

## The Moderating Role of Self-Compassion in the Relationship Between the use of Visual Media and Internalizing Pathological Symptoms in Adolescents

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### Abstract

**Background:** In the face of mistakes and individual shortcomings, self-compassion defines a positive and loving attitude of a person towards her or himself. As a consequence of this compassionate mindset, it is believed that people with high self-compassion experience better control over pathological internalization. The aim of this study was to investigate the moderating role of self-compassion in the relationship between the use of visual media and internalization of pathological symptoms in adolescents in the academic year 2019-2020.

**Method:** This study has a cross sectional and correlational research design. The statistical population included all high school students in Shiraz, Iran, who were randomly selected as a cluster of 300 students from educational areas one and two. To measure the studied variables, the questionnaire of self-compassion along with the strengths and difficulties questionnaire (SDQ) were used. To analyze the data and hypotheses, review and compare the factors measured in students, Chi-square tests, Pearson correlation coefficient, and hierarchical regression were used at a significance level of 0.05.

**Results:** According to the demographic data, 162 (49.40 %) of the sample were female and (48.46 %) were male. The results showed that the variables of self-compassion and body image concern play a moderating role in the relationship between the use of visual media and internalization of pathological symptoms ( $\beta=0.296$ ).

**Conclusion:** Self-compassion and body image concern play a significant moderating role in the relationship between the use of visual media and the internalization of pathological symptoms.

**Keywords:** Achievement goals, cheating behavior.

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## 1- INTRODUCTION

Behavioral disorders are among the problems that are associated with negative educational, social, behavioral and health consequences in adolescence and affect the family and society. Today, one of the most important reasons for behavioral disorders, especially in adolescents, is the heavy use of social media. Excessive use of social networks is associated with negative psychological experiences such as depression, anger, irritability and stress (1). Despite the existence of various risk factors in the social networks, there are some other variables that prevent the occurrence of behavioral disorders and act as a barrier against the risks of internalizing mental disorders. Among these variables is self-compassion. Self-compassion is defined as the positive emotion one has about oneself that prevents the negative consequences of self-judgment, isolation, and rumination (2). Self-compassion can play a role as a moderator between perceived stress and the internalization of pathological symptoms (3). A study by Linardon et al., (2020) showed that self-compassion modulates the relationship between appearance and over valuation (4).

Linardon et al., (2019) showed that compassion itself is inversely related to perceived stress, depressive symptoms and anxiety. Adolescents with high self-compassion showed lower levels of stress, depression, and perceived anxiety symptoms than adolescents with low self-compassion (3), but the tripartite interaction among perceived self-compassion, perceived stress, and gender was not significant. This indicates that the moderating effect of self-compassion did not differ by gender, though it was slightly higher in men (2).

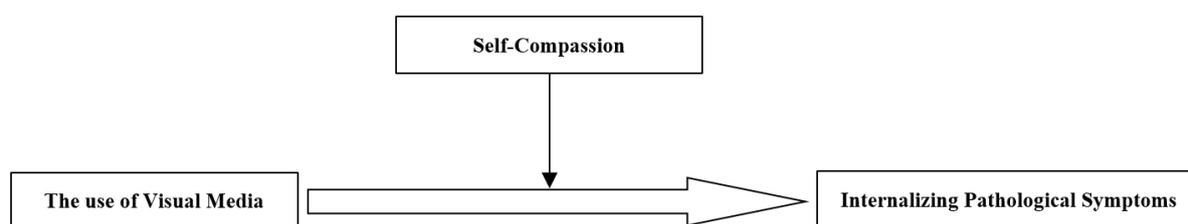
Along with the consideration of the risk factors of social networks and visual media, their positive role and performance in daily life and social relationships cannot

be denied; so, by identifying the risk factors and strengthening the positive psychological variables, we can make better use of these media in order to help people's well-being. It can be said that behavioral disorders can also negatively affect a person's emotional and behavioral responses, self-care, social relationships and personal adjustment (5). So far, various classifications for behavioral disorders have been made, but the most commonly the behavioral disorders are placed in two categories: internalization and externalization. The results of studies have shown that the syndrome of internalization and externalization is strongly associated with negative consequences such as decreased internal performance during adolescence (3), drug abuse (6) and academic problems such as difficulty in academic achievement (7). There are different factors leading to the development and internalization of behavioral disorders (3).

Anari (2014), in a study entitled "Life Satisfaction, internalized and externalized disorders among social network users and non-users", with the aim of achieving the effect of long-term use of social networks on internalized and externalized disorders and their level of satisfaction with life. The results of this study showed that the girls who used social networks too much were more exposed to internalized symptoms. In addition, the boys who spent long hours on social networking sites reported lower life satisfaction. Overall, the results showed that the adolescents in the experimental group reported more internal structural problems (depression, anxiety and physical complaints) and less life satisfaction (8). In today's modern world with the evolution of mass communication tools, individual and collective attitudes and behaviors have also undergone changes. Mass communication tools include virtual social visual media including Instagram, Facebook and SnapChat. Research has

shown that Facebook is the most popular (with more than 2 billion active users) among social operating systems and is one of the most widely used social media (9). However, some other highly intuitive social media operating systems such as Instagram and SnapChat have recently become increasingly popular, especially among young people (10). Maples-Keller et al. (2017) showed that excessive use of the Internet, especially social networks, is associated with negative psychological experiences such as depression, anger and irritability, and stress (11). The findings of

Wegmann and Brand (2019) showed that the more the use of virtual sites, the lower the mental health of students (12). Given the above, it can be said that variables such as self-compassion, as a positive psychological variable, can prevent the internalization of pathological symptoms. Thus, the purpose of this study was to investigate the moderating role of self-compassion in the relationship between the use of visual media and internalization of pathological symptoms in adolescents (Fig. 1).



**Fig. 1:** Conceptual model of the research Method

## 2- MATERIALS AND METHODS

### 2-1. Study design and population

This study has a correlational research design. The study population consisted of all male and female students, between the ages of 14 - 16, who were studying in the first semester of the academic year 2019-2020, in Shiraz. The sample size was determined as 300 male and female students according to Cochran's formula, which is used to give an explanation for the results regarding the probability distributions of statistics (with parameters:  $\alpha = 0.05$ ,  $d = 0.03$ ), using a multistage sampling method.

### 2-2. Measuring tools: validity and reliability

To measure the studied variables, the self-report questionnaire of self-compassion and the strengths and difficulties questionnaire (SDQ) were used.

#### a) The strengths and difficulties questionnaire (SDQ)

This questionnaire was developed by Goodman in 1997 in the United Kingdom based on the ICD-10 diagnostic criteria and is used for ages 3-16 (13). It has five subscales of emotional symptoms, behavioral problems, attention deficit hyperactivity disorder, communication problems with peers, and sociable behaviors (child strengths). Of course, there are 5 additional questions to measure the duration of the problems and the amount of anxiety they cause, their effects on the child's and adolescent's functions in relation to family life, relationships, friends, classroom learning and recreational activities; and it has one question to measure the possible effect of the measured behavioral problems on the lives of the others (13). 4 of the mentioned subscales measure clinical signs

(problems) and the other measures societal behaviors (strengths). These scales include the following: *Emotional symptoms* including physical symptoms such as headache, nausea and vomiting, worry, sadness and crying, dependence on others in new situations, loss of self-confidence and having a lot of fear and panic. *Behavioral disorder* includes behaviors such as stealing, lying, bullying and arguing with others, disobeying parental orders, and fighting with others. *Hyperactivity disorder* includes restlessness, restlessness, inability to focus and distraction, not thinking about things before doing them, and inability to finish things. *Problems with peers* include isolation, playing alone, not having at least one good friend, not being popular with

friends, being bullied and having better relationships with people older than oneself. *Community-friendly behavior* includes respecting the feelings of others, sharing food and personal belongings with others, being kind to younger children, and volunteering to help others (14). There is a score on each of these subscales and an overall behavioral disorder score, which is the sum of the scores of the clinical subscales, i.e. scores 1 to 4 (15). To select each of the incorrect options, to some extent correct and completely correct, scores of zero, one and two are given, respectively. It is worth noting that some expressions are scored in reverse (15).

In general, this scale is scored according to **Table 1** below.

**Table-1:** The strengths and difficulties questionnaire (SDQ) scoring

Scale	Question numbers	How to score based on the subject's answer		
		False	Somewhat true	Absolutely true
Emotional symptoms	3	0	1	2
	8	0	1	2
	13	0	1	2
	16	0	1	2
	24	0	1	2
Conduct problems	5	0	1	2
	7	2	1	0
	12	0	1	2
	18	0	1	2
	22	0	1	2
ADHD	2	0	1	2
	10	0	1	2
	15	0	1	2
	21	2	1	0
	25	2	1	0
Problems with peers	6	2	1	2
	11	2	1	0
	14	2	1	0
	19	0	1	2
	23	0	1	2
Socially desirable behaviors	1	0	1	2
	4	0	1	2
	9	0	1	2
	17	0	1	2
	20	0	1	2

If the subject answers question 26 negatively, the rest of the questions will not be graded and the subject's effect score will be zero. But if he answers this question in the affirmative form, the impact score will be added to the sum of the scores obtained in questions 28, 29a to 29d and 30. It is said that this score indicates the effect of behavioral disorder symptoms on the subject's performance in different areas. As shown in **Table 2**,

according to Goodman (1997), a score of 2 or higher in the score section indicates that the effect of the symptoms on that particular area is abnormal. Score one is considered as the border and zero as normal. An abnormal score indicates that the subject's behavioral disorder has had a significant negative effect on his/her academic, family, and personal performance, communication with friends, and/or recreational activities (14).

**Table-2:** SDQ Scorecard for reporting the results

Scale	Abnormal	Borderline	Normal
Overall score in the questionnaire (total scores of clinical scales)	20 to 40	16 to 19	0 to 15
Emotional symptoms	7 to 10	6	0 to 5
Conduct problems	0 to 10	4	0 to 3
Attention Deficit- Hyperactivity Disorder	4 to 10	6	0 to 5
Problems with peers	6 to 10	4 to 5	0 to 3
Socially desirable behaviors	0 to 4	5	6 to 10

Mohammadi et al. (2013) reported the overall reliability obtained for the self-report questionnaire with Cronbach's alpha coefficient of 0.67 and for subscales from 0.34 to 0.56 (15). Cronbach's alpha of this questionnaire in the present study was 0.68.

#### **b) The Self-Compassion Scale**

The Self-Compassion Questionnaire (SCS) was developed by Neff in 2003 (16). This scale has 26 items with a five-point Likert scale (almost never (1) to almost always (5)), with questions such as: "I judge my mistakes and inadequacies and I do not approve of them; when I think about my inadequacies, I do not acknowledge them; and when I think about my inadequacies, I feel more alone and I think I am different from the rest of the world." This scale has 6 subscales, kindness to oneself (19, 26, 12, 23, 5); Self-judgment (2, 20, 24 and 6); to consciousness (16, 1, 21, 11 and 8); Extreme cloning (10, 7, 15, 3); Human commonalities (25, 4, 13, 18); and

isolation (17, 22, 14, 9). This questionnaire has three bipolar measurements of self-kindness against self-judgment; Common humanity against isolation; and consciousness against extreme imitation (16). These 6 subscales together explain the total variance. In this questionnaire, the minimum possible score is 26 and the maximum is 130. For the scores between 26 and 44, the level of self-compassion is considered low. Scores between 44 and 88 indicate a moderate self-compassion. And score higher than 8 represent a high level of self-compassion. Neff (2016) reported high validity and reliability values for this scale. Its overall Cronbach's alpha reliability was reported as 0.92; all of the subscales had good internal consistencies (0.75 to 0.81). And the reliability of the two-week retest was 0.93. In addition, the scale has a relatively high degrees of convergent and divergent validities (17). Furthermore, in the study by Kord & Pashasharifi (2014), the Cronbach's alpha reliability of the questionnaire has been

found to be above 0.70 (18). In the present study, the Cronbach's alpha of this questionnaire was 0.70.

### **c) The rate of use of visual media**

To assess visual media usage, the participants were asked to report their hours of using visual media during the day, which here is exclusively Instagram.

### **2-3. Intervention**

The statistical population of the study included adolescent boys and girls aged 14-16 years old studying in public high schools of Shiraz, in 2019-2020; among whom 300 individuals were selected through available sampling, using the Cochran's formula.

For this purpose, we referred to the Education Department and obtained a permit and introduction to the four districts of the city. Next, in multi-stage clusters, districts two and one were randomly selected from the four educational districts of Shiraz. Then, ten girls' schools and ten boys' schools were randomly selected from each district, reaching a total of forty schools for taking the tests. Due to the outbreak of Coronavirus 19 and school closures, the questionnaires were prepared in PDF format and Portable Document Format (WORD) and were provided to school principals and counselors. School principals and counselors administered the questionnaires by placing them in the WhatsApp groups of the students.

The students sent the questionnaire responses to the principals and consultants or directly to the researcher. School principals and counselors sent the filled questionnaires they had received to the researcher, via WhatsApp messengers. Out of 400 questionnaires sent to the students, a total of 320 questionnaires were sent to the researcher by school principals, counselors, and students. 20 questionnaires were excluded from the study due to incompleteness, which led to 300

ultimately remaining questionnaires, including 193 readable questionnaires for girls and 107 readable questionnaires for boys. In other words, the study included 64.33% girls and 35.67% boys.

### **2-4. Ethical considerations**

This article is the result of the student's dissertation in the general psychology of the Islamic Azad University of Shiraz and has the code of ethics IR.IAU.SHIRAZ.REC.1399.019 from the Ethics Committee of the Islamic Azad University of Shiraz. The objectives of the research and the need for its implementation were explained to the officials. Confidentiality of all information obtained from the participants was guaranteed and for this purpose, their names are not mentioned. The results of this research will be provided to the officials in the research units if they wish. Other ethical considerations included the informed consent and voluntary participation of the subjects in the research, the right to withdraw from the research, non-disclosure of information, privacy, confidentiality, and avoidance of harm and avoidance of discrimination.

### **2-5. Inclusion and exclusion criteria**

The inclusion criterion was being a senior high school student, and studying in a governmental high school. Students not being inclined to respond to the questionnaires or not having responded to all of the 3 questionnaires were excluded.

### **2-6. Data Analyses**

In this study, descriptive statistics, tables, and graphs were used to express the observations, the frequencies and distributions. An assessment of the normality of data is a prerequisite for many statistical tests because normal data is an underlying assumption in parametric testing. The Kolmogorov – Smirnov test (including statistical tests) was used to assess normality. To analyze the data and

hypotheses, and to compare the measured factors among the students, Chi-square tests, Pearson correlation coefficient, and hierarchical regression at the significant level of 0.05 were used by SPSS software version 22.

### 3- RESULTS

The demographic data analysis showed that 162 (49.40 percent) of the students in the study group were female and (48.46 percent) male. Other demographic characteristics can be seen in **Table 3**.

**Table-3:** Frequency of gender and cyberspace usage time among the students, n=300

Variables		Frequency	Percent
Gender	Boy	107	35.7%
	Girl	193	64.3%
Frequency of cyberspace usage time	Lower than 2 hours	Boy	47.7%
		Girl	44.6%
	Higher than 2 hours	Boy	52.3%
		Girl	55.4%

The results of investigating the students' cyberspace usage time showed that 45.7% of the total number of students, including 44.6 girls and 47.7 boys, use cyberspace for less than two hours. The results also showed that the difference between the

two genders' duration of cyberspace use was not statistically significant and the duration of use was almost the same in both genders ( $P > 0.05$ ). The degrees of internalizing the symptoms are presented in **Table 4**, below.

**Table-4:** Frequency of SDQ mean scores in the two genders

SDQ	Boy	Girl
Normal	12(11.2%)	24(12.4%)
Border	6(5.6%)	23(12%)
Abnormal	89(83.2%)	146(75.6%)
Total	107	193
Compassion	Boy	Girl
Low	0	0
Medium	104(97.2%)	187(96.9%)
Up	3(2.8%)	6(3.1%)
Total	107	193

Investigating the degree of internalization of pathological symptoms, it was revealed that 75.6 girls and 83.2 boys have abnormal levels of internalization of pathological symptoms (**Table 4**). However, the degrees of internalizing the symptoms are not significantly different between the two genders ( $P > 0.05$ ). Regarding the results of self-compassion, as it is shown in **Table 4**, 96.9 girls and

97.2 boys have average self-compassion. Also, the two genders were not significantly different in self-compassion ( $P > 0.05$ ). The moderating effect of self-compassion is also investigated through the hierarchical regression, shown in **Table 5**, below.

The results presented in **Table 5** show that the effect of self-compassion interaction in

the second stage is significant at the alpha level of 0.05 and the score of self-compassion has a moderating effect on the relationship between the use of visual social media and internalization of symptoms. These results mean that the intensity of the relationship between internalizing the symptoms and the time duration of using visual media varies at different levels of the total self-compassion score. Therefore, according to the results, it can be stated that the self-

compassion modulator has reduced the intensity of the relationship between the use of visual media and internalization of pathological symptoms, since as shown in **Table 5**, self-compassion ( $\beta = 0.296$ ) can predict 0.088 of the variance of the criterion variable, i.e., internalization of pathological symptoms in adolescents; and can positively predict the internalization of pathological symptoms in adolescents at a significant level of 0.01.

**Table-5:** Results of the hierarchical regression examining the moderating effect of self-compassion

stage	Predictor Variables	B	Standard Error	$\beta$	T	P-value	Summary of model	
1	Fixed	7.871	3.212	-	2.451	0.015	F=28.647 df=2 P $\leq$ 0.001	R=0.296 R <sup>2</sup> =0.088
	Visual media	0.451	0.087	0.328	6.517	0.000	-	-
	Self-compassion	0.234	0.044	0.296	5.352	0.000	-	-
2	Fixed	5.482	4.287	-	1.748	0.000	F=20.419 Df=3 P $\leq$ 0.001	R=0.311 R <sup>2</sup> =0.097
	Visual media	0.419	0.09	0.288	4.254	0.028	-	-
	Visual media* Self-compassion	0.061	0.358	0.089	2.547	0.017	-	-

#### 4- DISCUSSION

The aim of this study was to investigate the moderating role of self-compassion in the relationship between the use of visual media and internalization of pathological symptoms among male and female adolescents. The results showed that the effect of self-compassion interaction in the second stage was significant at the alpha level of 0.05 and the score of self-compassion had a moderating effect on the relationship between the use of visual social media and internalization of pathological symptoms. These results confirm that the intensity of the relationship between internalizing symptoms and the use of social visual media varies at different levels of total self-compassion score.

Research has shown that self-compassion is always positively associated with positive emotions, well-being, life satisfaction and social relationships (4-6). It is also negatively associated with depression, anxiety, rumination, and maladaptive perfectionism, procrastination, and avoidance strategies (19). Evidence suggests that self-compassionate people have better mental health (16). MacBeth and Gumley (2012) performed a meta-analysis of the relationship between self-compassion and psychopathology, which showed strong and repetitive results from the relationship between high self-compassion and low levels of mental disorders, and conversely, low self-compassion was associated with high levels of psychological trauma (20).

In fact, a high level of affection is like a blow to the symptoms of a mental disorder, and also a low level of psychological damage and distress facilitates the attitude of affection towards oneself (4, 5). Based on the findings of Leary et al. (2007), one's self-compassion when s/he faces real negative events, recalls past negative events, or imagines negative events leads to lower levels of negative emotions and facilitates her/his ability to cope with negative emotions. People with high self-esteem are more likely to accept their role and responsibility in negative events, but are less likely to chew on negative events and, as a result, experience less negative emotions in the face of their mistakes (21).

The result of the present study indicating the moderating effect of self-compassion in the relationship between the use of social visual media and the internalization of pathological symptoms is consistent with the findings of other studies in this field (6-8).

In fact, self-compassion can be considered as an emotion regulation strategy that does not prevent the experience of annoying and unpleasant emotions, but tries to accept emotions in a kind way, so negative emotions change into positive emotions and the person finds new ways to deal with them (22). People who have been deprived of attachment and affection have been under different threats; generally, react with shame and self-destruction in the face of emotional sufferings. Shame, embarrassment and self-criticism or self-blame are at the core of many mental disorders. They stop their ability to heal and manage emotion. Managing negative emotions requires a sense of calmness, social interaction, and emotional support. The self-compassion approach is an integrated, multidimensional approach that has emerged from the evolution of social psychology, developmentalism, the Buddhist school, and the neuroscience

process. One of its key principles is the use of "training for compassionate attention and thinking", which is possible through the effort and development of loving, healthy and calm experiences through self-compassion (16). As Gilbert (2005) states, compassion helps to activate one's self-relief system (which is physiologically related to the parental care system) and thus reduces negative emotions and withdrawal in individuals (23). Saeedi et al. (2012), in a study showed that inculcating compassion to self, compared to inculcating self-worth, can be more effective in reducing the negative emotions aroused after recalling the experience of error (feelings of shame, guilt and other unpleasant emotions (24).

#### **4-1. Study Limitations**

This research faced some limitations in regard to the personal distribution of the questionnaires, due to the epidemic outbreak of Corona Covid virus 19 and the closure of all schools. The researcher thinks that the anxiety caused by the epidemic of the disease and also the lack of supervision of the examiner may have been effective in answering the questions. There may be inaccuracies and dishonesty in answering the questions, due to the use of self-report tools (questionnaires) from which it is less possible to deduce reasoned results than from other tools. This research can be examined in larger samples and in different age groups. Other variables such as cultural role can also be explored in the manner and effect of media use. And it can be re-examined in the normal conditions of society and the absence of epidemic diseases.

#### **5- CONCLUSION**

Self-pity and concern for body image play a significant moderating role in the relationship between visual media use and pathology internalization. Therefore, self-compassion, as a positive emotion that one has towards oneself, prevents the negative

consequences of self-judgment, isolation, and rumination, which all can cause and internalize serious psychological damages. It should be noted that self-compassion is different from self-pity, in which the individual has a wide range of concerns and sufferings. Compassion is a structure in which people do not avoid or suppress their painful feelings, but have a compassionate attitude towards themselves, while being aware of their painful thoughts. The compassionately aware and conscious person realizes that unhappiness, failure and shortcomings are part of the general characteristic of all human beings and he is one of them. He concludes that kindness and compassion are valuable, so he can better provide the healthy emotion he needs without any fear of condemnation, and this gives the person the opportunity to better understand himself and correct his thoughts, emotions and maladaptive behaviors.

Due to the fact that the currently common improper use of visual media can cause pathological symptoms and their internalization, there is a paramount importance for investigating and enhancing variables such as self-compassion which can act as a barrier to prevent mental disorders.

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