

# Prediction of Social Comparison Based on Perfectionism, Self-Concept Clarity, and Self-Esteem

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## Abstract

**Background:** Eating and body image disorders are 2 of the most debilitating clinical problems among female adolescents and young females. One of the strongest factors contributing to body dissatisfaction and eating pathology is social comparison.

**Objectives:** The current study aimed at determining the relationship between perfectionism, self-concept clarity, and self-esteem and the share of prediction of each in social comparison.

**Methods:** The current cross sectional study included all female high school students in Tehran in the 2014 - 2015 academic year. Of these, 477 females were selected by multistage cluster sampling.

**Results:** The results of the correlation matrix was indicative of a significant negative relationship between self-esteem and self-concept clarity with social comparison ( $P < 0.000$ ). There was a significant positive relationship between perfectionism and social comparison ( $P < 0.000$ ). The results of stepwise regression revealed that self-concept clarity predicted 17% of social comparison variance. By including the variables of perfectionism and self-esteem, the coefficients of determination increased significantly up to 24% and 26%, respectively. Self-esteem and self-concept clarity were significant negative predictors ( $P < 0.000$ ), while perfectionism was a significant positive predictor ( $P < 0.000$ ) of social comparison. Beta coefficients indicated that among the predictive variables, self-concept clarity, and self-esteem were able to predict social comparison more than perfectionism ( $\beta = -0.28$ ,  $\beta = 0.27$ , and  $\beta = -0.18$ , respectively).

**Conclusions:** Targeting individual differences that make people vulnerable to social comparison not only contributes to understanding the development of eating problems and body image, but also has implications for prevention and treatment.

**Keywords:** Perfectionism, Self-Concept Clarity, Self-Esteem, Social Comparison

## 1. Background

Eating and body image disorders are 2 of the most debilitating clinical problems among female adolescents and young females (1). Much research is devoted to identifying factors involved in the development and continuation of these disorders. One of the strongest factors contributing to body dissatisfaction and eating pathology is social comparison. Social comparison is a process of thinking about oneself in relation to others and is employed to evaluate an individual's opinions and abilities as well as his/her place in society (2-4).

Festinger (5) stated that people make subjective comparisons with other people in the absence of concrete information about the norms and standards of beauty and that the purpose of these comparisons is accurate self-assessment (6, 7). Advances in social comparison theory suggest that subjective social comparisons are done even when objective data are available (8). In fact, social expectations are learned through social comparison (9). When a teenage female makes social comparisons, she

most likely compares her appearance with those of others. This comparison is often based on weight, size, or body shape, on the appearance of parts of the body such as the lower extremities, or general physical attractiveness. Meta-analysis indicates that when a teenage female compares herself with leaner individuals, her degree of dissatisfaction about her body increases (2-4). Stormer and Thompson (10) stated that the frequency of social comparison can be predictive of body image dissatisfaction, the desire to be thin, and eating disorders in females. The relationship between social comparison, body dissatisfaction, and eating disorders has been demonstrated in several studies (11, 12).

Social comparison theory (5) states that people are more likely to select a comparison objective among friends, peers, or family members who are physically and socially similar to themselves. This is true for body image as well. Body dissatisfaction increases when the goal of comparison is unattainable (13). Researchers found that body dissatisfaction is associated with the frequency of social comparison. For instance, people with higher levels

of body dissatisfaction conduct social comparison twice as much as those with less body dissatisfaction (2).

As noted, social comparison is a major factor in the development of body image and eating disorders; yet, it is important to note that not all people compare their appearances with those of the others to the same degree. Understanding the intrapersonal factors that deter an individual from social comparison or make an individual vulnerable to social comparison is important. This knowledge is the defining point that makes the present study distinct from previous research.

Socio-cultural models of morbid eating to increase self-esteem are pinpointed as determinants of social comparison (14-16). Self-esteem has a rich history in the theories of eating disorders and in other areas of pathology (17) and it represents an individual's sense of self-worth (18). Low self-esteem means that a person has a low feeling of self-worth (19). Self-esteem also affects social comparison orientation (20). People with high self-esteem usually compare themselves with the ones with low self-esteem to maintain their high self-esteem. In contrast, people with low self-esteem compare themselves with the ones higher than themselves and admire them (21). Self-concept clarity is associated with a support or risk factor of social comparison (22, 23). It refers to how content an individual feels about his/her self-concept (perceived personal characteristics), how it is defined and coordinated, and whether or not it is stable (24). The relationship between self-concept clarity and social comparison is demonstrated by Vartanian and Dee (25). A person with lower self-concept clarity is further influenced by external forces. Perhaps those who do not have a clear sense of themselves struggle to define themselves (25). Perfectionism is a variable associated with social comparison (26, 27). A perfectionist ordains very high, extreme, and unrealistic standards of expectation and targets for himself/herself (28). A perfectionist maintains high standards for performance in various spheres of life. The effort by a perfectionist to achieve an ideal body inevitably leads to social comparison through the need for validation of achievements. This provides the necessary information about his/her level of performance and is something that a perfectionist strongly requires (29).

## 2. Objectives

The current study aimed at investigating the relationship between perfectionism, self-concept clarity, and self-esteem and social comparison to determine the predictive role of each one.

## 3. Methods

The current cross sectional study included all female high school students in Tehran in the academic year 2014 - 2015. According to the number of cases in Morgan table, 388 and with calculating attrition rate, 500 females were considered as the sample size. A total of 500 female adolescents were selected using multistage cluster sampling. The schools of Tehran were geographically divided into 5 regions and in each region one educational district was randomly selected (district 1 in North, district 18 in South, district 6 in center, district 8 in East, and district 9 in West of Tehran) and in each of the 5 educational districts one high school was randomly selected and finally in each of the 5 high schools nearly 100 students were selected. Out of 500 collected questionnaires, 23 were excluded due to incomplete information and finally 477 were analyzed. The study goals were explained to the selected high school students and, then, questionnaires were distributed among them. Inclusion criteria were willingness to participate in the study and being minimum 15 and maximum 17 years old, as the study focused on high school students. Exclusion criteria were a history of mental acute or chronic disease, unwillingness to participate, and disability in perception of the questions. According to exclusion criteria, no one was excluded from the study.

### 3.1. Self-Concept Clarity Scale

It is a questionnaire that measures the stability and consistency of individuals' self-beliefs. It includes 12 items in a 5-point rating Likert scale from strongly disagree (1) to strongly agree (5); for items 6 and 11: strongly disagree (1) to strongly agree (5), for items 1, 2, 3, 4, 5, 7, 8, 9, 10, and 12 (with reversed valence): strongly disagree (5) to strongly agree (1). Therein, as the respondents achieve higher scores, they possess better self-concept clarity. Validity and reliability of the questionnaire is confirmed by multiple studies (17, 24). Vartanian and Dey (25) reported Cronbach's alpha of the questionnaire 0.87. Exploratory factor analyses of APPS demonstrated 2-dimensional constructs for adolescent participants (internal consistency and temporal stability) (30). Initially, this instrument was translated into Persian. Next, it was rendered back into English and 3 experts reviewed the outcome in comparison to the original version. Then, the validity of the questionnaire was assessed through content, and construct validity. In the current study, factor analysis confirmed 2 factor structures of the SCCS. Items 6, 7, 11, and 12 did not load on any factors and were deleted. Cronbach's alpha of the total scale was 0.74 in the current study.

### 3.2. Appearance Perfectionism Scale

It is a 10-item questionnaire that measures peoples' desire for high standards of physical appearance. Items could be answered in a 7-point rating Likert scale from strongly disagree (1) to strongly agree (7); therein, as the respondents achieve higher scores, they sustain higher levels of perfectionism. Srivastava (31) investigated the technical aspects of APPS, and proved that the questionnaire had great level of validity and reliability. Exploratory factor analyses demonstrated 1-dimensional construct, and cross sectional results demonstrated the convergent validity of APPS (31). Appearance perfectionism scale was first translated into Persian and then rendered back into English. Next, 3 experts assessed the outcome as compared to the original one. The current study, confirmed factor structure of the APPS and Cronbach's alpha of the total scale was 0.94.

### 3.3. Rosenberg Self-Esteem Scale

Rosenberg self-esteem scale (RSES) was employed to evaluate self-esteem. Incorporating 10 items of the global statements, internal consistency, reliability, and the factor structure of the RSES are psychometrically sound across many languages and cultures (32). The mean reliability across 53 nations is considerable ( $\alpha = 0.81$ ). It provides evidence that self-esteem is a commonly measurable human trait (32). Scores were calculated as follows: For items 1, 2, 4, 6, and 7: strongly agree = 3, agree = 2, disagree = 1, and strongly disagree = 0; for items 3, 5, 8, 9, and 10 (with reversed valence): strongly agree = 0, agree = 1, disagree = 2, and strongly disagree = 3. The scale ranged from 0 to 30. The Persian psychometric properties of this questionnaire were found acceptable (33). In the current study, a Cronbach's alpha of 0.8 was estimated.

### 3.4. Physical Appearance Comparison Scale

This questionnaire is a 5-item instrument based on Likert scale with acceptable validity and reliability to assess body image (34). Brien et al., (35) reported Cronbach's alpha of the questionnaire 0.78. This 1-dimensional scale measures the frequency that one compares his/her physical appearance with those of others in different places. Answers are scored from 0 to 5 representing never to always. Reliability and validity of this questionnaire in Iran were examined by Garrusi (36). Internal consistency was assessed by Chronbach's alpha coefficient as 0.72. In item-scale correlation, the alpha level was reduced by excluding any of the items 1, 2, 3, or 5 in the correlation between items and the scale. Nevertheless, an enhanced level of 0.72 to 0.84 was resulted from excluding item 4. Moreover, no significant correlation was observed between item 4 and the

scale to overlap after correction. Therefore, item 4 should be excluded. Factor analysis was done for the final check. Consequently, PACS final analysis, PACS4, was performed using the 4 items of 1, 2, 3, and 5. The validity of this questionnaire in Persian was acceptable (36). In the current study, a Cronbach's alpha of 0.84 was estimated.

### 3.5. Statistical Analysis

The SPSS software version 18 was used for statistical analysis. Pearson's correlation coefficient and stepwise regression were conducted. The missing data points were replaced using expectation maximization (EM) method. In all of the analyses, the normalizing of the data distribution was evaluated using the skewness and kurtosis coefficients. For skewness, absolute values  $> 3$  (37), and for the kurtosis, absolute values  $> 10$  were used (38). The data were analyzed using descriptive statistics (mean  $\pm$  standard deviation), inferential statistics (Pearson's correlation coefficient), and multiple regression.

### 3.6. Ethical Considerations

The study protocol was approved by the Vice-Chancellor of Research, the Ethics Committee of Shahid Beheshti University, and the Iranian Ministry of Education (code: 36.102, May 2014). All participants gave their oral consents for interview. The information of the participants was kept confidential.

## 4. Results

Table 1 shows the frequency distribution of the respondents by school district and grade. Table 2 lists the descriptive indices of the research variables. The means of the predictor variables of self-esteem, perfectionism, self-concept clarity, and social comparison were 1.99, 5.83, 3.01, and 2.87, respectively. Results of the correlation matrix indicated a significant negative relationship between self-esteem and self-concept clarity, and social comparison ( $P < 0.000$ ). The relationship between perfectionism and social comparison was significantly positive ( $P < 0.000$ ) (Table 3).

Stepwise regression was employed to investigate the contribution of each study variable to predict internalization. The results indicated that the variable of perfectionism forecasts 17% of variance in social comparison. The addition of self-concept clarity and self-esteem variables significantly increased the coefficients of determination to 24% and 26%, respectively. Self-esteem ( $P < 0.000$ ) and self-concept clarity ( $P < 0.000$ ) were significant negative predictors and perfectionism ( $P < 0.000$ ) was a significant

**Table 1.** Frequency Distribution of Participants According to School, District, and Grade

Type of School	Gender	District	Number
State high school	female	1	108
		6	73
		8	100
		9	101
		18	95
		<b>Grade</b>	<b>Number</b>
		1	246
		2	135
		3	96

**Table 3.** Correlation Matrices of Self-esteem, Perfectionism of Appearance, and Self-concept Clarity for Social Comparison

Variables	Social Comparison	Significance
Self-esteem	-0.34	0.000
Perfectionism	0.3	0.000
Self-concept clarity	-0.42	0.000

positive predictor of social comparison. The beta coefficients showed that among the predictive variables, self-concept clarity ( $\beta = -0.28$ ) had better ability to predict social comparison than perfectionism ( $\beta = 0.27$ ) and self-esteem ( $\beta = -0.18$ ) (Table 4).

### 5. Discussion

The results showed a significant negative relationship between self-esteem and social comparison ( $P < 0.000$ ), ie, social comparison increased as self-esteem decreased and vice versa. This finding was consistent with those of Campbell (14), Wood et al. (15), and Van den Berg et al. (16). People with low self-esteem, have little respect for themselves, and have no clear internal standards to rate their social comparison performance (39). It can be inferred that individuals with low self-esteem are more likely to engage in social comparison. By contrast, people with high self-esteem see themselves as being better than others (20), thus, compare themselves less often with friends.

The findings also suggested a significant negative relationship between social comparison and self-concept clarity ( $P < 0.000$ ); ie, social comparison increases as self-concept clarity decreases and vice versa. This is in agreement with the findings of Vataranian and Dee (25). A possible explanation of this finding is that people with low self-concept clarity may seek for external sources to define themselves, as they lack a clear sense of identity and are vulnerable to external sources. Those with high self-concept clarity are less affected by external sources (25)

and, as a result, engage in social comparison to a lesser extent.

The results indicated a significant positive relationship between perfectionism and social comparison ( $P < 0.000$ ); ie, social comparison increased as perfectionism decreased and vice versa. This finding was in line with those of Van den Berg (16, 26). One explanation for this result is related to socio-cultural and competition theory among females within the evolutionary theory. Evolutionary theory states that the mean age of marriage among females has risen steadily since 1960 for economic, cultural, and psychological reasons (40). This increase in the age of females at marriage increases competition for the right partner (41). Under such conditions, marriage is considered success, which implies that this opportunity is not available to all females and that more beautiful females are more likely to get married. As a result, the affected females feel they are participants in a beauty competition (41) and the probability of social comparison increases.

It can be argued that the more females appear to engage in perfectionism, the more they internalize thinness as an ideal of beauty. Socio-cultural theory, by contrast, states that the media engage in propaganda for the popularity of thinness (42) equating it with attractiveness, happiness, success, and social status. At the same time, they associate obesity with negative implications such as laziness, ugliness, and imperfection (43). When perfectionists believe that they should have full functionality, but they perceive their performance to be less than perfect, it will cause dissatisfaction (44). It is, thus, more likely that perfectionists engage in social comparison (45). The results of stepwise regression revealed that self-concept clarity predicts social comparison better than perfectionism and self-esteem. It represents a departure from the findings of earlier studies. A possible explanation for this finding according to the Festinger theory of social comparison (5) is that those who compare themselves with others are uncertain about their own opinions and abilities, especially when there are few objective standards. In fact, such people are able to understand their place in society through social comparison. Campbell (24) asserted that having low self-concept clarity means having low confidence about the content of one's own self-concept. It can be argued that in the absence of objective standards of physical attractiveness, people with low self-concept clarity are further encouraged to compare their bodies with the bodies of those around them and use the socio-cultural ideals of physical appearance as a measurement unit, especially the adolescents who comprised the current study community. Teenagers should still gain confidence about their identities (46). They want their appearances to be accepted by others (47), and thus, pay more attention to social compar-

**Table 4.** Results of Stepwise Regression to Predict Social Comparison

Step	Variable	R	R <sup>2</sup>	F (P Value)	B	SE	Beta	t	P Value
Step 1	Self-concept clarity	0.42	0.17	100.05 (0.000)	-0.71	-0.72	-0.42	-10	0.000
Step 2	Self-concept clarity	0.49	0.24	73.59 (0.000)	-0.69	0.07	-.39	-9.60	0.000
	Perfectionism				0.24	0.04	0.25	6.25	0.000
Step 3	Self-concept clarity	0.51	0.26	55.49 (0.000)	-0.48	0.08	-0.28	-5.88	0.000
	Perfectionism				0.25	0.04	0.27	6.68	0.000
	Self-esteem				-0.40	0.1	-0.18	-3.87	0.000

ison.

### 5.1. Conclusion

Taking individual differences into consideration is one of the strengths of the current study. Targeting individual differences that make people vulnerable to social comparisons contributes to an understanding of the development of eating disorders and body image and suggests avenues for prevention and treatment. From the viewpoint of prevention, these differences can be prognostic. Stice and Shaw (48) improved their results by targeting prevention programs of vulnerable or high-risk populations. The determination of risk factors is useful to identify those who will most likely benefit from prevention programs.

In terms of intervention, it is useful to focus on the risk factors as a means of reducing social comparison. The weak points of the current study were that the sample group contained only female adolescents; thus, generalizing the results to all sectors should be done with caution. In addition, causative results should not be expected from the current study, since it was of a correlational type. Therefore, to develop a more decisive stance, further research with more diverse sample populations seems necessary. It is suggested to pay greater attention to this issue in future research and to the assessment of the role of predictor variables in decreasing social comparison in the form of empirical analysis. Expansion of the depth of the findings of the current research is recommended by considering other individuals and the social variables involved.

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### Footnote

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Table 2. Descriptive Indicators of Study Variables

General Factor	Mean	Standard Deviation	P Value
<b>Social comparison</b>	2.87	1.17	0.055
<b>Grade</b>			
1	2.85	1.13	0.007
2	3.04	1.67	
3	2.66	1.25	
<b>District</b>			
1	2.82	1.08	
6	2.60	1.30	
8	3.01	1.1	
9	2.69	1.20	
18	3.17	1.13	
<b>Self-esteem</b>	1.99	0.54	0.073
<b>Grade</b>			
1	2	0.57	
2	1.9	0.49	
3	2.06	0.54	
<b>District</b>			
1	1.95	0.57	0.556
6	2.04	0.51	
8	1.99	0.41	
9	2.01	0.47	
18	1.92	0.57	
	1.98	0.54	
<b>Perfectionism</b>	5.83	1.21	0.385
<b>Grade</b>			
1	5.82	1.19	0.554
2	5.92	1.23	
3	5.69	1.28	
<b>District</b>			
1	5.71	1.21	
6	5.96	1.26	
8	5.84	1.2	
9	5.75	1.17	
18	5.93	1.23	
<b>Self-concept clarity</b>	3.01	0.68	0.142
<b>Grade</b>			
1	3.04	0.71	
2	2.92	0.65	

3	3.09	0.66	
<b>District</b>			
1	3.01	0.69	0.012
6	3.23	0.76	
8	3.04	0.6	
9	2.97	.70	
18	2.86	0.63	