

## The Role of Sources of Self-knowledge in Predicting Social Anxiety among Adolescents with Physical-Motor Disabilities

Hiwa Saleh Manige<sup>1\*</sup>, Seyyed Jalal Younesi<sup>1</sup>, Farshad Zarei<sup>2</sup>, Dana Mohammad-Aminzadeh<sup>3</sup> and Somaye Barekati<sup>1</sup>

<sup>1</sup>Department of Counseling, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran

<sup>2</sup>Department of Counseling, Kharazmi University, Tehran, Iran

<sup>3</sup>Department of Counseling, Faculty of Psychology and Education, Allameh Tabataba'i University, Tehran, Iran

\*Corresponding author: Hiwa Saleh Manige, Department of Counseling, University of Social Welfare and Rehabilitation Sciences, Tehran, Iran, Tel: 0989364919451; E-mail: hivasalehi69@gmail.com

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### Abstract

One of the most important psychological conditions influenced by social changes is social anxiety disorder. Lack of balance in the sources of self-knowledge is considered to be a significant factor in development of social anxiety among adolescents with physical-motor disabilities. We aimed in this study to examine the importance of utilizing the sources of self-knowledge by adolescents with physical-motor disabilities and its relationship with social anxiety disorder among this population; therefore, the goal of the present study was to explore the role of sources of self-knowledge in predicting social anxiety among adolescents with physical-motor disabilities. This was a descriptive-correlational study. The statistical population included all middle and high school students with physical-motor disabilities in the school year 2016-2017. All the students in this population (n=126; 68 boys, 58 girls) were selected as the study sample. The Results indicated that Equality of variances ( $P \geq 0.05$ ) and normality presumptions were established by the results of Levene's test and Shapiro Wilk test, respectively ( $P \geq 0.05$ ), therefore, parametric tests were used, and given that a correlational and prediction design was used, Pearson's correlation coefficient and multiple regression analysis using the Enter method, were used to analyze the data. According to Pearson's correlation results, self-observation, social feedback, and social comparison were positively correlated with social anxiety in adolescents with physical-motor disabilities. In addition, the regression analysis to predict social anxiety based on the sources of self-knowledge indicated that self-observation and social comparison were significant predictors of social anxiety in adolescents with physical-motor disabilities, however, social feedback was not a significant predictor. Identifying the sources of self-knowledge underlying social anxiety is an important approach that can be used by consultants and psychologists trying to improve the mental health of adolescents with physical-motor disabilities.

**Keywords:** Sources of self-knowledge; Social anxiety, Adolescents; Physical-motor disabilities

### Introduction

In psychology, "Self" is regarded as a construct that integrates motivation, cognition, affect, and social identity [1] and coordinates our experiences and reactions [2]. It can be defined as a mental state that allows us to think about ourselves consciously and purposefully [3]. Self sometimes underlies various mental problems through consciousness [4] that can prevent us from developing proper self-knowledge. Self-knowledge refers to correct understanding of one's thoughts, feelings, and behaviors, and the way these patterns are interpreted by the person [5]. According to Wordnik [6], self-knowledge is defined as knowledge of one's nature, abilities, and limitations, and also self-insight [7]. By reviewing numerous studies conducted on self, Shonman (1981 and 1984) identified three constructs as the main sources of self-knowledge: 1) self-observation, 2) social comparison, and 3) social feedback. This psychologist believes that utilizing each of the sources of self-knowledge is based on the requirements of different stages of psychological development. In fact, social comparison starts at an early age, and small children compare themselves with their peers [8]. At older ages (above 6 years), children

utilize more social feedback, and by the beginning of adolescence, utilization of self-observation reaches the highest level [9].

Self can be shaped and influenced by the social feedback people receive about their actions, beliefs, and behaviors, and this feedback can provide an opportunity for them to improve their abilities [10]. Feedback is a potential source of self-knowledge and willingness to listen that many people lack [11]. Receiving negative social feedback is an upsetting experience that can lead to depression and anxiety [12]. People often receive feedback on their personality, incorporate that into their self-concept, and react to other people according to that information [13].

Self-observation involves gathering information on personal activities, physical attributes, and life experiences [14]. Through self-regulation, self-observation can control our thoughts and emotions and our overall cognition; and using self-observation, we can become aware of our feelings and emotions, and make important changes in our thoughts and feelings [15]. Freud recognized self-observation as an important component of free association that could facilitate psychoanalysis and help patients access their subconscious mind [16].

Bandura also considers self-observation as an important factor in self-regulation that helps people pay attention to their performance in social and ethical situations [17]. Self-observation can improve self-efficacy and learning [18].

Social comparison is an essential psychological process in everyday life [19]. It involves comparison of self with other people in order to assess or improve some aspects of self [20]. Social comparison refers to cognitive judgments people make when comparing themselves with others; these judgments are used as a basis for self-evaluation, and are less dependent on objective outcomes [21]. Social comparison also negatively affect psychological wellbeing as an external source of control [22], and has been linked with high-risk behaviors [23] and body image dissatisfaction [21,24]. There are individual differences in the use of sources of self-knowledge, and in the role that each source plays in obtaining self-knowledge; the level of mental health in both individual and social levels can be determined by these differences [25]. Mental disorder in both individual and social levels can arise from imbalance in the sources of self-knowledge, and the more imbalance in the sources of self-knowledge, the more likely that people experience mental health problems [26], including social anxiety. Social anxiety is defined as continuous fear of one or several situations in which one is concerned about being negatively evaluated by others or feeling embarrassed [27]. Social anxiety is highly prevalent among adolescents and the lifetime prevalence of social anxiety among adolescents has been reported to be 10% to 27% by different studies [22]. Adolescence is a stage of life in which self is shaped and deeply transformed [28], and an important aspect of development in this period is the growth of self-knowledge [7]. Adolescents not only go through multiple cognitive and sexual changes related to puberty, but also experience physical, appearance, and social changes influencing their mental health, and leading them to experience problems with self and self-knowledge [29]. People who have inflation in development of their external sources are highly vulnerable to experience social anxiety (social phobia-anxiety of talking in public) in social situations [30]. Social anxiety models emphasize on the protective role of self in this disorder, because higher social anxiety is related to less clarity in self-evaluation and more hesitation about self-judgment [31]. The cognitive model proposed by Clark and Wells shows that social anxiety is accompanied by increased self-focus and higher levels of monitoring one's activities in social situations. When attention is focused on self, negative images and events are seen more vividly, find more power to affect one's perspective about external observations, and may lead to increased fear of social situations [32]. According to cognitive models, this can be regarded as a result of imbalance in self-knowledge [33]. Those who experience social anxiety are highly focused on their anxiety-induced behaviors and bodily signs, and are very concerned about how they look to others [30]. In addition, self-observation and self-monitoring, as sources of self-knowledge, are commonly found in those with social anxiety [33].

A special group who often experience problems with self-knowledge is adolescents with physical-motor disabilities, whose self-concept is often influenced by their physical-motor disability [34]. Physical-motor disability is defined as an impairment leading to limitations in one or several major life activities [35]. It can also be defined as a category of disabilities making the patient unable to effectively use their limbs or part of them for at least 6 months [36]. According to WHO statistics, about 1 billion people throughout the world suffer from physical disability [37], more than half of which live in developing countries [36].

Adolescents with physical-motor disabilities often receive negative messages or reactions from their peers and internalize them and this leads them to believe that they are less valuable than others; in this way, not only disability limits their performance, but also negatively affects their self-concept [38]. In fact, distorted or negative images

from self-observation have an important role in the development and maintenance of social anxiety in people with physical-motor disabilities [33]. The important role of source of self-knowledge has been shown by many studies, for example, a previous study focused on the relationship of social feedback with self-esteem, anxiety, and phobia, found that while increased use of social feedback can lead to the improvement of self-esteem, especially its physical aspect, it can also increase anxiety and phobia, because those with disabilities often think that they are negatively evaluated by others and experience high levels of anxiety in social situations [39]. Excessive increase or decrease in each of the sources of self-knowledge including self-observation or imbalance between them, can lead to mental disorders such as depression, phobia, schizophrenia, alcoholism, and social anxiety [40].

Given the importance of balance between the sources of self-knowledge in creating a healthy personality [26] and the role that social anxiety plays in the mental health of adolescents with physical-motor disabilities, and considering that we were unable to find any study examining the three sources of self-knowledge in adolescents with physical-motor disabilities and the role of each in predicting social anxiety, the present study aims to help identify and understand the problems related to the mental health of adolescents with physical-motor disabilities, and to answer the question as to whether the sources of knowledge can predict social anxiety among this population?

## Method

This was a descriptive-correlational study. The statistical population included all middle and high school students with physical-motor disabilities in the school year 2016-2017 (n=126; 68 boys and 58 girls). We tried to recruit all the students in the schools. Most of those who were willing to take part in the study completed the questionnaires and were selected as the study samples. The sampling was performed in this way: The researchers went to each of the 6 special schools in Tehran (3 for boys and 3 for girls), entered classrooms one by one at the appointed times by the school principals, and recruited all the students without mental retardation or cognitive impairments, who were willing to participate in the study. The study data were analyzed using Pearson correlation coefficient and regression analysis. All the analyses were performed using SPSS software, version 23.

## Instruments

The Social Phobia Inventory (SPIN): This was developed by Connor et al. in order to assess social phobia. It has 17 items on 3 subscales: Fear (6 items), Avoidance (7 items), and Physiological problems (4 items). The score on each subscale can be calculated separately. Total score ranges from 0 to 68. Higher scores indicate more severe social anxiety. Total score is obtained by summing the scores on the three subscales. The psychometric properties of the SPIN in the Iranian population have been assessed by Saffarinia and Shahandeh [41]. They found a Cronbach's alpha of 0.86 for the scale.

## The sources of self-knowledge scale (SSKS)

Younesi et al. [42] developed and validated the SSKS in a sample of 800 men and women in Tehran. It has 30 items that are rated on a 4-point Likert-type scale ranging from 1 (Totally disagree) to 4 (Totally agree). The items ask about self-observation (1, 2, 6, 10, 12, 16, 24, 17, 27, and 29), social comparison (3, 7, 9, 13, 15, 18, 19, 21, 23, and 26), and social feedback (4, 5, 8, 11, 14, 20, 22, 25, 28, and 30). Analysis of

items 4, 5, 8, 11, 14, 20, 22, 25, 28, and 30 indicated good internal consistency of the SSKS, and a Cronbach's alpha of .86 was found for the scale without the need to remove any item due to low correlation with the total scale. In addition, a split half reliability estimate of .79 was found for two 15-item parts of the scale, confirming good internal consistency of the scale [43].

## Results

In this section, first, the descriptive data are presented, through which an overall picture of the participant's characteristics is presented, and then, the results of inferential statistics are provided.

In overall, 126 students were examined, among which 68 were boys and 58 were girls who were middle and high school students (mostly high school students). 40.5% of the participants were middle school students, 58.7% were high school students, and 0.8% were in the pre-university course. 52.4% of the participants were the first child in their family, 25.2% the second child, 10.3% the third child, 5.6% the fourth child, 4.8% the fifth child, and 0.8% the sixth child. Participants were in the age range of 14-21 years (mean=16.73, SD=1.58).

Variable	Number	Mean	SD
Self-observation	126	29.31	3.91
Social feedback	126	26.41	5.41
Social comparison	126	28.62	5.48
Social anxiety	126	31.07	16.15

**Table 1:** Mean and standard deviation of the study variables.

Table 1 shows the mean and standard deviation of the variables.

model	Non-standard coefficients	Standard deviation error	Standard coefficients	T	Sig
	B		Beta		
Fixed	25.256	3.468	-	7.282	0.001
Self-observation	1.026	0.480	0.76	2.15	0.02
Social feedback	1.31	0.66	0.94	2.92	0.08
Social comparison	1.75	0.65	0.42	3.01	0.001

**Table 4:** Interpretation of regression coefficients.

Table 4 shows the results of interpretation of regression coefficients. As shown in the table, self-observation and social comparison significantly predict social anxiety in students with physical-motor disabilities, and social feedback is not a significant predictor of social anxiety in students with physical-motor disabilities.

## Discussion

The present study was aimed at examining the role of sources of self-knowledge in predicting social anxiety among adolescents with physical-motor disabilities. The study results indicated that sources of self-knowledge were significantly related to social anxiety among adolescents with physical-motor disabilities. In addition, self-observation and social comparison could significantly predict social

Variable	1	2	3
Self-observation	1		
Social feedback	0.13	1	
Social comparison	0.11	0.14	1
Social anxiety	0.22	0.19	0.31

**Table 2:** Correlation matrix of the study variables.

Table 2 shows the correlations of the sources of self-knowledge (self-observation, social feedback, and social comparison) with social anxiety in students with physical-motor disabilities. As shown in the table, self-observation, social feedback, and social comparison are positively correlated with social anxiety in students with physical-motor disabilities ( $p < 0.001$ ).

Model	R	R <sup>2</sup>	Squared R corrected	The standard error	f	sig
	0.468	0.219	0.107	1.44	2.14	0.02

**Table 3:** Summary of regression model.

As shown in Table 3, the common variance of sources of self-knowledge (self-observation, social feedback, and social comparison) with social anxiety is 0.47. This means that the sources of self-knowledge predict 47% of the variance of social anxiety in students with physical-motor disabilities, and  $[F(3,121)=2014]$  and  $sig=0.02$  indicate the statistical significance of the regression model in the present study.

anxiety, but social feedback was not a significant predictor of social anxiety.

The study results regarding the role of self-observation in predicting social anxiety among adolescents with physical-motor disabilities are in line with those of Kehle et al. [43] and Ainley et al. [44]. Busch [45] has referred to self-observation as a capacity to reflect on a mental event, which gives one the ability to examine the thoughts and feelings within the mental event. Excessive self-observation can lead to excessive focus on self and personal performance in social situations; people may underestimate this problem, therefore, it can increase social anxiety in them. Research evidence shows that increased self-observation can lead to increased access to cognitive processes and sensitivity to internal states that in turn, can lead to self-evaluation when doing things [46] that is a characteristic of those with social

anxiety. For example, people with social anxiety disorder monitor their own behavior in terms of social and ethical standards in interpersonal situations, such as meeting with new people, and are afraid of being negatively evaluated or doing embarrassing things; excessive self-observation can exacerbate this tendency. Self-observation affects facial, emotional, and mental expressions, and makes people oversensitive to their own performance in social situations [47].

In the present study, no significant relationship was found between social feedback and social anxiety. This finding does not agree with those of Valentiner et al. [48] and findings of many other studies, including Antony et al. [49] and Cody and Teachman [50] who found significant associations between social feedback and social anxiety. In contrast with our finding, Nepon et al. [38] also showed the negative relationship of depression symptoms and social anxiety with social feedback.

Social feedback was not a significant predictor of social anxiety. This can be explained by the fact that most people with social anxiety who have cognitive biases, negatively interpret social feedback, whether positive or negative. When anxious individuals receive negative feedback from others, try to distance themselves from the situation involving the negative feedback, therefore escaping from self-awareness and self-knowledge, for example by saying goodbye to friends or leaving the room [51].

Research has shown that negative social feedback is accompanied by social anxiety, however, it has been found in detailed analyses that social feedback is more related to social self-esteem [48]. In addition, given that the study sample consisted of adolescents with physical-motor disabilities, it is possible that they have ignored social feedback, because they are a special population who are used to their physical limitations, and do not pay much attention to social feedback, or do not see social feedback as related to their physical-motor disability, as a result, negative social feedback does not affect their social anxiety.

Regarding the impact of social comparison on anxiety and other mental problems, the findings of the present study are in line with those of Tiggemann and McGill [52] who showed that temperament and body image dissatisfaction were influenced by social comparison, and that social anxiety was a potential mechanism in increasing the range of social influence that is directly related to body image dissatisfaction. The study results are also consistent with the findings of Jones [20] who found the significant impact of social comparison on self-concept and body image.

Comparing yourself with those who are better than you can lead to dissatisfaction with self and body image [52], therefore reducing self-esteem [23]. Because people with disabilities often compare their physical features with those of persons without disabilities, this can lead to their disappointment and increase their worry about others' reactions. Activation of social comparison can be regarded as a reactive process starting with signs of considerable change in the body shape [52]. When persons with disabilities compare themselves with healthy people performing physical tasks with ease, such as walking or running, they may become reluctant to be around these people, and try to avoid those who remind them of their limitations. According to Miller [53] physical attractiveness is a prominent feature of social comparison and people often compare themselves with others in terms of appearance and physical attractiveness. Given that the study participants were adolescents with physical-motor disabilities, it is important to note that adolescence is a stage of life during which social comparison is a key part of socialization process, and adolescents often

compare themselves with their peers in terms of appearance, facial features, and personality traits, and may experience a considerable amount of pressure from their peers and the society [23]. The body image perception of adolescents, especially those with physical-motor disabilities, can be negatively affected by this pressure.

## Limitations and Suggestions

Limitations are always there, and conducting more research studies on this topic can help us gain a better understating of the condition of those with physical-motor disabilities. Some of the limitations of this study were as follows: 1) only self-report measures were used to gather data; these measures are prone to social desirability bias, and 2) the study sample only consisted of adolescents with physical-motor disabilities in special schools in Tehran; this can limit the generalizability of the results. According to the study results, it is suggested that future studies pay more attention to the role of self-observation, social comparison, and social feedback in explaining social anxiety among adolescents with physical-motor disabilities. This can help mental health professionals design effective interventions aimed at reducing social anxiety symptoms and better identify the role of the sources of self-knowledge in mental health.

## Conclusion

Considering the results of the present study regarding the significant role of sources of self-knowledge in predicting social anxiety among adolescents with physical-motor disabilities, more attention should be paid in educational settings to the three major sources of self-knowledge influencing social anxiety among adolescents with physical-motor disabilities, utilization of effective strategies aimed at balancing the three sources, and gaining a better understanding of the real self of adolescents with physical-motor disabilities that is severely influenced by their limitations. In teaching students with physical-motor disabilities, teachers must try, on the one hand, to increase students' self-knowledge skills, and on the other hand, to design strategies useful in improving their adjustment and problem-solving skills and reducing their social anxiety.

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