

## Self-Concept of University of Aden Students with Refractive Error Visiting Eye Clinic

Abeer A. Baabbad<sup>1</sup>, Safa M. Al-Ali<sup>2</sup>, Rawa A. Bawazir<sup>1</sup>

### Abstract

**Introduction:** This study aimed to investigate the level of self-concept among university students who suffer from refractive errors in Aden, and to explore the differences in the level of self-concept by different set of variables.

**Methods:** A cross sectional study was conducted using personal interview questionnaire with college students within the period August to December 2018. The total number of the participants was 110 (70 wearing glasses and 40 with no history of wearing glasses). The questionnaire consisted of 39 items distributed on six domains: family self-concept, social self-concept, physical self-concept, affect self-concept, academic self-concept and competence self-concept. Data were analyzed by SPSS and (ANOVA). The level of significance was considered at  $\alpha = 0.05$ .

**Results:** Out of 110 participants, 70 (42 males and 28 females) have refractive errors; myopia (22), hypermetropia (2) and astigmatism (46). Out of the total 70, mild degree of refractive errors was 81.4%. There was no statistically significant differences in self-concept between the participants with and without refractive errors and no statistically significant differences between males and females on the scale of general self-concept among those suffering from refractive errors. On the other hand, there were statistically significant differences in the level of self-concept attributed to the academic achievement level and the duration of wearing glasses.

**Conclusion:** Visual impairment due to refractive errors does not affect self-concept among university students.

**Keywords:** Refractive Errors, Wearing Glasses, Self-Esteem, College Students.

<sup>1</sup>Ophthalmology Unit, Department of Specialized Surgery, Faculty of Medicine and Health Sciences, University of Aden, Republic of Yemen.

<sup>2</sup>Counseling and special education Department, School of Educational Sciences, University of Jordan.

**Corresponding Author:** Abeer A. Baabbad

**Email:** [abeer\\_baabaad@yahoo.com](mailto:abeer_baabaad@yahoo.com)

## مفهوم الذات لدى طلبة جامعة عدن الذين يعانون من عيوب البصر الانكسارية ويتلقون العلاج في إحدى عيادات العيون الخاصة

عبير أحمد باعباد<sup>1</sup>، صفاء محمد العلي<sup>2</sup>، رواء عبدالله باوزير

### ملخص الدراسة

**المقدمة:** هدفت هذه الدراسة للكشف عن مستوى مفهوم الذات لدى طلبة جامعة عدن الذين يعانون من مشاكل في النظر نتيجة العيوب الانكسارية. كما هدفت الدراسة لتبيان الفروق في مستوى مفهوم الذات بحسب متغيرات متعددة.

**المنهجية:** أجريت هذه الدراسة المستعرضة على 70 طالب جامعي ممن يستخدمون النظارات الطبية و40 طالب ممن لا يستخدمون النظارات الطبية عن طريق تعبئة استبيان يتضمن 39 فقرة موزعة إلى خمسة أبعاد (مفهوم الذات العائلي، مفهوم الذات الاجتماعي، مفهوم الذات الجسمي، مفهوم الذات الشخصي، مفهوم الذات الأكاديمي، مفهوم الذات التنافسي)، وذلك في الفترة ما بين شهر اغسطس وديسمبر 2018.

**النتائج:** اجمالي عدد الطلاب 110 طالب. 70 طالب (42 ذكر، 28 أنثى) لديهم عيوب انكسارية (22 قصر نظر، 2 طول نظر، 46 لابؤرية). درجة العيوب الانكسارية كانت بسيطة بنسبة 81.4%. لم تظهر نتائج الدراسة فروقات ذات دلالة إحصائية في مستوى مفهوم الذات بين الطلاب اللذين يعانون من عيوب انكسارية واللذين لا يعانون منها. كما لم تكن هناك فروقات ذات دلالة إحصائية في مستوى مفهوم الذات بين الجنسين لدى الطلاب اللذين يعانون من عيوب انكسارية في حين أظهرت الدراسة فروقات ذات دلالة إحصائية في مستوى مفهوم الذات بين الطلاب ذوي العيوب الانكسارية حسب درجة التحصيل العلمي والمدة الزمنية لارتداء النظارة

**الاستنتاج:** ضعف النظر بسبب عيوب البصر الانكسارية لا يؤثر في مستوى مفهوم الذات لدى طلاب الجامعة.

**الكلمات المفتاحية:** العيوب الانكسارية، ارتداء النظارة، مفهوم الذات، طلاب الجامعة.

<sup>1</sup>وحدة طب وجراحة العيون قسم الجراحة التخصصية، كلية الطب والعلوم الصحية، جامعة عدن، الجمهورية اليمنية.

<sup>2</sup>قسم الإرشاد والتربية الخاصة، كلية العلوم التربوية، الجامعة الأردنية.

## Introduction

**S**elf-concept is a multidimensional psychological construct. It includes physical, social and emotional aspects, that refers to a collection of attitudes and beliefs about oneself [1]. The self-concept is related to many educational, psychological and social concepts, and is correlated positively with student motivation behavior. What students say for themselves determines how they will act, so the positive self-concept is linked to many positive educational, psychological as well as social outcomes [2].

The structure of self-concept consists of three elements that includes cognitive aspect, beliefs and opinions that the individual adopts about himself, whether it is true or false. Evaluation aspect in which the individual assesses his sufficiency and self-worth. Behavioral aspect that indicates the individuals' behavior according to their beliefs about themselves even if this perception does not match the reality [3].

Adolescents with sensory disabilities and other disabilities are more vulnerable to behavioral and emotional problems than typical adolescents, as a result of the obstacles they face in their daily lives, their dependence on others, and the impact of this on the cognitive mental image that these adolescents make about their level of attractiveness and level of adequacy [4].

Uncorrected refractive error is one of the most common causes of visual impairment and a significant cause of

blindness worldwide [5-9]. Refractive error is present when parallel rays of light entering the nonaccommodating eye do not focus on the retina. The visual effect is a blurred image [10]. In myopia, the light is focused in front of the retina. In hyperopia, the light is focused behind the retina. Astigmatism is caused by the differential focusing of light rays in different meridians [11]. It was reported that people with refractive error have difficulty doing physical, recreational, and day-to-day activities. On the other hand, refractive corrections generally reduced these limitations [12]. Refractive error can easily be corrected with glasses, contact lenses, or surgery [5].

This study aimed to investigate the level of self-concept among University of Aden students who suffer from refractive errors, and to explore the differences in the level of self-concept by different set of variables.

## Methods

A cross sectional study was conducted using personal interviews questionnaire with college students within the period August to December 2018. The total number of the participants was 110. Seventy participants were wearing glasses and 40 with no history of wearing glasses (have normal visual acuity and visited the eye clinic for checkup). The study was carried out in a private eye clinic in Aden-Yemen.

**Inclusion criteria:** All Yemeni college students, between 18-25 years old, who visited the private eye clinic during the study period were included in the study.

**Exclusion criteria:** students with other ocular and/or systemic diseases causing visual impairment were excluded.

The purpose of the study was explained to the participants. Data were collected after verbal consent obtained from the patients. Complete eye examination was performed for all patients. Visual Acuity (VA) and the best possible correction was determined using Snellen project and autorefractometer, the evaluation also included biomicroscopic examination of the anterior segment and dilated fundus examination by ophthalmologists. Types of refractive errors included in this study were myopia, hyperopia, and astigmatism. The degree of refractive errors was classified into mild ( $\leq -3D$ ), moderate ( $> -3D - 6D$ ), and high ( $> -6D$ ) for myopia [13], while degree of hyperopia was low ( $\leq +2D$ ), moderate ( $> +2D + 5D$ ), and high ( $> +5D$ ) [14]. Astigmatism ( $< 2D$ ) is mild, moderate between (2-4), and ( $> 4D$ ) is high [15].

The questionnaire included information about patients' backgrounds, subjectively stated achievement level (good, very good, excellent), and duration of wearing glasses (less than 1 year, 1-5 years, 6 years and more. Answers were in the format of selection and by choosing their best response from the questionnaire. However, type and degree of refractive errors of each patient were determined by the authors. The same questionnaire was given to the 40 participants without refractive error, except the part related to the history of wearing glasses.

### **Study Tool**

The researchers established the study tool after reviewing different measures in the field of self-concept, such as academic self-scale (ASCS), self-perception profile for college student, self-description questionnaire III (SDQIII), and multidimensional self-concept scale (MSCS) [16-21]. The tool is 5 Likert type scale (always =4, often =3, sometimes =2, rarely=1, never =0). The maximum score = 195 and the minimum score = 0. The final version of the study tool consisted of two main parts: the first part contains general information about the participants, and the second part contains 39 items distributed on six domains:

- family self-concept: 5 items
- social self-concept: 5 items
- physical self-concept: 4 items
- affect self-concept: 10 items
- academic self-concept: 9 items
- competence self-concept: 6 items

The researchers evaluated the scale validity by presenting it to ten psychology and education experts. They were asked their opinion about the suitability of the scale items for Yemeni culture and environment, the extent of correlation between the items and the domains, in addition to suggesting any modification if needed. Modifications recommended by more than 80% of the experts were done.

Scale reliability has been assessed by Test-Retest method with 30 university students of both genders was retested by re-fulfilling the study tool two weeks after the first test. Correlation coefficient was (0.76) with significance level (0.01) which is accepted for the reliability coefficient as seen in Table 1.

**Table (1): Scale Reliability**

Correlations	Tot 1	Tot2
Pearson Correlation	1	0.764**
<b>Tot 1</b> Sig. (2-tailed)		0.000
n	20	20
Pearson Correlation	0.764**	1
<b>Tot2</b> Sig. (2-tailed)	0.000	
n	20	20

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Reliability has been also assessed through calculation of coefficient of internal consistency of participants' responses, using Cronbach's alpha. It

was (0.909) with significance level (0.01).

### Statistical Analysis

Means, standard deviations, and t-test for the participants' responses on the self-concept scale were calculated.

## Results

Table 2 shows the distribution of the participants according to gender and the presence of refractive error.

**Table (2): Participants by Gender and the Presence of Refractive Error**

Gender	With Refractive Error		Without Refractive Error		Total	
	No.	%	No.	%	No.	%
Male	42	60	16	40	58	52.7
Female	28	40	24	60	52	47.3
Total	70	100	40	100	110	100

Table 3 shows the types and degree of refractive error. Among those,

suffering from refractive errors, 81.4% were of mild degree.

**Table (3): Types and Degree of Refractive Errors**

Degree \ Types	Mild		Moderate		Severe		Total	
	No.	%	No.	%	No.	%	No.	%
Myopia	17	24.3	3	4.3	2	2.9	22	31.4
Hypermetropia	1	1.4	1	1.4	0	0	2	2.9
Astigmatism	39	55.7	4	5.7	3	4.3	46	65.7
Total	57	81.4	8	11.4	5	7.2	70	100

Table (4) shows that there were no statistically significant differences in

self-concept due to the presence of refractive errors.

**Table (4): Differences in Self-Concept by the Presence of Refractive Errors**

Presence of Refractive Error	No.	General self-concept Means (SD)	p
No	40	3.3 (0.31)	0.755
Yes	70	3.3 (0.43)	

\*SD Standard Deviation

Table 5 shows no statistically significant differences between males and females on the scale of general self-concept among those suffering from refractive errors. However, it shows significant differences in the

level of self-concept according to the achievement level in favor of those with an excellent level; and duration of wearing glasses in favor for those having glasses for less than 1 year.

**Table 5:** Self-Concept Scale According to the Study Variables

Variables	No.	General self-concept Means (SD)	<i>p</i>
<b>Gender</b>			
Male	42	3.2 (0.44)	0.269
Female	28	3.4 (0.43)	
<b>Achievement level</b>			
Good	15	3.1(0.46)	0.000
Very good	46	3.3 (0.38)	
Excellent	9	3.8(0.24)	
<b>Duration of wearing glasses (years)</b>			
than less 1	23	3.5(0.44)	0.035
1-5	33	3.3 (0.38)	
6 and more	14	3.1(0.46)	

## Discussion

A review analysis by Datta in Australia (2014), found that there are several variations in the results of studies that have investigated the level of self-concept among individuals with visual impairment in which, some showed that the level of self-concept among individuals with visual impairment was higher than those of sighted individuals, while the results of other studies showed the opposite [2].

The current study showed that there were no statistically significant differences in the level of self-concept between students with refractive errors and those who have no refractive errors, which indicates that vision problems resulting from refractive errors do not affect the level of self-concept among university students in Aden. These results are

consistent with the reported theoretical trend that indicates the presence of two poles regarding self-concept of individuals with visual impairment [2,22].

The results of the current study are consistent with the results of other studies showed that there were no statistically significant differences in the level of self-concept between males and females who suffer from errors of visual refraction [22,23].

Some studies showed that students with high academic achievement have self-concept higher than those with low academic achievement [24-27]. Same finding was encountered in our study, which revealed a statistically significant difference in the level of self-concept due to the level of the academic achievement.

The results of the present study showed a statistically significant inverse relation between the level of self-concept and the duration of wearing glasses. The longer the duration of wearing glasses, the more negatively affected self-concept; this could be due to the result of increased exposure of the individual to the direct and indirect negative responses from others, and the obstacles they may face due to wearing glasses. In contrast to our result, an old study showed that self-concept of optometric patients was shown to be affected by when eyeglasses were first prescribed but not by the length of time they had been worn [28]. On the other hand, Dias *et al* (2013) indicated that individuals who chose to wear contact lenses after 5 years of eyeglasses use had higher self-concept compared to those who remained with eyeglasses [29]. Furthermore, Graham and Ritchie in UK (2019) searched about the effect of wearing glasses on the level of attractiveness [30].

The high self-concept -that is against reality- may indicate a defect in mental health [31]. Therefore, the realization of individuals to their visual defect and its cultural interaction may cause them to contradict this by overvaluing themselves on the self-concept scales. This interpretation is likely applicable to the present study due to the characteristics of the participants in the study; i.e., university students, and the level of academic achievement of the majority of them was within average; with the possibility that their awareness to the negative sentences of self-image is more than the awareness of the younger and less educated individuals. Therefore, their self-rating on the self-concept scale

could be in contrary to their real feelings. The other assumption is that the measured self-concept represents the real concept they have. This could be attributed to the characteristics of the study's participants, in which they have refractive error corrected with glasses, and the majority were in the mild level (81.4%). Hence, they are able to learn and move independently. This is clearly coinciding with studies indicated that the low self-concept is mostly due to the effect of visual disability on their lives, limited experiences, independence in mobility and their dependence on others and not because of the visual impairment per se [2,22,32,33].

### ***Limitation***

The limitation of the study is small sample size, and having the majority of participants with mild degrees of refractive errors and very good academic level.

### **Conclusion**

Visual impairment due to refractive errors does not affect self-concept among university students. While, there is direct proportional relation between the academic achievement level and the level of self-concept, the level of self-concept is inversely proportional to the duration of wearing glasses. More studies are needed to explore the real factors that affect the level of self-concept among adults with visual impairment.

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