of boys in divorce families were more observed compared to boys. The results of the current study are in line with results of Kazdin (1993) that showed girls have more tolerance in personal matters and school problems; while boys showed more tolerance in family related problems. Boney-McCoy, S. and Finkelhor, D. (1996) reported that divorce is a stressful experience for kids, specially girls, thus girls show more sensitivity to processes of change in family relationships that are related to divorce consequences and this is in line with this view: that girls and women mostly have relational identity. The results of mentioned study are in line with findings of current study.

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[1]

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[2]