

ORIGINAL ARTICLE

ASSOCIATION BETWEEN AND COMPARISON OF SELF-EFFICACY AND CURIOSITY AMONG VISUALLY IMPAIRED PATIENTS: A CROSS-SECTIONAL STUDY

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Background: The objective of this study was to find out the relationship between self-efficacy (SE), Curiosity and Demographic variables among visually impaired (VI) patients, and to assess the difference on SE and Curiosity among VI patients from rural and urban areas. **Method:** This was a cross-sectional study. A sample of 100 visually impaired patients (50 males and 50 females) was selected through purposive sampling technique. General self-efficacy scale, and curiosity and exploration inventory were used to measure SE and curiosity among study participants. Pearson product moment correlation, regression analysis, and independent sample *t*-test were run for data analysis. **Result:** The results depicted a significant correlation among curiosity, self-efficacy, gender, age, residence area, socioeconomic status (SES), and visual impairment. Regression analyses for patients of VI showed that curiosity and residence were important predictor of SE. The patients living in urban areas had a significantly high level of SE and curiosity as compared to those living in rural areas. **Conclusion:** Curiosity, SE, demographic variables and VI are associated with each other. SE can be predicted by curiosity and residence in patients with VI. Significant differences exist in VI patients in SE and curiosity with reference to their areas of residence.

Keywords: Visual impairment, curiosity, self-efficacy, association, blindness, low vision, urban, rural

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INTRODUCTION

Visual impairment (VI) was classified into two groups by International Classification of Diseases that are: distant vision impairment and near vision impairment. Worldwide, the major causes of VI are: trachoma, diabetic retinopathy, uncorrected refractive errors, age-related macular degeneration, cataract, glaucoma, corneal opacity.¹ According to a nationwide survey by Jadoon *et al*, the prevalence of VI in Pakistan in the age of 30 years and above is about 2.7%. This survey described that 1.7% million VI are adults in Pakistan. Almost 86% of the patients suffer from avertable causes of VI while 14% adults suffer from totally blindness. The result of this survey depict that younger adults hurt expressively less from VI as equated to older people.²

Self-efficacy (SE) is operationally well-defined as a person's believe to be able to achieve his/her goals and have ability to perform a given task, people who realize that they have capacities and able to successfully plan their activities are those who have high level of SE, while persons who are not able to realize their abilities and unable to perform their assignment are those who have low level of SE.³ A study indicated that SE and perceived social support are those two factors which can help to diminish the effects of VI in academic goal achievement.⁴ Due to their vast command of how to manage their condition, people with visual impairment exhibit more self-efficacy than the general population. Self-efficacy appears to be

crucial for living the greatest life possible.⁵ Regarding the practical influence on day-to-day activities such as personal and household management, travel reading and writing, career and leisure, the direct effectiveness of the visual loss has been explored. The degree to which there is a lack of or loss of independence in any of these areas affects the levels of self-esteem for either congenitally blind or adventitiously blind people.⁶

Curiosity, the craving to identify, is a motivating distinctive. Curiosity consists of several related elements, counting craving exploration for its own sake, scarcity kindness or wanting to decline slits in information, and strain acceptance at what time confronted with innovation.⁷ Curiosity is an imperative motivational factor that associate indications reflecting innovation and contest with growing prospects. A prime moderator of individual development is understanding to its fundamentals. Curiosity prods energetic, planned actions in answer to incentives besides action through the subsequent belongings: innovation, difficulty, indecision, and struggle.^{8,9}

Age and educational level are identified as the most significant factors connected to visual impairment. That study offered the first information about the prevalence and causes of visual impairment in Taiwan.¹⁰ With age, the main contributing factors to visual impairment change. For the early diagnosis and treatment of eye diseases as well as, where necessary, the referral for rehabilitation, recognition of these patterns is essential.¹¹

Strong gender inequalities have been observed, with higher prevalence of visual impairment and associated cataracts in women, which may be related to gender inequalities in access to health care, and underdiagnosis in men. Glaucoma with undiagnosed eye disease may be related to gender socialization. It leads to lower utilization and effectiveness of health care services.¹² The objectives of this study were to find out the relationship between SE, Curiosity, and Demographic variables among visually impaired patients, and to assess the difference on SE and Curiosity among VI patients from rural and urban areas.

METHODOLOGY

This was a cross-sectional study conducted from 1st Oct 2019 to 30th Feb 2020 in Faisalabad, Pakistan. The purposive sample of 100 VI patients was collected from the Madina Teaching Hospital, Faisalabad with equal number of males (n=50) and females (n=50) with mean age 47.12±16.09. Post hoc power analysis was done using G*Power-3.9.1.2. Input parameters for two-tail independent sample *t*-test were effect size of 0.8, alpha 0.05, and sample size 50 for each group. Based on the above-mentioned assumptions, desired sample size 100 contained a statistical power (1-β err prob) 0.99 with critical *t*=1.66. Input parameters for one-tail point biserial model were effect size of 0.5, alpha 0.05, and total sample size 100. According to the above-stated expectations, the anticipated sample magnitude 100 comprises a statistical power (1-β err prob) 0.99 with critical *t*=1.66.

Inclusion criteria were the adolescent and adults with VI who had been taking treatment and willing to participate. Small children under 12 year age were not eligible even if they were taking treatment from a hospital.

Curiosity was examined using 10-items curiosity and exploration inventory (Kashdan *et al*¹³). Participant answers on the 5-point Likert scale ranging from 1 (very slightly) to 5 (extremely). The score ranged between 10 and 40. Reliability of this scale is 0.85.¹⁴

Self-efficacy was examined using the 10 items of General self-efficacy (Ralf Schwarze¹⁵). The score range of general self-efficacy is 10–40, maximum score describes more self-efficacy. It is a four-point likert scale in which 1 is a minimum response rate and 4 is a

maximum response rate on each item of the self-efficacy scale. Urdu version of General self-efficacy was used in this study with reliability range from 0.76 to 0.90 in different studies^{15,16}.

Informed consent was obtained from all participants. Demographic information was recorded for each subject and they completed the scales. Questionnaires were administered to each participant and help offered in any difficulty in filling the proforma. Results were analysed using SPSS-21.

RESULTS

The demographic information is tabulated in Table-1. The reliability index and Pearson product moment correlation coefficient is given in Table-2. The results depicted a significant correlation among Curiosity, SE, gender, age, residence area SES and VI.

In Table-3 regression analysis is summarised. Curiosity and residence are important predictors of SE. A multiple regression analysis run to predict SE from Curiosity and residence. These variables statistically significantly predicted SE, $F(2, 97)=12.814, p<0.0001, R^2=0.209$. All variables added statistically significantly to the prediction, $p<0.05$. SE was outcome variable, whereas curiosity and residence were the predictor variables.

Table-1: Demographic characteristics (n=100)

Variable		Number	%
Age	14–50	73	73
	51–85	27	27
Gender	Female	50	50
	Male	50	50
Residence	City	71	71
	Village	29	29
Family System	Neutral	58	58
	Joint	42	42
Treatment	Government	28	28
	Private	72	72
Other Disease	Yes	33	33
	No	67	67
Heredity	Yes	57	57
	No	43	43
Occupation	Business	36	36
	Job	46	46
	Student	18	18
Education	Graduation	39	39
	Intermediate	17	17
	Matric	44	44

Table-2: Correlation between SE, Curiosity, and demographic variables (gender, age, residence area VI and SES)

Variables	SE	Curiosity	Gender	Age	Residence	VI	SES
SE	1	0.45**	0.01	-0.07	-0.21*	0.03	0.12
Curiosity		1	0.03	-0.32**	-0.36**	-0.23*	0.23*
Gender			1	0.29**	-0.11	0.06	-0.12
Age				1	0.11	-0.03	-0.01
Residence					1	0.07	-0.31**
VI						1	0.01
SES							1
Cronbach's Alpha	0.87	0.85	–	–	–	–	–
Mean±SD	30.43±5.7	31.62±7.91	–	–	–	–	–

** $p<0.01$, SE: Self-Esteem, VI: Visual impairment, SES: Socioeconomic status

Table-3: Summary of linear regression analysis of residence and curiosity as predictors of self-efficacy

Variable	Model		
	B	SE	B
Curiosity	0.314	0.070	0.435*
Residence	-0.680	1.212	-0.054
R ²	–	0.209	–

* $p < 0.05$

Student's *t*-test was applied to find out the differences across residence. The results in Table-4 describes the significant difference ($t=2.140$, $p < 0.05$) on SE among those who live in urban and rural area. Same findings exist for Curiosity where ($t=3.834$, $p < 0.0001$) significant difference found among rural and urban patients with VI. Participants living in urban area have higher level of SE and curiosity as compared to participants living in rural areas.

Table-4: Independent sample *t*-test for residence on SE and MHI

Variable	Residence	n	Mean±SD	t	p	Cohen's d
SE	Urban	71	31.20±5.474	2.140	0.035	0.46
	Rural	29	28.55±5.932			
Curiosity	Urban	71	33.44±7.287	3.834	0.000	0.84
	Rural	29	27.17±7.723			

DISCUSSION

The current study aimed to examine the association amongst Curiosity and SE as well as to explore the difference in Curiosity and SE across the area of residence. There were significant differences across the residence on SE among VI patients. It depicts that those who live in cities have different level of SE compared to those who live in villages. Another study also concluded that countryside patients had low level of SE than the city dwellers.¹⁷

According to Almeida *et al*¹⁸, there was an optimistic relationship of curiosity and SE on the population of the healthy and the drug addict people which support our findings that the relationship of curiosity and SE is optimistic. Further findings of the study showed that residence is a noteworthy predictor of SE. Another study¹⁹ claimed that SE and curiosity both are positively linked among internal medicine residents. This positive link indicates prediction of SE from residence. This important finding leads to explore further that it varies across different context. Which factors are associated that cause prominent level of SE with VI patients who lived in city as compared to those who live in village? A recent study from China confirms that SE in adult students from rural areas is lower than the urban students.²⁰ Reasons may vary; may be because of their lifestyle or the patients who live in city area have more facilities or may be other geographical reasons. In a Japanese study on older adults with VI, the performances of multifaceted actions reduced in precise categories, nonetheless completely, and this may cause by poor agility and more submissive attitudes in their

routine actions.²¹ Level of curiosity may also differ according to level of VI. A study from last century stated that the test of perceptual curiosity disclosed the sighted had higher level of curiosity than the blind.²²

CONCLUSION

The results depicted a significant correlation among Curiosity, SE, gender, age, residence area SES and VI. Curiosity and residence as important predictors of SE. People with VI living in urban areas have elevated level of SE and curiosity compared to people living in rural areas.

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