

Full Length Research Paper

A study on the effect of 13 Reasons Why on young adults with low self-esteem

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The study was designed to examine the effect of 13 Reasons Why on 216 young adults with low self-esteem. Survey method was used to obtain the responses from the samples, before and after watching 13 Reasons Why. The findings of the study revealed that, 13 Reasons Why improved self-esteem in the female samples alone. No improvement in self-esteem was observed in the male samples.

Key words: Thirteen reasons why, low self-esteem, self-improvement.

INTRODUCTION

13 Reasons Why is an American web drama series that talks about bullying and teen suicide. The story revolves around the suicide of Hannah Baker, a student of the fictional Liberty high school. The show sparked a profound debate among viewers, mental health professionals, and concerned parents about the way it portrayed suicide and the potential impact it had on the young adults. The makers launched 13reasonswhy.info, a crisis resource site to help people with suicidal ideations. Self-esteem can play an important role in suicidal tendencies among adolescents (Overholser et al., 1995).

The main idea of the study is based on the opinion that mass media content can help in improving the mental health of individuals with conditions such as low self-esteem, depression, and social anxiety. In particular, self-esteem reflects an individual's overall subjective emotional evaluation of their worth. Low self-esteem is characterized by a lack of confidence and feeling

unworthy about oneself. People with low self-esteem often feel incompetent, awkward and unloved. On the other hand, people with high self-esteem tend to be satisfied with their lives and hold a positive attitude toward themselves. They display genuine sense of self-worth, self-acceptance and self-respect (Rosenberg, 1965). Self-esteem may be a key variable for understanding depression and suicidal behavior among adolescents (Overholser et al., 1995).

13 Reasons Why primarily talks about suicide, depression, rejection and low self-esteem in young adults. At multiple occasions, the series directly and indirectly talks about self-improvement and self-acceptance, while addressing the everyday stressors and tribulations of adolescence. This study examines the effect of *13 Reasons Why* on young adults with low self-esteem using the Rosenberg's self-esteem scale. Pre-testing and post-testing were carried out on the study samples and the results were compared to derive

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conclusions.

LITERATURE REVIEW

Recent studies have established an obvious improvement in self-esteem and body satisfaction through media exposure (Russello, 2009). Although low self-esteem is not a diagnosable disorder, traditional psychiatry proposes a number of remedies to treat the condition. The hypodermic needle theory by Harold Lasswell suggests that the mass media had a direct, immediate and powerful effect on its audiences. The use of television content to spread awareness and promotional campaigns has been used widely throughout the past. Unfortunately, little empirical evidence exists to inform about the positive effects of mass media on mental health. The positive effects of media in bringing changes in the society are well documented in cases such as the Katie Couric effect and NHS cervical screening program in the North West of England. Coronation Street is a UK television soap opera, in which one of the characters develops cervical cancer. After the storyline was introduced in April 2001, the number of Smears performed increased from 65714 in 2000 to 79712 in 2001, an increase of 13998 (21.3%) (Andy et al., 2002). The NBC television news personality had a colonoscopy live on television in March 2000. In the following weeks and month, the numbers of people across the country having colonoscopies increased by more than twenty percent. The phenomenon is widely known as Katie Couric effect (Peter et al., 2003). In a similar pattern, breast cancer screening increased significantly after the television news about the breast cancer diagnosis was released. There was a twenty-fold increase in media news coverage related to breast cancer and the overall cancer diagnosis rose from 40 percent in the first two weeks after the news was released (Simon et al., 2005). The key issues related to media effects are timing, duration, valence, change, level, direct and indirect and manifestation.

Media can theoretically influence the behavior of people by two possible ways: First, it can alter the beliefs by providing relevant information; second, it can have an effect on the behavior through persuasion (Della and Gentzkow, 2009). The belief-based models predict that the media effect will be higher when the audience is less certain about the truth; likewise, the media effect depends on the credibility. The preference-based models predict that the media reports may have an effect on the behavior when the content conveys no information. Likewise, to avoid persuasion by mass media, potential audience may take costly steps. The claims of belief-based models are proven true (Ruben et al., 2011). The capability of mass media to influence behavior by supplying information and changing beliefs is more common in behavioral models (Mullainathan et al., 2008).

Amy Schumer's movie, *I feel pretty* has been cited as a

resource to teach women about the true effects of confidence (Minda, 2018). Likewise, the Netflix movie, *Sierra Burgess is a loser* has been reported to give hope to people with a history of low self-esteem. The movie is about teen catfishing and it depicts the struggle of a high school student with low self-esteem. The author writes, maybe having a female movie protagonist like Sierra Burgess around while I was in high school would've taught me this sooner (Tegwyn, 2018).

MATERIALS AND METHODS

Objectives

The research work aims to find the effects of *13 Reasons Why* on young adults with low self-esteem. The main purpose of the study is to gain an insight on what difference the series has made on the viewers with low self-esteem. The specific research objectives are:

1. To understand the overall effect of *13 Reasons Why* on young adults with low self-esteem.
2. To find out the effect of *13 Reasons Why* on the female and the male population.
3. To compare the difference in the male and female samples.

Method of research

Survey method was used to obtain responses from the samples. The samples for survey were identified from a closed Facebook group named social anxiety support group. The diagnostic and statistical manual of mental disorders defines social anxiety as a persistent fear of one or more social performance situations in which the person is exposed to unfamiliar people or to possible scrutiny by others. In addition, most of the patients with social anxiety tend to have a very low self-esteem. Therefore, the social anxiety support group was selected to recruit samples for the study. Initially, a public post was made requesting the members between 15 to 24 years to participate in the study, in spite of their race, religion, gender, sexual orientation and level of education. The United Nations, for statistical consistency across regions, defines youth as those persons between 15 and 24 years of age.

A rough estimate of 400 members with self-identified low self-esteem expressed their interest to take part in the study; however, 300 samples were randomly scrutinized for the study, which consisted of 150 males and 150 females.

Sampling procedure

Initially 150 male and 150 female respondents were employed for the study. None of the samples reported that they have watched *13 Reasons Why* before. The survey instrument was sent to all the 300 respondents to determine their level of self-esteem. Pre-assessment results revealed that 39 respondents (17 males and 22 females) did not match the required sample profile; that is, the self-esteem of 39 participants was found to be either normal or high. Since the aim of the study is to find the effect of *13 Reasons Why* on young adults with low self-esteem, the 39 participants with high and normal self-esteem (17 males and 22 females) were eliminated from the study. The sample population was reduced to 261 participants (131 males and 128 females). All the 261 samples were given a period of two months to watch the entire series and most managed to finish the series in less than a month. Out of 261 samples, only 244 qualified for post-testing. 7 reported that they did not watch and 10 did not respond.

Table 1. Shows the number of participants in each stage of the research.

S/N	Participant in each stage	NS	M:F ratio
1	Invited participants	300	150:150
2	Qualified participants for pre-test	261	131:128
3	Pre-test respondents	244	119:125
4	Post-test respondents	221	113:108

The same survey instrument was sent to the remaining 244 respondents (119 males and 125 females) to record their level of self-esteem after the intervention that is, after watching *13 Reasons Why*.

Only 221 participants (113 males and 108 females) provided their responses out of the 244 samples. The efforts to contact the remaining turned to be futile and the study was continued with the obtained responses. To establish gender balance, 6 male samples were randomly removed from the study. The final population consisted of 216 samples (108 males and 108 females). Since one of the objectives of the research is to compare the effect on the male and female samples, strict measures were taken to establish the gender balance.

As shown in the Table 1 and mentioned earlier, 221 samples recorded their post-test responses. The gender ratio was 113 males for 108 females. To establish gender balance, six male samples were randomly eliminated from the study.

Survey instrument

Rosenberg self-esteem scale is a widely used instrument to evaluate individual self-esteem. The scale has 10 questions, which are used to measure positive and negative feelings about the self. The scale ranges from 0 to 30, with 30 indicating the highest possible score; the higher the score, the higher the self-esteem of the respondent. The scale presented high ratings in terms of reliability. Internal consistency of the scale was 0.77 and the minimum coefficient of reproducibility was at least 0.90 (Rosenberg, 1965).

The survey instrument is a ten-item Likert type scale with items answered on a four-point scale, from strongly agree to strongly disagree. The scale had the following items:

1. On the whole, I am satisfied with myself.
2. At times, I think I am not good at all.
3. I feel that I have a number of good qualities.
4. I am able to do things as well as most other people.
5. I feel I do not have much to be proud of.
6. I certainly feel useless at times.
7. I feel that I am a person of worth, at least on an equal plane with others.
8. I wish I could have more respect for myself.
9. All in all, I am inclined to feel that I am a failure.
10. I take a positive attitude toward myself.

To score, values were assigned to each of the 10 items as follows: For items 1, 2, 4, 6, and 7: Strongly disagree = 0, disagree = 1, agree = 2, and strongly agree = 3. For items 3, 5, 8, 9, and 10: Strongly disagree = 3, disagree = 2, agree = 1, and strongly agree = 0.

Method of data analysis

Since the data were measured using an interval scale and the

population was not normally distributed, Wilcoxon signed-rank test was used. Wilcoxon signed rank-test is a non-parametric statistical hypothesis test that is used to compare two related samples to assess if their population mean ranks differ. In addition, Mann-Whitney U test was used when potential outliers were identified. Mann-Whitney U test is another nonparametric test that does not require the assumption of normal distributions. The test is nearly as efficient as the t-test on normal distributions.

FINDINGS

All the stated hypotheses were tested using inferential statistical techniques. The findings of the research work are discussed in brief in the following statements.

Effect of *13 Reasons Why* in young adults

As mentioned earlier, Wilcoxon signed-rank test was used to compare the pre-test score and the post-test score of the samples (108 males and 108 females). The results showed that the p-value is greater than alpha as shown in Figure 1. Therefore, the null hypothesis was rejected. The data did not have any outliers.

Null hypothesis (H_0)

The null hypothesis (H_0) states, *13 Reasons Why* does not play a role in improving the self-esteem of young adults, who lack the same. The alternative hypothesis argues that, *13 Reasons Why* helps in improving the self-esteem of young adults, who show a lack of self-esteem and confidence. Since $p\text{-value} < \alpha$, the null hypothesis (H_0) is rejected.

The value of the post-test score minus pre-test score is considered not equal to the expected difference (μ_0). In other words, the difference between the value of the post-test minus pre-test and the expected difference (μ_0) is big enough to be statistically significant.

P-value

P-value equals $5.55112e-16$, ($p(\chi \leq Z) = 2.77556e-16$). This means that the chance of type1 error (rejecting a correct H_0) is small: $5.551e-16$ (5.6e-14%).

sample average	5.254630
sample size	216
n	198
sample SD	5.882965
median	4
skewness	0.0509419
symmetrical	
normality	2.120e-8
outliers	
outliers count	0
W-	2035.5
W+	17665.5

Figure 1. Results of Wilcoxon Signed-Rank test, using normal tables (n=198) (two-tailed).

The smaller the p-value the more it supports H_1 .

The statistics

The test statistic Z equals -9.694709. This is not in the 95% critical value accepted range: [-1.9600: 1.9600]. $W^- = 2035.50$, is not in the 95% accepted range: [8270.5500: 11430.4500] as shown in Figure 1.

The results reveal that *13 Reasons Why* indeed improves self-esteem in young adults, who lack the same. The results suggest that *13 Reasons why* can be used as a support to improve self-esteem, in addition to traditional treatments such as behavioral therapy as shown in Figure 2.

Effect of 13 Reasons Why on the male population

The study population comprised of 108 male samples. No potential outliers were observed among the 108 samples. Therefore, Wilcoxon signed-rank test was used to test the null hypothesis. The null hypothesis states, *13 Reasons Why* does not play a role in improving the self-esteem of young males; however, the alternative hypothesis argues

that, *13 Reasons Why* helps to improve the self-esteem in young males who lack the same. Since $n > 25$, normal approximation is used as shown in Figure 3.

Null hypothesis (H_0)

The results of the test revealed that the p-values is less than alpha ($p\text{-value} > \alpha$), Therefore, the null hypothesis (H_0) is accepted.

The post-test pre-test difference is considered to be equal to the expected difference (μ_0). In other words, the difference between the value of the post-test score minus pre-test score and the expected difference (μ_0) is not big enough to be statistically significant.

P-value

P-value equals 0.433999, ($p(x \leq Z) = 0.216999$). This means that if we would reject H_0 , the chance of type I error (rejecting a correct H_0) would be too high: 0.4340 (43.40%). The larger the p-value the more it supports H_0 .

The statistics

The test statistic Z equals -0.782367, is in the 95% critical value accepted range: [-1.9600: 1.9600].

$W^- = 1855.50$, is in the 95% accepted range: [1566.5100: 2528.4900]

Effect of 13 reasons why on the female population

As mentioned earlier, 108 females were part of the sample group. When the data were tested using Wilcoxon-signed rank test, six potential outliers were observed. That is, 5.56% of the observations in the female populations were outliers. Therefore, Mann Whitney U test was used, as the test is robust to the presence of outliers.

Null hypothesis (H_0)

The results of Mann Whitney U test on the female sample data revealed that the p-value is greater than alpha ($p\text{-value} < \alpha$); therefore, the null hypothesis (H_0) is rejected. The null hypothesis argues that, 13 reasons why does not improve self-esteem in young females, who show a lack of self-esteem and confidence. To the contrary, the alternative hypothesis argues that, 13 reasons why indeed improves the self-esteem in young females who lack the same. The randomly selected value of the pre-test data is considered to be not equal to the randomly selected value of the post-test data.

In other words, the difference between the randomly

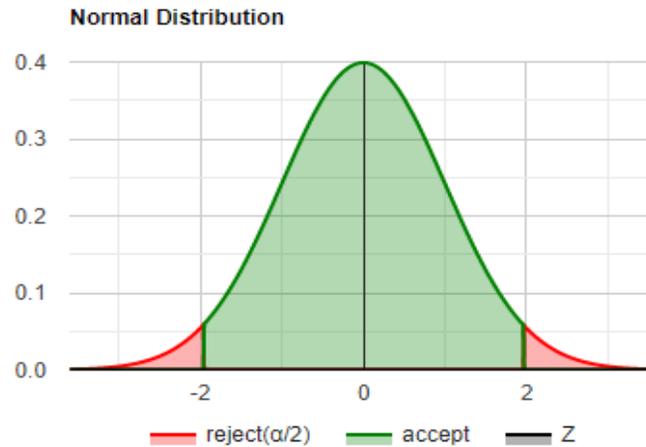


Figure 2. Shows the critical value of the test distribution for the female population.

Results	
sample average	0.185185
sample size	108
n	90
sample SD	2.140609
median	0
skewness	0.0688550
symmetrical	
normality	0.01212
outliers	
outliers count	0
W-	1855.5
W+	2239.5

Figure 3. Wilcoxon Signed-Rank test, using normal tables (n=90) (two-tailed).

selected value of the pre-test data and the randomly selected value of the post-test data is big enough to be statistically significant.

P-value

P-value equals 0.00000, ($p(x \leq Z) = 0.00000$). This means

that the chance of type1 error (rejecting a correct H_0) is small: 0.000 (0.0%). The smaller the p-value the more it supports H_1 .

The statistics

As shown in Figure 4, the test statistic Z equals -

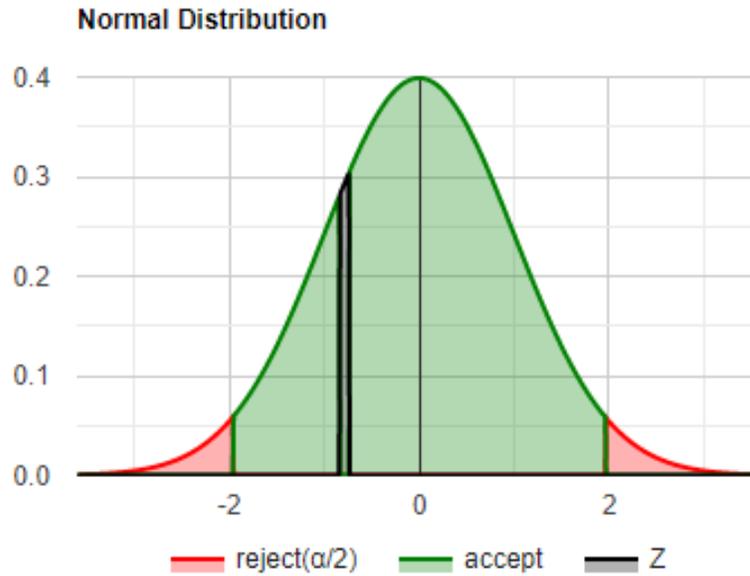


Figure 4. Shows the z score value.

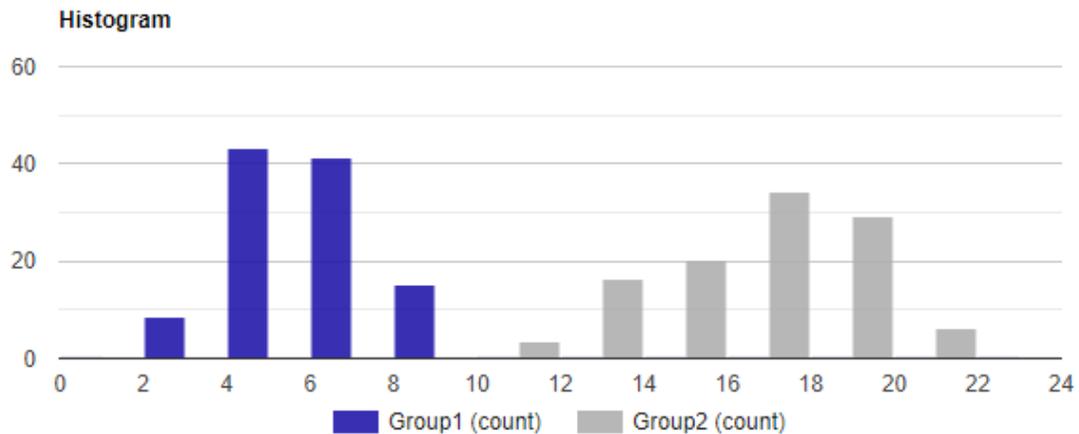


Figure 5. Shows the results of two sample Mann-Whitney u test, using Normal tables (n=108) (two-tailed).

12.501529, is not in the 95% critical value accepted range: [-1.9600: 1.9600]. $U=108.00$, is not in the 95% accepted range: [4934.6000: 6729.4000]. Since $n_1 > 20$ or $n_2 > 20$, normal approximation is used. The results of the Mann Whitney U test confirm that, *13 Reasons Why* improves self-esteem in young females who show a lack of self-esteem as described in Figure 5.

DISCUSSION

The research work leaves an enormous scope to study the mode of action. It is unclear on how the series was able to improve self-esteem on few women and not in the

rest. Factors such as personal background, personal beliefs, and cognition may come into account; however, the study did not concentrate on finding any of the underlying factors. In addition, studies can be made in the near future to learn the efficiency of mass media content to improve conditions such as low self-esteem. More importantly, the study did not check the longevity of the positive effects. The post-test responses were recorded immediately after each sample reported that they are done watching the series. There could be a difference in the responses if the posttest is carried out in a different time duration. Since it is believed that mass media effects are changing and volatile with time, it is important to study if the changes are permanent or just

temporary. Research techniques such as time series design can be employed to study the longevity of the positive effects.

Conclusion

From the results, we conclude that *13 Reasons Why* improved self-esteem in young adults who show a lack of self-esteem and confidence. However, the results of the gender wise analysis revealed that, there is no significant improvement in the male samples. To the contrary, the female samples showed a significant improvement in self-esteem, after watching *13 Reasons Why*. The increase in self-esteem in the female samples, but not in the male samples can be attributed to the characterization in *13 Reasons Why*. The series mostly revolves around the suicide of Hannah Baker, the female protagonist played by Katherine Langford. Though the series portrays negativity such as suicide, the drama provides a plenty of scope to improve one self. There are several direct and indirect comments such as *it is okay to be not okay*, which would significantly help to improve confidence and self-esteem. Therefore, we assume that the presence of a female protagonist could have improved the self-esteem in the female samples alone.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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