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Psychological immunity among a sample of blind adolescents in light of some demographic variables

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Abstract

The study aimed to explore differences in psychological immunity among blind adolescents in relation to various demographic variables. The sample consisted of 62 blind male and female students. The study utilized a demographic data sheet designed by the researchers and a psychological immunity scale developed by Zeidan [1]. The results revealed statistically significant differences in psychological immunity between males and females, with females exhibiting higher levels. Additionally, significant differences were observed based on residence type (boarding vs. non-boarding), with boarding students displaying greater psychological immunity. Furthermore, significant differences were found across educational stages (preparatory, secondary, and university), favoring the preparatory stage.

Keywords: Demographic Variables, Psychological Immunity.

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1. Introduction

Positive psychology focuses on several concepts that promote mental health, including psychological immunity [2]. The psychological immune system serves as a defense mechanism against prolonged or extreme negative emotions. Just as the biological immune system protects the body from harmful substances such as bacteria and toxins, the psychological immune system—a set of psychological resources—safeguards individuals from the negative effects of constant worry, nervous tension, and anxiety experienced in daily life [3].

Oláh [4] defined the psychological immune system as "an integrated system of cognitive, motivational, and behavioral personality dimensions that provide immunity against stress, promote healthy development, and serve as stress resistance resources or psychological antibodies" [3]. Psychological immunity is classified into two types: personal and general immunity. Personal psychological immunity refers to an individual's defense against mental illness, while general psychological immunity represents the broader societal mechanisms that protect against mental health issues.

Psychological immunity is considered a crucial factor in preventing psychological and social problems. According to Kamel [5] both individuals and societies possess a psychological immune system, and if this system is weakened or lost, they become more susceptible to psychological and social disorders. In such cases, individuals may exhibit negative traits such as high suggestibility, loss of self-control, surrender to failure, isolation, diminished ability to experience pleasure, weak judgment, intellectual stagnation, and introversion. Consequently, psychological immunity emerges as a fundamental necessity for addressing both present and future challenges. It plays a critical role in maintaining social security and cohesion by fortifying individuals' cognitive processes and shielding their minds from internal and external influences.

Integrated psychological resources enable individuals to withstand stress and manage threats in ways that not only prevent psychological harm but also foster personal growth and enrichment. This development is shaped by the knowledge, experience, and wisdom gained through active engagement with challenges and the effective utilization of available resources [4]. The principle of psychological immunity is based on the inseparable connection between the mind and body, with the brain influencing all psychological and physiological processes. An individual’s vulnerability to both physical and psychological illnesses is largely determined by their thought patterns. A more flexible and positive mindset strengthens the psychological immune system, supporting the body’s natural functions and enhancing mental resilience and overall well-being. Therefore, individuals should strive to enhance their psychological immunity by building resilience, developing coping skills, and resisting negative thoughts that lead to despair, anxiety, and failure [6].

The psychological immune system (PIS) is a protective and promotive system that integrates various psychological competencies to improve individuals’ interactions with their environment while primarily serving the self [7]. One of its key characteristics is directing cognitive processes toward perceiving possible positive outcomes. According to Oláh [7] the psychological immune system comprises three subsystems: the approach-belief system, the control-creation executive system, and the self-regulation system. These subsystems form a multidimensional structure that provides immunity against stress and trauma by continuously adapting to environmental changes and integrating unique experiences. The psychological immune system thus balances personality traits and environmental factors to enhance resilience [8].

In this way, psychological immunity fosters positive behavior and adaptability. Its anticipatory and reinforcement mechanisms contribute to greater well-being by equipping individuals with the strength to cope with stress, fear, insecurity, and negative thoughts while maintaining mental balance [2]. Furthermore, psychological immunity is a multidimensional construct that provides resistance to psychological trauma and has been shown to have a strong correlation with life expectancy [3].

Oláh [7] identified 16 different factors of psychological immunity in his Psychological Immunity System Inventory. Bhardwaj and Mohanty [9] proposed four key factors of psychological immunity: self-confidence, overall adjustment, emotional maturity, and psychological well-being. Later, Bhardwaj and Agrawal [10] expanded this framework by adding a fifth factor positive memories of the past—and replacing self-confidence with self-esteem.

1.1. Psychological Immunity and Blind Adolescents

The psychological immune system functions as a superordinate system composed of three interacting subsystems, each containing multiple components:

1. Approach Beliefs: This subsystem guides an individual’s orientation toward their environment. It influences whether the environment is perceived as positive, manageable, and meaningful or as chaotic and threatening. The key components of approach beliefs include positive thinking, a sense of control, a sense of coherence, and a sense of self-growth.
2. Monitoring-Creating-Executing Beliefs: This subsystem facilitates the assimilation of information, encourages exploration of the physical, social, and intrapsychic environments, and fosters the creation of new possibilities. It enables individuals to seek challenges and novel experiences. Its components include challenge and change orientation, creative self-concept, self-efficacy, goal orientation, problem-solving skills, and social creative capacity.
3. Self-Regulating Beliefs: This subsystem ensures the stability of the first two systems by regulating an individual's internal emotional life. Its components include synchronicity, impulse control, emotional control, and irritability control [3].

A well-developed psychological immune system contributes to positive mental health, which is associated with improved sleep, exercise, diet, and reduced consumption of alcohol and tobacco. It also decreases delinquent activity, reduces sickness-related absences, and enhances job performance and productivity. Furthermore, strong psycho-immunity correlates with a positive life orientation, effective coping styles [11] and psychological flow. It has also been identified as a predictor of job performance for mental health care practitioners during the COVID-19 pandemic [2].

1.2. Psychological Stress and Its Impact on Adolescents

Psychological stress is a public health concern associated with numerous diseases, and adolescents are particularly vulnerable. Numerous meta-analyses indicate that stressful events significantly alter immune system function [12]. Childhood adversities—such as family discord, single parenthood, loneliness, orphanhood, food deprivation, unhealthy

behaviors, lower socioeconomic status, child abuse, and stressful life events—have been linked to suppressed immune responses.

Adolescence is a particularly challenging developmental period, even for healthy individuals. It is marked by significant physical, psychological, and social changes that impact an adolescent's mental state. These challenges, however, are necessary for the formation of autonomy and the development of problem-solving abilities, which are essential for navigating future difficulties [13].

For individuals with visual impairments, adolescence presents additional challenges that extend beyond those of their sighted peers. Vision difficulties can impact an individual's physical, mental, social, educational, and vocational experiences [14, 15]. Blind adolescents often face greater social difficulties than their sighted peers, struggle with achieving independence, and experience delays in social and motor skills due to a lack of early experiences [13].

Adolescents with visual impairments must cope not only with the challenges of their disability but also with the typical struggles of adolescence. Research has shown that individuals with visual impairments are more likely to experience severe psychological and behavioral issues during this developmental stage. For example, Ishtiaq, et al. [16] found that visually impaired schoolchildren exhibited psychological issues such as guilt, anxiety, sadness, and depression. Additionally, Panday, et al. [13] and Refai [17] reported that depression, anxiety, and stress levels were significantly higher among visually impaired adolescent girls compared to their sighted peers. Furthermore, there is a strong negative correlation between academic stress and academic achievement among visually impaired students [18].

Hans Selye described psychological stress as the body's physiological response to external stimuli that disturb its physical and mental equilibrium. Stress arises when an individual perceives that the demands of a situation exceed their ability or willingness to cope [12].

1.2. The Role of Psychological Immunity in Coping with Stress

To navigate these challenges, blind adolescents require various forms of support to enhance their psychological immunity. Such support enables them to manage stress, mitigate the psychological impact of disability, and build resilience. Social acceptance plays a crucial role in this process. Huurre and Aro [19] highlighted the significance of social support in the psychological and social development of blind adolescents. Studies suggest that social support significantly reduces stress and alleviates psychological difficulties associated with disability.

Several researchers Albert-Lőrincz, et al. [20]; Zeidan [1]; Bona [21]; Bhardwaj and Agrawal [10]; Ghanayem [22]; Abada [23] and El-Shennawy [24] have emphasized the vital role of psychological immunity in individuals' lives. Psychological immunity equips individuals with the ability to manage emotional conflicts, endure stress without distress, adapt to environmental changes, develop resilience, enhance self-perception, defend against crises, and lead a life free from excessive fear, anxiety, or guilt. Additionally, it enables individuals to make sound decisions under pressure.

Thus, psychological immunity is essential for blind adolescents, as it empowers them to withstand challenges, endure adversity, and resist negative thoughts and emotions that could lead to psychological, physical, and emotional distress.

1.4. Study Aim

Based on these considerations, the current study aims to examine the differences in psychological immunity levels among blind adolescents in relation to various demographic factors.

1.5. Study Problem

A review of previous research reveals a scarcity of studies on psychological immunity, particularly among blind individuals. Additionally, conflicting results have been found regarding gender differences in psychological immunity. For instance, Youssef [11] reported significant differences in psychological immunity favoring male sports students at Al-Balqa Applied University in Jordan. In contrast, studies conducted on university students in Egypt and Kuwait [25, 26] found no significant gender differences in psychological immunity.

Furthermore, previous research highlights the psychological stress experienced by blind individuals and its serious consequences, including anxiety and depression. Psychological immunity is recognized as a protective factor against such stressors, helping individuals cope with adversity. Therefore, this study aims to investigate psychological immunity among blind adolescents by addressing the following research questions:

1. Are there statistically significant differences in the psychological immunity scores of blind adolescents based on gender (male/female)?
2. Are there statistically significant differences in the psychological immunity scores of blind adolescents based on their type of housing (internal/external)?
3. Are there statistically significant differences in the psychological immunity scores of blind adolescents based on their educational stage (preparatory/secondary/university)?

2. Methodology

2.1. Participants

The study sample consisted of 62 blind adolescents aged 14–19 years, with an average age of 18.3 years (SD = 0.9). The sample included both male and female students from three secondary and three preparatory schools. Female participants comprised 55.4% of the sample (N = 46).

Participants were selected from Al-Nour School for the Blind in Minya Governorate, as well as from the Faculty of Arts and Dar Al-Ulum at Minya University. This selection ensured the representation of key study variables, including gender, type of residence, and educational stage. All participants had total visual impairment with no additional disabilities.

2.2. Measurement Tools

The Psychological Immunity Scale developed by Zeidan [1] was used in this study. The scale consists of **117 items** distributed across nine dimensions:

- Positive Thinking
- Creativity and Problem Solving
- Self-Control and Balance
- Resilience and Psychological Effectiveness
- Success
- Self-Confidence
- Health and Perseverance
- Psychological Adaptation
- Optimism

The scale has demonstrated strong psychometric properties. Its concurrent validity was established using the Bolon scale, which was also employed in this study. Additionally, the scale was applied alongside the Recording Scale for the Blind, developed by Bona [21] and later translated by Saad, et al. [27]. The Cronbach's alpha reliability coefficient for the Psychological Immunity Scale was 0.82, indicating good internal consistency.

2.3. Data Collection Procedures

Prior to data collection, approval was obtained from the relevant teaching departments, and informed consent was secured from all participants.

Four trained field researchers conducted the data collection process. Training focused on:

- Building rapport with participants
- Ensuring respect for participants' privacy
- Reading questionnaire items aloud without influencing responses

Since the participants were unable to read printed materials, researchers read the entire questionnaire to them in a private setting while ensuring full comprehension. Participants were encouraged to ask questions for clarification at any point.

The survey was administered in a paper-and-pencil format, with each participant seated next to a researcher. The researchers recorded the responses directly to ensure accuracy. Ethical considerations were emphasized throughout the study, ensuring confidentiality and voluntary participation.

3. Results

3.1. Descriptive Statistics

Table 1 presents the demographic characteristics of the study sample (N = 62). The sample consists of 62.67% males and 35% females. Additionally, participants are distributed across different age groups, as detailed below:

Table 1.
Descriptive Statistics – Distribution of Participants by Demographic Variables (N = 62).

Demographic variables	**N %**	**Demographic variables**	**N %**
the type of residence		**Sex**	
Internal	41.94% (26)	Male	62.9% (39)
External	58.06% (36)	Female	37.1% (23)
Educational level	N%	Age (years)	N%
preparatory	21) 33.87%	13	%9.6 (6)
secondary	18) 29.03%	14	%12.6 (8)
university	37.09% (23)	15	19.3 % (12)
		16	30.6% (19)
		17	%17.7 (11)
		18	% 6.6 (4)
		19	3.2% (2)

There was a fairly even spread of participants across each age group: 13 years (%9.6), 14 years (12.6%), 15 years (%19.3), 16 years (30.6%), and 17 years (17.7%) and 18 years (% 6.6) and 19 years (3.2%)%

The first research question: Are there statistically significant differences between the average scores of blind adolescents on the psychological immunity scale according to gender (males/females)? Using the independent t test to evaluate these gender differences in psychological immunity, and the results are shown in Table 2.

Table 2.
Gender differences in psychological immunity.

Dimensions of psychological immunity	Gender	N	Mean	Std. Deviation	T
Positive thinking	Males	39	39.18	4.73	3.14**
	Females	22	43.04	4.11	
Creativity and problem solving	Males	39	32.00	3.95	2,67**
	Females	39	43.69	5.19	
Self-control and poise	Males	22	43.69	4.53	4.57**
	Females	22	49.43	3.61	
Resilience And psychological toughness	Males	39	37.44	3.00	2.30*
	Females	22	40.26	6.27	
Self-efficacy	Males	39	32.62	4.53	2.8**
	Females	22	36.22	6.27	
Self-confidence	Males	39	26.95	3.61	3.92**
	Females	22	30.39	2.81	
Challenge and perseverance	Males	39	26.54	3.00	6.9**
	Females	22	31.83	5.35	
Psychological resilience and adaptation	Males	39	36.46	6.27	5.04**
	Females	22	44.35	2.64	
optimism	Males	39	26.44	3.06	11.07**
	Females	22	34.091	2.64	

According to Table 2, there were statistically significant differences in each dimension of psychological immunity between genders, with differences in favor of females.

The second research question concerns whether there are statistically significant differences between the average scores of blind adolescents on the psychological immunity scale according to the type of residence (internal vs. external). An independent t-test was used to evaluate these differences in psychological immunity based on residence, and the results are shown in Table 3.

Table 3.
There are differences in psychological immunity **to** the type of residence.

Dimensions of psychological immunity	The type of residence	N	Mean	Std. Deviation	T
Positive thinking	Internal	26	43,8	4.12	3,83**
	External	36	39,10	4.70	
Creativity and problem solving	Internal	26	32.45	4.12	5.06**
	External	36	29.10	4.04	
Self-control and poise	Internal	26	50.15	3.69	3.02**
	External	36	43.76	5.03	
Resilience and psychological toughness	Internal	26	40.60	5.92	6.58**
	External	36	36.64	3.93	
Self-efficacy	Internal	26	36.65	5.72	3,83**
	External	36	32.67	4.39	
Self-confidence	Internal	26	30.40	3.02	5.06**
	External	36	27.19	3.59	
Challenge and perseverance	Internal	26	32.10	2.73	3.02**
	External	36	26.79	3.08	
Psychological resilience and adaptation	Internal	26	45.15	5.21	6.58**
	External	36	36.64	6.10	
Optimism	Internal	26	35.45	2.35	3,83**
	External	36	26.79	3.23	

According to Table 3 they were statistically significant differences in each dimension of psychological immunity **to** the type of residence can Differences in favor of internal.

The third research question concerns (Are there statistically significant differences between the average scores of blind adolescents on the psychological immunity scale according to the educational stage (preparatory/secondary/university)? Using One-Way ANOVA for comparison in immunity according to educational stage and the results are shown in Table 4.

Table 4.
The psychological immunity at different according to educational stage.

Variables	Source	Sum of Squares	Df	Mean Square	F	Sig.
Positive thinking	Between Groups	760.60	2	380.3	29.21**	0.000
	Within Groups	768.11	59	13.03		
	Total	1528.71	61			
Creativity and problem solving	Between Groups	399.01	2	199.5	15.84**	0.000
	Within Groups	744.04	59	12,61		
	Total	1143.05	61			
Self-control and poise	Between Groups	744.5	2	372.7	19.92**	0.000
	Within Groups	1102.2	59	18.78		
	Total	1846.7	61			
Resilience and psychological toughness	Between Groups	684.1	2	342.1	27.08**	0.000
	Within Groups	745.1	59	12.63		
	Total	1429.2	61			
Self-efficacy	Between Groups	775.9	2	387.34	26.86**	0.000
	Within Groups	851.7	59	14.43		
	Total	1627.6	61			
Self-confidence	Between Groups	402.7	2	7.43	27.11**	0.000
	Within Groups	438.1	59	123.10		
	Total	840.8	61			
Challenge and perseverance	Between Groups	246.9	2	123.10	10.88**	0.000
	Within Groups	667.1	59	11.31		
	Total	914	61			
Psychological resilience and adaptation	Between Groups	945,4	2	472.6	13.42**	0.000
	Within Groups	2079.06	59	356. 6		
	Total	2079.06	61			
Optimism	Between Groups	325.10	2	162.5	7.84**	0.000
	Within Groups	1224.00	59	20.75		
	Total	1549.1	61			

There are statistically significant differences between educational stages (preparatory - secondary - university) in psychological immunity, which requires conducting one of the comparison tests to determine the direction of these differences, so the researcher will use a test (Shifia) to determine the direction of those differences.

Table 5 shown the results the following:

There were statistically significant differences between middle school and secondary school students in the positive thinking dimension of psychological immunity, favoring middle school students. Similarly, significant differences were found between middle school and university students, again favoring middle school students. However, no statistically significant differences were observed between secondary school and university students.

Statistically significant differences were also found in the creativity and problem-solving dimension, with middle school students scoring higher than secondary school students. Additionally, middle school students outperformed university students, whereas secondary school students showed significantly higher scores than university students.

In the self-control and balance dimension, significant differences were found between middle and secondary school students, with middle school students scoring higher. Significant differences were also observed between middle and university students, favoring middle school students, as well as between secondary and university students, where secondary students scored higher.

Regarding resilience and psychological toughness, middle school students showed significantly higher scores compared to secondary school students. The same trend was observed when comparing middle school students to university students. However, no significant differences were found between secondary school and university students.

In the self-efficacy dimension, middle school students scored significantly higher than both secondary school and university students, while no significant differences were found between secondary and university students.

Similarly, for self-confidence, middle school students outperformed both secondary school and university students, while no significant differences were detected between secondary and university students.

The challenge and perseverance dimension also showed significant differences, favoring middle school students over secondary and university students, while no significant differences were observed between secondary and university students.

In the psychological flexibility and adaptation dimension, middle school students exhibited significantly higher scores than both secondary school and university students. However, no statistically significant differences were found between secondary school and university students.

Regarding optimism, middle school students scored significantly higher than both secondary and university students, while no significant differences were found between secondary and university students.

Finally, for the total psychological immunity score, middle school students demonstrated significantly higher levels of psychological immunity compared to secondary and university students. No significant differences were found between secondary and university students.

Table 5.
(Shifia) results to psychological immunity between educational stages (preparatory - secondary - university).

Dimensions of Psychological Immunity	Groups	Mean	University	Secondary	Preparatory
Positive thinking	Preparatory	45.9	8.2**	5.62**	
	/Secondary	39.8	2.5		
	University	37.9			
Creativity and problem solving	Preparatory	33,33	6.03**	3.7*	
	/Secondary	30.17	2.8*		
	University	27.30		3.7*	
Self-control and poise	Preparatory	49.45	8.21**		
	/Secondary	46.22	4.4**		
	University	41.7			
Resilience and psychological toughness	Preparatory	42.9	7.7**	5.5**	
	/Secondary	37.4	2.33		
	University	35.22			
Self-efficacy	Preparatory	38.8	8.15**	6.15**	
	/Secondary	32.6	2		
	University	30.6			
Self-confidence	Preparatory	31.7	5.6**	4.9**	
	/Secondary	26.8	0.75		
	University	26.09			
Challenge and perseverance	Preparatory	30.9	4.7**	2.4*	
	/Secondary	28.5	2.3		
	University	26.2			
Challenge and perseverance	Preparatory	30.9	7.7**	7.7**	
	/Secondary	28.6	1.09		
	University	26.22			
Psychological resilience and adaptation	Preparatory	44.8	4,45**	5.15**	
	/Secondary	36	0.61		
	University	37.09			
Optimism	Preparatory	32.7	61.1**	45.46**	
	/Secondary	27.1	15.5		
	University	28.8			

4. Discussion

Previous studies have indicated that males tend to develop psychological immunity due to their constant exposure to frustration caused by their disability. The presence of a disability negatively impacts their self-perception, thoughts, and beliefs, which strongly affects their psychological resilience. Ihab [28] highlighted that one of the irrational beliefs adopted by blind individuals is that any failure or mistake they experience is directly due to their blindness.

This belief often leads to a lack of self-confidence, feelings of worthlessness, persistent inferiority complex, fear of failure, lack of motivation, and a distorted self-image. Despite their abilities, blind individuals may experience weak psychological immunity due to exposure to life stressors, lack of coping skills, low self-confidence, difficulty in emotional regulation, weak psychological resilience, limited social support, constant pessimism, and challenges in maintaining emotional balance.

On the other hand, visually impaired teenage girls often feel supported by others during times of distress, experience comfort in social situations, and demonstrate the ability to build close and secure relationships with those around them. This was confirmed by Ahmed and Qrany [29] who found that blind teenage girls tend to feel emotionally supported and socially engaged in various settings.

These findings align with studies conducted by Albert-Lőrincz, et al. [20]; Al-Jazzar [30] and Abada [23].

Additionally, some researchers attribute these findings to the absence of significant social differences in certain regions, such as South Africa, where visually impaired individuals experience greater social acceptance and institutional support. Within specialized institutions, they receive psychological support and assistance from professionals, contributing to higher self-confidence and academic adaptation. Moreover, being surrounded by peers with similar disabilities creates a sense of equality and shared experience, which enhances their self-worth and helps them accept their condition.

Furthermore, the study suggests that the lower levels of psychological immunity among high school and university students may be due to the increased pressure to achieve academic success. The findings are consistent with previous research, including Boerner and Cimarolli [31]; Muhammad [32]; Mahmoud [33] and Aly [34] which indicate that blind individuals often experience lower psychological immunity.

A blind person's behavior is influenced by their self-perception, even if that perception is inaccurate. The struggle for self-actualization often leads to fear of life challenges, anxiety, insecurity, dissatisfaction with reality, and low self-esteem. AlSabah, et al. [35] emphasized that limited mobility and lack of social interaction opportunities further restrict blind individuals from engaging in cultural and social activities. Negative societal attitudes toward blindness exacerbate their struggles, reducing their psychological resilience and increasing anxiety levels. These factors contribute to lower psychological immunity among high school and university students.

5. Conclusion

In conclusion, the study presents the following recommendations:

1. Enriching curricula for visually impaired students at all educational levels by incorporating topics, activities, and events that foster psychological immunity and reduce disability-related challenges.
2. Conducting training and educational programs for parents and teachers to equip them with the skills needed to help blind students develop self-reliance and overcome psychological barriers related to their disability.
3. Training educators on techniques to enhance psychological immunity among visually impaired students, ensuring their emotional resilience and well-being.

5.1. Limitations and Future Directions

The study has several limitations. One of these limitations is the small size of the sample, which makes it difficult to generalize the result.

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