

## Exploring the Independence and Support Networks of Blind Individuals: A Qualitative Investigation

Imelda Pristaliona<sup>1</sup> | Hervina Venera Afandi<sup>1</sup> | Latipun<sup>1</sup>

<sup>1</sup>Master of Professional Psychology, University of Muhammadiyah Malang

Received 23-07-2024

Revised 26-07-2024

Accepted 16-08-2024

Published 18-08-2024



Copyright: ©2024 The Authors. Published by Publisher. This is an open access article under the CC BY-NC-ND license (<https://creativecommons.org/licenses/by-nc-nd/4.0/>).

### Abstract:

People often perceive individuals who are blind as helpless. So many people discriminate against and belittle them. This research focuses on efforts to explore the struggles of blind workers in Malang, East Java, Indonesia. The research method used is qualitative approach with a type of phenomenology. The researchers employed the snowball sampling technique to select the research participants, and then the data collection process was carried out through observation and in-depth interviews. The data obtained were processed using interpretive phenomenological analysis. The results of the study show that there are eight main models of exploring the struggles of blind workers, including response to the facts of the situation, social support, self-acceptance, motivation to fight, self-development and skills utilization, participation in social activities, assistance with tools and technology, and efforts to respond every difficulty and challenge.

**Keywords:** Blind Workers, Exploring the Struggles, Qualitative, Phenomenology

### 1. Introduction:

Low vision, visual impairment, and blindness are general terms that cover various conditions impacting an individual's ability to see and carry out daily activities (Lee, 2024). The inability to see or blindness is one of the most common types of visually handicapped. Typically, this condition characterizes a complete inability to see (total blindness) or retains residual vision but cannot utilize their sight to read plain text (Leat et al., 1999). There are two divisions of blindness: congenital blindness, which refers to being born without the ability to see, and non-congenital blindness, which denotes a decrease in vision that occurs sometime after birth (Cattaneo & Vecchi, 2011). In general, genetic or hereditary factors and birth processes cause congenital blindness. In contrast, acute childhood illnesses cause non-congenital blindness, which can cause eye

complications or infections and accidents after birth that cause an individual to lose sight (Medow, 2000).

Individuals who are blind have limitations in their sense of sight. Therefore, in everyday life, they usually try to maximize the function of their other senses, such as the senses of hearing, smell, taste, and touch (Siahaan, 2020). However, the eye is a vital organ with many roles and controls over information processing. In this case, the eyes have a crucial role in receiving light stimuli and electromagnetic wave energy of vision, which can stimulate the eyes to process nerve impulses until they are interpreted by the brain (Feldman, 2012). Individuals who are blind cannot receive and respond to visible light appropriately because their sensory sensors cannot digest, process, or respond to the stimulus they are facing optimally. So people with visual impairments need assistive devices

such as intelligent sticks with mobility sensors (Siahaan, 2020). However, it is not uncommon for us to encounter individuals with visual impairments who do not use assistive devices because of their economic limitations.

Without realizing it, there are still many people who don't care about the blind and tend to underestimate the work of the blind. We often find people with disabilities, such as blind people getting unpleasant treatment, such as exclusion or discrimination (Makkawy & Long, 2021). People with disabilities, including blind people, should receive special attention so they do not feel differences in attitudes from the surrounding environment, such as role discrimination or treatment that can trigger feelings of alienation. People with disabilities have the same rights, equal opportunities, protection, fulfillment, and privileged accessibility (Heumann, 2019). However, in reality, this is not the case because many of us still lack concern, empathy, sympathy, or even a lack of education in helping the lives of persons with disabilities (Budi, 2023).

Vision loss impairs the ability of individuals who are blind to carry out various activities of daily living (Binns et al., 2011). It is not an easy thing for people with disabilities, especially blind people, to be able to carry out activities in daily life with their limitations. In early adulthood, blind individuals often experience the main problems of being unable to work and live productively, find a life partner, and feel alienated (Gupta, 2021; Birken et al., 2023). They will always depend on others (Rodriguez et al., 2020). So far, blind people tend to lose a lot of their rights, such as: losing the right to get a job, information and losing the right to use public facilities or infrastructure, and experiencing a decrease in quality of life (Sherrod et al., 2014 & Marques et al., 2021).

When people with disabilities lose their right to get a job, most depend on their competence and potential to earn income so they can fulfill their daily lives. In Indonesia, most blind people are competent in reflexology (Gayatri & Suriata, 2020). Therefore, in Indonesia, it is common to

meet blind people who work as massage therapists. However, apart from that, several other professions are occupied by blind people, such as sales, musicians, or artisans.

Of course, all of that is not an easy thing for blind people to be able to survive in this harsh world. Therefore it takes strong fighting power to live everyday life. Fighting power is an ability possessed by a person to be able to overcome the difficulties experienced and the ability to be able to survive in this harsh world (Stolz, 2000). Furthermore, one can interpret fighting power as a predictor of a person's success in facing adversity, which is about how a person can behave and overcome unpleasant, challenging situations (Phoolka & Navjot, 2012).

Based on the described description, there are exciting facts regarding exploring the struggles of blind workers. Every individual has their path in life, and the wheel of life keeps turning with the fate of life that is always at stake. Of course, living life is not easy; individuals who experience limitations in terms of vision must sacrifice many things and fight for many things to overcome challenges and achieve their goals. Therefore this research seeks to be able to explore more deeply the struggles carried out by adult blind workers in living their daily lives to be able to continue to live independently and better.

## **2. Research Methods:**

### **1.1 Design**

This study uses a qualitative approach with a type of phenomenology. Using a qualitative approach can help researchers gain a complete and integrated understanding of what happened. At the same time, the type of phenomenological research used in this study refers more to the essence of meaning from the life experiences of each research respondent. The main focus of this research is exploring the struggles of respondents who are visually impaired and who still have to work in middle adulthood (William, 2021).

### **1.2 Research procedure**

Researchers conducted observation and interview techniques to obtain research data from blind

respondents in Malang, East Java, Indonesia. The data analysis used in this research is *Interpretative Phenomenological Analysis* (IPA). Researchers use IPA because they want to understand better and thoroughly interpret the experiences of participants' struggles through the results of exploration in the form of interpretation (Smith et al., 2009). In addition, during the interview process, the researcher also used the help of a voice recorder based on the participant's approval to maintain the validity of the research data submitted by the participants

The participants in this study were ten blind workers. Subject selection was determined using a *snowball* from one blind worker to another. Participants in this study consisted of three male blind workers and three female blind workers aged 40-61 years, with the total blind category as the main subject of this study. Not only that, this study also involved *significant others* as complementary data on the participants' self-esteem. Based on this, we can observe the relationship between demographic data and characteristics of research participants, as listed in Table 1, as follows:

**1.3 Participants**

**Table 1. Demographic Data of Research Subjects**

| No. | Initials | Gender | Age      | Work   |
|-----|----------|--------|----------|--|
| 1.  | Na       | Man    | 61 years | Masseuse and Massage Parlor Owner                              |
| 2.  | W        | Man    | 40 years | Massager   |
| 3.  | S        | Man    | 50 years | Chairman of Pertuni Malang City, Musician, Trader, and Masseur |
| 4.  | Ni       | Woman  | 49 years | Massager   |
| 5.  | C        | Woman  | 49 years | Itinerant Merchant   |
| 6.  | Ni       | Woman  | 49 years | <i>Significant others</i> (Wife of the Head of Pertuni)        |
| 7.  | Na       | Man    | 61 years | <i>Significant others</i> (Pak W's colleagues)                 |
| 8.  | Sc       | Woman  | 48 years | <i>Significant others</i> (Pak Na's helper)                    |
| 9.  | Rf       | Man    | 72 years | <i>Significant others</i> (Father C)                           |
| 10  | S        | Man    | 50 years | <i>Significant others</i> (Ni's husband)                       |

**1.4 Data analysis**

In processing and analyzing the data, the researcher changed the raw data from the voice recorder to written notes (verbatim). The following steps: First, we read the results verbatim to identify the actual data. Then labeling was carried out using an open and inductive coding system, followed by searching for the main themes that emerged from the results of the participants' presentations.

Furthermore, researchers can find all the record units of the results obtained. Thus it can be seen that the total number of coded recording units is 2621. Then, we can observe the initial themes related to the research topic for discussion, modification, and rearrangement. In this study, the process of data triangulation was also carried out several times by the researcher to ensure the validity of the results and reduce data bias.

**Results:**

A series of previously conducted research results reveal that the struggles of blind workers yield

eight main themes. As for more details, the eight themes will be shown in Figure 1 as follows:



**Figure 1. Theme Results**

**Response to Facts and Circumstances:**

Based on existing data in the field, not all blind workers experience blindness from birth or congenital. Nevertheless, among them, some experience a state of visual impairment after moving from childhood to adulthood. Of course, this can trigger different responses from individuals with visual impairments. In this case, we can observe that the subject's response to their first experience of a blind situation was *denial*, as expressed in the following statement:

*"..For once, it's stresfull. Because from seeing to not seeing, you can imagine what a dead light looks like. It is pitch black; difficult, huh? That is how I feel: chaotic thoughts; you can say I cannot focus. It was as if there was no hope for life then; I was frustrated because I still could not accept life's circumstances.." (S-1054-1058).*

*"... Yes, it is stressful, I am confused; I even experienced that I wanted to give up... I grunt, I grumble. Sometimes I am also envious of people who can see that is..." (NA-698-701).*

Indeed, not an easy thing to be able to make peace with unpleasant circumstances. Every process of life has its journey and twists and turns. Despite the process not always being accessible and falling far from expectations, individuals actively choose not to give up because they understand that life must go on.

**Social Support:**

Every individual living life relies on the help and support of others, which cannot be separated. Especially for individuals who have limitations, they will need more help, encouragement, and support from others. One form of support provided



by the family is an effort to cure eye pain experienced while at the same time motivating others to keep fighting for this life. The following expressions convey social support:

*"...he also tries to get medicated everywhere, the hope is that he will recover and provide support and motivation... So that my family also supports me so that I can recover in the end. Reassuring him that he can accept it...." (S-1076-1077).*

*"...Embarrassed, insecure, do not feel confident leaving the house until four years. Until my close friend came to the house saying come on out with me, have coffee. It does not look like you are blind. You still look awake. At that time, my eyes were still good; he kept on encouraging. Invited to a spiritual teacher, gave me motivations and I experienced changes, I became more confident...." (S-1092-1097).*

Based on the obtained research data, we can observe that most blind workers require help and support from their family and close friends. The support of close relatives has a significant role, especially for blind people who are not born with them.

### **Self-Acceptance:**

Every process of life must have its conveniences and challenges. Of course, the learning process of being able to make peace with circumstances is a challenging thing. Especially for the chosen people whom God gives trials; one example is the condition of the blind experienced by blind workers in Malang City. In this case, each individual's self-acceptance process is different. Especially the self-acceptance of blind workers who experience a blind condition from birth to toddlers with the self-acceptance of blind workers who experience a blind condition from the age of children to adults. On this occasion, we will describe the self-acceptance of blind workers who experience visual impairment from toddlers, namely:

*"Well, when I think about it, why should I mourn and sad for a long time? I called where I needed to go; I was blind. Can I join the*

*rehabilitation training? Finally, someone informed me that the address was in Janti, Surabaya, and Malang. Finally, I saw some of my friends who graduated from that school, some of whom were married and had children. I realized that it turned out that made it. It turns out that they can also have a household...." (S-1122-1125).*

*"...Yes we need to be grateful. Moreover, I see the people has worse condition than me. After all, with my situation like this, I can still work, I can still get married and have children." (NA-830-833).*

This presentation shows the condition of how blind people have managed to achieve self-acceptance and continue to struggle to live this life.

### **Fighting Motivation:**

In living and responding to life, every individual is influenced by internal and external factors. One of the internal factors that have a significant role and influence on living life is motivation from within each individual. Therefore, in this study, it can be seen that every blind worker has a motivation that tends to be uniform; that is, almost the majority of research participants have the motivation to work to be able to survive and to be able to meet their daily needs. We can observe their motivation from the statements made by the participants, as expressed in the following statements:

*"...if you do not work, what do you want to eat? If you work, at least you have some income, so you can go to school, buy snacks, make food, etc. It is for everyday household needs, Miss..." (C-2260-2262).*

*"..Of course I want to continue to fight for the welfare and happiness of the family. Pay off the bank installments quickly aha..." (NA-863-864).*

Based on this explanation, motivation is essential in determining a person's attitude and behavior. The primary motivation of persons with disabilities is to meet their daily needs, make their families happy, and pay off debts. Another motivation is to be beneficial to others.

## Self-Development and Utilization of Opportunities

Humans are perfect creatures. Therefore, God Almighty gives them the advantages of reason and mind. Therefore every human being has a need and desire to continue to hone their potential and to be able to take advantage of the opportunities that come their way. In line with this, we can see that blind participants actively express their interest and desire to continue optimizing their abilities, as stated in the following statements:

*"..Sometimes I also take part in massage training. There are different massage techniques. There are massage, some for sprains, reflection, if there is training, join me to hone my skills."* (W-978-980).

*"...I need to explore my potential. Previously, I could not sing, but I learned to sing. I can not play music; so I am learn to play music. I tried things that I had never tried. Sometimes when there is an event, we are invited by the government, I sing..."* (S-1124-1128).

Based on the results of the above interview, we can observe that, despite their visual impairment, individuals actively express their interest and strive to develop hobbies and enhance their abilities through self-development activities, both in terms of massage training and personal hobbies such as singing or playing music.

## Participate in Social Activities

Humans are social creatures; they interact daily and socialize with the surrounding community. In this case, we can observe that blind workers actively engage in busy and constructive activities despite their limitations, as expressed in the following statement:

*"... yes, the organization is practicing banjara and sometimes just casual social gathering ...."* (W-975-976).

*"...not all members here (Pertuni) are blind, some were doubles. For example, the Blind is also Deaf. Then I have a creative idea. His mother once told him that he had to pray for this pyro clock, so*

*I thought, oh, this means we have to find a braille clock. So I tried to find donors. Incidentally, I have many patients; I see if the person cares or not, what their abilities are like...."* (S-1249-1253).

Based on this, we can see that social activities benefit blind workers in socializing. They occupy their spare time and experience positive effects in self-development, interaction, and building relationships. Various social supports that help provide pleasant feelings to reduce feelings of isolation in blind individuals in this study consist of 1) regular recitations, 2) monthly community meetings, and 3) building good interpersonal relationships with relatives, relatives, and family.

## Assistance with tools and information technology (mobile phones, sensor sticks, transportation)

Undeniably, technological development advances provide many changes and conveniences in everyday life. Technology support is linear with the information provided by the participants, namely:

*"...For communication, we use an Android cellphone with voice application. This cell phone can also be used to see money, how much money we hold so that we know. If we want to go anywhere, to the big road or do we use tools, we use this censor stick...."* (W-933-937).

*"...You can use an app. My cellphone is (based on) sound. It's calles screen reader for the visually impaired, where there will be settings besides typing or writing, then there will be sound later. For example, if we type A, then the sound A, we type B, which is very helpful; the important thing is that we can master it. Can operate it...."* (S-1333-1335).

The progress of the development of tools and information technology has been well responded to by blind workers, where most of them take advantage of the development of tools and information technology to facilitate their daily activities, such as voice-based cellphones, sensor sticks with sound, and transportation in the form of motorcycle taxis that have collaborated with the subject.

### Difficulties, Challenges, and Problems

The challenge is a necessary experience for every living creature. No exception, including workers who experience blind conditions. In this case, every life must have experienced its difficulties and challenges. However, that does not mean that difficulties or challenges become a barrier for someone to achieve success. Precisely based on challenges increasingly making a person more robust than before. In this regard, we can identify the difficulties and challenges that the participants have experienced:

*"... I am more afraid if I get a homosexual patients. If I refuse to serve, they threaten to kill me. They also wanted to be satisfied, but I did not want to. They could strangle me...."* (NA-462-463 & 474-477).

*"...I feel like being tricked if they give me different amount of money..."* (W-946-951).

*"...The difficulty is mobility. It has to do with walking, mobility, and seeing colors; for example, we buy clothes; we don't know the color. Also, sometimes people who want a massage are full of tricks. Some did not pay and went straight away; some did not come for a massage. Instead, they took my cell phone and wallet...."* (S-1166-1967 & 1477-1482).

Some of the difficulties experienced by the subject include types of customers who like to tease and threaten to strangle, types of customers who do not fulfill promises and like to disappear suddenly, customers who lie and even steal wallets, and mobility difficulties.

### 3 Discussion:

Humans are the most perfect creatures because humans have the advantages of reason, mind, and thought that distinguish humans from other creatures. However, with all the advantages, it cannot be denied that there are some differences from the circumstances experienced by God's chosen people. These conditions include physical form, body posture, perspective and thinking, and other differences. Not infrequently, some people

have limitations commonly known as disabilities, one of whom is blind.

However, it is undeniable that blind individuals possess complete control over themselves. Therefore blind individuals are entitled to equal treatment, meaning there is no element of discrimination. However, discriminatory treatment of persons with disabilities is often found in terms of employment (Marques et al., 2021). Hence, we conducted this research to explore the struggles of blind workers in middle adulthood. Based on the research, we can observe that initially, blind individuals tend to experience rejection when they become aware of their vision loss condition.

In this case, they experience a phase of depression, anger, sadness, and disappointment leading to stress and depression. People who suffer from vision loss are at a higher risk of developing depression and other mental health issues (Morse, 2019; Brunes, 2020). Nevertheless, in the end, they can sincerely accept the situation they are experiencing. This phase aligns with the theory put forward by Kubler-Ross & Kessler (2009) that there are five stages of humans dealing with grief or loss, where the first stage is denial. In this case, we can observe that individuals who acquired blindness later in life initially experienced rejection, such as tending to withdraw from the social environment, blaming themselves and the situation, feeling embarrassed, screaming, and preferring to lock themselves in their room. The second stage is anger after the individual experiences a phase of denial or denial. At this stage, the blind person shows the emotion of rejection by getting angry. Like screaming, slamming objects or items around it. In the third stage, namely *bargaining* or bargaining. Bargaining is shown by the emergence of the thought, *"What if I could see?"* or *"If only I could see like my friends, I would"*. The fourth stage is *depression*. An empty feeling characterizes depression; no more feelings of anger or rejection. In the end, the blind workers can make peace with the situation they are experiencing more sincerely

for the experience or incident that happened to them, which is called *acceptance* or the final stage.

From the data, it is evident that the participants were able to choose to accept their circumstances and continue with their lives. This acceptance is demonstrated by the blind workers' ability to learn from their current situation. Furthermore, their enthusiasm to strive for a better life is also noticeable. In line with this, based on research conducted by Nyman *et al* (2010) it can be seen that people who experience visual impairment can have a higher quality of life if they are able to have a positive view of the world and themselves.

The surrounding environment plays a crucial role in supporting and facilitating the journey of self-acceptance for blind individuals. The role of social support shows that most blind workers have better conditions after receiving social support from the people around them, both from the family environment, friendship environment, and the surrounding social environment. In line with the obtained research results, it is evident that the surrounding environment actively contributes to and supports the journey of self-acceptance for blind individuals. Guerette and Smedema (2011), through their research, found that people who get positive support from the surrounding environment tend to have a better quality of life. Participating in social activities has significant importance for the daily functioning and psychological well-being of individuals with visual impairments. By engaging in meaningful social interactions and activities, people with visual impairments improve their quality of life and experience greater satisfaction in their daily lives (Kim & Son, 2023).

After being able to make peace with the situation they were experiencing, the blind individuals in this study gradually also felt more grateful when they could take advantage of technological developments, which they felt were very helpful in their daily lives. In this study, blind individuals frequently utilize information technology, such as smartphones specifically designed for blind people, to facilitate more effortless connectivity, and interaction, determine the validity of currency

values, order meals, and other similar activities. Smartphone technology equipped with the *talkback* accessibility *feature* is here to help users with visual impairments. Smartphone applications are constantly evolving from time to time to meet user needs. Through applications that are easily accessible to people who are blind, they can have a confident and independent attitude, so they can help themselves become more potential and competitive individuals (Hidayat, 2020). Apart from that, they also use a stick with a sensor to make it easier to mobility. Advances in technology help people who are blind by replacing ordinary canes with exceptional guides equipped with ultrasonic sensors so that people who are blind can more efficiently and safely carry out their mobility in everyday life (Nova, 2019).

Based on a series of conducted research processes, we can also observe that blind workers face numerous challenges, and their struggles are far from easy. In this case, most of them were able to survive and continue to rise to be able to continue to fight for their lives. Even though at first it was not easy to make peace with the situation, in the end, they were able to accept the reality of life that happened by taking lessons from every event they experienced. In addition, the blind workers in this study also empowered themselves to pursue fulfilling careers, engage in social activities, develop hobbies, and access the necessary support and technology to develop personally and professionally to provide for their lives and families. The empowerment of blind workers in this study is achievable because they actively accept their situation and optimize their abilities, establish relationships, utilize information technology, and strive to fulfill their daily lives.

#### **4 Conclusion:**

Based on a series of conducted research processes, we can conclude that the blind workers in this study are highly motivated to utilize their talents and competencies to fulfill their daily lives. They can also respond to circumstances and facts by learning to think more positively and not dwell on their limitations too long. In this case, most of the



research respondents have accepted their situation even though they had previously experienced a phase of denial of what happened. So far, most of the participants find it easier to carry out their daily activities because of the assistance of information technology. We also know that social support and active participation in social activities significantly impact blind workers, making them feel more valued and appreciated. Moreover, despite their limitations, they do not hesitate to improve their quality and skills to become even better individuals. Therefore, future research is expected to focus more on identifying appropriate interventions for blind individuals in adulthood, to prevent them from experiencing additional psychological issues and to help them continue optimizing their abilities.

#### Reference:

1. Binns, A. M., Bunce, C., Dickinson, C., Harper, R., Tudor-Edwards, R., Woodhouse, M., Linck, P., Suttie, A., Jackson, J., Lindsay, J., Wolffsohn, J., Hughes, L., & Margrain, T. H. (2011). How effective is low vision service provision? A systematic review. *Survey of Ophthalmology*, 57(1), 34-65. <https://doi.org/10.1016/j.survophthal.2011.06.006>.
2. Birken M, Chipp B, Shah P, Olive RR, Nyikavaranda P, Hardy J, et al. (2023) Exploring the experiences of loneliness in adults with mental health problems: A participatory qualitative interview study. *PLoS ONE*, 18(3): e0280946. <https://doi.org/10.1371/journal.pone.0280946>.
3. Brunes A, Heir T (2020a) Social interactions, experiences with adverse life events and depressive symptoms in individuals with visual impairment: a cross-sectional study. *BMC Psych*, 20(1):224. <https://doi.org/10.1186/s12888-020-02652-7>.
4. Budi, S. (2023). Empathy as a solution to discrimination against people with disabilities: the perspective of al-misbah's interpretation. *Thesis Repository Institut PTIQ Jakarta*, retrieved from <https://repository.ptiq.ac.id/id/eprint/1371>.
5. Cattaneo, Z., & Vecchi, T. (2011). *Blind vision: the neuroscience of visual impairment*. MIT Press.
6. Feldman, S. Robert. (2012). *Introduction to psychology: understanding psychology*. Jakarta: Salemba Humanika.
7. Gayatri, IAM, & Suriata, IN (2020). Challenges and opportunities of blind masseurs in increasing competency through implementation business standards of massage parlors. *ADI Journal on Recent Innovation (AJRI)*, 1 (2), 107-120.
8. Gupta S, Sukhai M, Wittich W (2021) Employment outcomes and experiences of people with seeing disability in Canada: An analysis of the Canadian Survey on Disability 2017. *PLoS ONE*, 16(11): e0260160. <https://doi.org/10.1371/journal.pone.0260160>.
9. Habibah, U., Sucipto, A. (2020). Building peer social support as a mental disorder solution for the blind. *Journal Of Advanced Guidance and Counseling*, 1 (1). <https://doi.org/10.21580/jagc.2020.1.1.5774>.
10. Heumann, J., & Joiner, K. (2020). *Being Heumann: An Unrepentant Memoir Of A Disability Rights Activist*. United States of America: Beacon Press.
11. Hidayat, L. (2020). Assistive technology in android applications for the blind. *Journal of Exponential (Education for Exceptional Children) Journal of Special Education*. 1 (2), 144-152. <https://journal.upy.ac.id/index.php/PLB>.
12. Kim, H., Son, S. (2023). Impacts of Daily Life and Job Satisfaction on Social Participation of Persons with Visual Impairment. *Occupational Therapy International*, 1-9. 10.1155/2023/6475756.

13. Leat, SJ, Legge, GE, & Bullimore, MA (1999). What is low vision? A re-evaluation of definitions. *Optometry and Vision Science*, 76 (4), 198-211.
14. Lee, S.Y., Gurnani, B., & Mesfin, F.B. (2024). *Blindness*. United States: National Library of Medicine.
15. Makkawy, A., & Long, S. (2021). Visual impairment in the virtual workplace: Exploration, experience, and interpretation. *Journal of Visual Impairment & Blindness*, 115(4), 299-309.
16. Marques, A., Ramke, J., Cairns, J., Butt, T., Zhang, J., Muirhead, D., ... & Burton, MJ (2021). Global economic productivity losses from vision impairment and blindness. *EClinical Medicine*, 35, 100852.
17. Medow, NB (2000). Vision impairment in the pediatric population. *The Lighthouse Handbook on vision impairment and vision rehabilitation*, p. 19.
18. Morse, A.R. (2019). Addressing the Maze of Vision Loss and Depression. *JAMA Ophthalmol*, 137(7), 832-833. [10.1001/jamaophthalmol.2019.1234](https://doi.org/10.1001/jamaophthalmol.2019.1234).
19. Nova, F., Gusman, T., Divine, R. (2019). Third eye for the blind using ultrasonic sensors and arduino pro mini328. *Electron Scientific Journal*. 11 (2), 79-83.
20. Nyman SR, Gosney MA, Victor CR (2010) Psychosocial impact of visual impairment in working-age adults. *Br J Ophthalmol* 94(11):1427. <https://doi.org/10.1136/bjo.2009.164814>.
21. Phoolka, E., & Navjot, K. (2012). Adversity quotient: a new paradigm to explore. *International Journal of Contemporary Business Studies*, 3 (4), 67-78.
22. Pirarska, J. (2021). The constructivist paradigm and phenomenological qualitative research design. *Research paradigm considerations for emerging scholars*, pp. 64–83.
23. Rodrigues, A., Nicolau, H., Montague, K., Guerreiro, J., & Guerreiro, T. (2020). Open challenges of blind people using smartphones. *International Journal of Human-Computer Interaction*, 36 (17), 1605-1622.
24. Siahaan, M., Jasa, CM, Anderson, K., Rosiana, MV, Lim, S., Yudianto, W. (2020). Application of artificial intelligence (ai) to a person with a blind Disability. *Journal Of Information Systems and Technology*. 1 (2), 186-193.
25. Sherrod, CE, Vitale, S., Frick, KD, & Ramulu, PY (2014). Association of vision loss and work status in the United States. *Jama Ophthalmology*, 132 (10), 1239-1242.
26. Smith, J., Flowers, P., & Larkin, M. (2009). *Interpretative Phenomenological Analysis: Theory, Method, and Research*. London: Sage Publications Ltd.
27. Stolz, P. (2000). *Adversity quotient turns obstacles into opportunities*. (T. Hermaya, Trans.) Jakarta: PT. Gramedia Widiasarana Indonesia.
28. Williams, H. (2021). The meaning of “phenomenology”: qualitative and philosophical phenomenological research methods. *The Qualitative Report* 26(2), 366–385. <https://doi.org/10.46743/2160-3715/2021.4587>.