

## Review Article

# Positive Thinking as a Means for Enhancing the Self-Esteem of Visually Impaired and Blind People: A Systematic Review

*Mogeda El Sayed El Keshky<sup>1</sup>, Nisreen Yacoub Mohammed<sup>2</sup>*

<sup>1</sup> Associate professor of Clinical psychology, Department of Psychology, Faculty of Arts and Humanities, King Abdulaziz University, Jeddah & Department of Psychology, Faculty of Arts, Assiut University, Egypt. E-mail: drmogeda@gmail.com

<sup>2</sup> Associate professor of psychology, Department of Psychology, Faculty of Arts and Humanities, King Abdulaziz University - Kingdom of Saudi Arabia, Jeddah 21551 - PO. Box 42803. E-mail: yacoub.nisreen@gmail.com

---

## ABSTRACT:

### A. Purpose of the article

The research is based on a systematic review that analyzes and correspondingly applies the three separate domains and binds them together in a nutshell to present viable results. The systematic review focused on locating all the relevant literature from the related fields namely biomedical analysis and interpretations, social factors and positive thinking impacts, and technology oriented solutions for the visually impaired and blind.

### B. Material and methods

The research followed the criteria of inclusion and exclusion was carried in two phases. The first phase of the evaluation applied generic parameters to find out whether the literature was strong enough to be considered or not. The second phase of the evaluation used more detailed criteria based on the relevant field's mappings. The objective of the study was to establish ground rules for analysis of three domains.

### C. Results

The results of the methodology and analysis indicate that self-esteem can indeed be established and that people respond to positive inclusion. Behavioral changes in both self-esteem and the positive effect of social inclusion are directly relevant to the impact of corrective behavioral therapy.

### D. Conclusion

The research analysis suggests that inclusion of practices that increase positivity in visually impaired people help them develop self-esteem, and achieve better treatment standards, as well as better quality of social life. The research is based on the implications of regularly providing behavioral therapies and positive experiences in variable scenarios. Performing patient and personality analysis before hand is strongly advised for designing a program of positive influences to best serve each individual.

### E. Implications for rehabilitation

The research is based on the implications of regularly adding the behavioral and positive implication therapies resulting in variable cases and scenarios. It is strongly advised to perform patient and personality analysis beforehand for designing a positive inflection program to best serve and match his/her personality.

---

**Keywords:** positive thinking, self-esteem, blind, visual impairment.

## Introduction

The modern world is advancing in so many ways and so many fields that perspective and reflective studies need to be carried out more often. The concerns of humanity have been addressed for quite some time now, and the effective results of all human effort range from moderate to outstanding. There are still various issues that need to be addressed relating to various levels of integrity, communication, skill-set and potential. One debated and now settled topics concerns providing apposite environment and opportunities to a disabled group of humanity (Pinter & Greenwald, 2005).

The current focus of study and research follows up on the establishment of a well-structured and positive basis for both consumers and contributors in the field of visual impairment. The cures, management, equal opportunities, special opportunities, easy lifestyle, and many other social factors, such as the ease of interaction with ATMs, speed cameras and other technologies in daily life, provide support and benefits for visually impaired and blind people (McGregor et al., 2009).

## Scope and Overview

This study aims to determine the appropriate areas of concentrations as to find a more suitable and empowering environment for people with disabilities (Burgstahler & Doe, 2014). The concepts of positive thinking and positive accelerators have been debated, researched and studied by many socio-medical scientists and simple social scientists as well. Positive thinking can help solve many problems associated with humans requiring special care. The idea inherent in this research is that positivity can culture and present itself in three different spectrums for three categories of effectiveness, because many researchers have not only focused on studying the social behavior of people with impairments such as visual or hearing impairment etc (Leary, 2007).

Studies have been carried out about potential and non-potential caring regimes in hospitals to discover the various patterns of response patients and people with impairments have to therapies, and to the positively created environments specially designed for them. Surprisingly, special care may sometimes lead to more depression and states of disassociation from other people, groups or communities. For some people. it seems to feed negative thoughts that bind a negative energy into their thinking style. Human do seem to conduct their behavior based on various different personality types (Major et al., 2003).

### Background Information

In the study under consideration, the effects and role of positive thinking are put to observation and experimentation in order to find a better manner of coping with ailments like visual impairment and blindness. Visual impairment, including total blindness, can be prevalent at birth or can appear in old or middle age as well be caused by specific environmental factors an individual is associated with.

Visual impairment was expected to decrease with health care and modern technology-oriented biological operations (Walton et al., 2014, p. 860). However, according to the international standards and statistics provided by the World Health Organization (WHO) about 285 million people on earth are categorized as having visual impairment. In this, the category about 39 million are blind people, which is a huge number, and approximately 246 million out of these 385 million have been classified as people with disabled vision, or more appropriately, as people with low powered vision system.

### Statistics of Visual Impairment

There are various factors that contribute towards visual impairment, and the statistics provide a guide to understanding the variable factors that can lead to visual impairment. Half the people with visual impairment are over the age of 50. Thus, studies and research in the development of visual impairment and its associated problems are driven by the statistics (Wentura et al., 2005).

The fact that 50% of the population suffering from the visual impairment is aged above 50 has opened up three areas of mainstream research in the past 14 years. One of these areas focuses on minimizing the cost of health care and providing facilities, since another statistic provided by WHO clearly states that 90% of visual impairment is observed in areas with low-income and hence low budgets. This is a very good reason to provide more facilities to low-income areas (Sedikides & Gregg, 2008).

### Cost of Blindness and other Visual Impairments

These statistics do serve the purpose of revealing a problem,

and also provide evidence to ask for valid support for it. However, the costs associated with such treatments do not become easy with statistics (Papadopoulos, 2014). The costs of blindness and visual impairment, as for any other disease, are usually classified into two broad spectrums: tangible costs and intangible costs. Tangible costs can be covered by funds, sponsorships, and the deployment of rightful medical teams and associations.

Whereas need for costs and managing costs is well understood, the direct opposite applies to intangible costs (Hall & Tarrier, 2003). Managing intangible costs presents solutions, as well as generates even more problems over time (Harrison, 2006). Understanding the role of intangible costs in context suggests that positivity and a more focused intention to spread positive aspirations and aims, at the same time as managing procedures increases the value of tangible costs, and also suggests that socio-medical miracles can be achieved hand-in-hand (Hayeems, et al, 2005).

### Incremental Cost-effectiveness Ratio

The Incremental Cost-effectiveness Ratio (ICER) is a highly viable statistic used to understand and analyze cost effectiveness. Its application is particular to medical support and interventions. ICER is defined by analyzing the difference in costs that exists, or might exist, between any two possible medical interventions. The complete ICER is further achieved by a division of difference effectiveness (Jones et al., 2002).

Many researchers have presented methodologies that serve the same objective and have analyzed how ICER is very helpful in determining the costs of possible outcomes or existing shortfalls. The perturbing research is focused on understanding the non-financial costs associated with positive actions and methodologies that can be adopted alongside various medical interventions to deal with visual impairment and blindness (Krahé & Altwasser, 2006).

### Literature Review & Literature Search

In relation to the study under consideration various platforms were explored for gathering literature such as research papers, case studies, analysis reports, white papers, medical research papers, social research papers, and articles etc. The main data set collection was classified into three primary categories for the purposes of research review and analysis. The categories are listed below.

**Category-1:** Biomedical data, statistics, and research in the field of visual impairment and blindness.

**Category-2:** The impact of social aspects and positive thinking on visually impairment and blindness.

**Category-3:** Technical aspects of visual impairment and blindness (Krizan & Suls, 2008).

The standard and economic databases relevant to medical and social journals and databases, as well as those with a technological aspect, were searched for the literature study. The medical databases searched with higher frequencies were Pub Med and OVID. The IEEE database for the technological aspects was searched and reviewed with UCI repository for the medical issues related to blindness and visual impairment (Heider, 2014). The common terms that were used to search the databases are as follows.

Table I: Keyword Search List

No.	Keyword searched for
1	Impaired vision
2	Low vision
3	Blindness
4	Cause of blindness
5	Recent developments in blindness
6	Visual impairment
7	Visually impaired
8	Blindness in various countries
9	Cost of visual treatment
10	Health cares related to blindness
11	Age-related blindness
12	Ratio of blindness to heart failure
13	the ratio of blindness to clinical depression
14	Blindness at birth
15	Age-related macular degeneration
16	Glaucoma

The techniques of research also used ‘and’ as well as ‘or’ operators to refine the research. Moreover, the keyword list of analysis was searched on the basis of newest and most relevant first.

### Research Literature Criteria

The three distinct yet closely related categories of research were evaluated by different criteria, such as the criteria for including an article or research as a part of the systematic review. The criterion for each field’s exclusion and inclusion is provided below.

#### A. Inclusion criteria for biomedical datasets and biomedical journals, articles & research

**The variability-1:** in procured data for research and study; also the associated cost of variation in the impairment studies. Studies that presented ground-based rules for disease perception and causes with the associated rate of relevancy and data accuracy were included in the systematic review (Taylor & Brown, 1988).

**The cost of procurement of data-2:** category focused on analyzing and acquiring data sets of value. Any data set from a regular website was not considered. Only the datasets that were regarded as the part of research or study in the related research or articles were considered. Moreover, to analyze the statistics and to measure patient health, data collections from various hospitals all over the globe were requested based on contractual acceptance. The contract bound the provider and consumer to utilize the data sets for educational and research purposes only.

**Data sensitivity issues and ratio of accuracy-3:** were calculated and checked for every piece of research that was considered as a part of the systematic review. Thus, any research selected that did not correspond to claims when compared with the data sets actually referred was excluded from the research.

**Studies that presented a model-4:** or summarized calculations for tangible and intangible costs associated with blindness.

**Standard data value evaluation and run length-5:** specifications that conform to patient health, care and careers.

#### B. Exclusion criteria for biomedical datasets and biomedical journals, articles & research

- Any research or study that did not specify the frequency of data recording was not included in the systematic review.
- Any research that did not conform to result in rehabilitation process on separate variable functions was not included.
- Studies that failed to provide associated (MacDonald, et al., 2003) cost of repair in treatment, when the mainstream of the study was focused on managing and understanding costs was also excluded.
- Studies that did not reveal the severity division of disease, or whose data was recorded without any reference to the severity of the disease were also excluded (Leksell et al., 2005).
- Economic costs pertaining to third world countries without reference to dataset availability and authentication were also excluded from the research study.

#### C. Inclusion criteria for social impacts of positive thinking on visual impairment and blindness datasets and social journals, articles & research

- Articles from social journals and scientific journals that presented ground rules and functioning of the mathematical prospects for how the brain and thinking work were included.
- Articles and papers that presented or suggested new models for building up emotional intelligence and defining new social interactions for people with any kind of disease or impairments, particularly blindness, were included (Jahnke et al., 2014).
- Studies that provided mathematical inductions backed up with scientific data for supporting results of success in dealing with cases of impairment and ailment were included.
- Case studies of effective support groups and therapies were included (Ickes, et al., 1973).

#### D. Exclusion criteria for social impacts of positive thinking on visual impairment and blindness datasets and social journals, articles & research

- Research papers, studies or articles that did not provide metric based analysis or any model were excluded from the study.
- Studies that did not have a strong literature reference were also excluded from the systematic review (Van & Maes, 2009).
- All social papers that did not consider a dataset of a minimum of 100 cases were not included as a part of the study

#### E. Inclusion criteria for technological solution development & processes for visual impairment and blindness datasets and

*technical/engineering journals, articles & research*

- All research papers that presented a methodological solution to aid blindness and help impairment were included (Leksell et al., 2001).
- White papers related to successful implementation were also included.
- Latest research relevant to process and data set selection were considered.
- Research studies with strong citation literature were considered (Ambachtsheer, 2012).
- Research studies that developed technological support such as aiding materials, new technology of sensors etc. were allotted strong importance (Jambor & Elliott, 2005).

*f. Exclusion criteria for technological solution development & processes for visual impairment and blindness datasets and technical/engineering journals, articles & research*

- Research papers or studies that did not use a registered data set were excluded (Link, & Phelan, 2001).
- Studies or implementations that did not provide experimental results or discussion material were excluded.
- Studies that did not include a mathematical background based on models were excluded (Hewett et al., 2015).
- If no correlation mapping was provided, the study was only utilized for its research idea only.

**Cost Analysis Evaluation**

The cost analysis for treatment and cure was also analyzed (Riddick, 2009). Special purpose graphs and metrics were observed so as to bring mathematical concepts into the review. Some software techniques were analyzed in comparison with the cost of development and cost of quality assurance. This particular phase of their view was very helpful in designing and understanding a model that could serve both developing and developed economic sectors (Gebauer et al., 2008).

Most commonly the cost studies were conducted for biomedical treatment and therapies that pertain to patients' well-being. The costs related to software development or technology oriented solutions were not particularly mixed with the former two areas. The mixing was not performed because the technological solutions as well as their maintenance bear a predominantly economic cost (Koole et al., 2009). Thus, the technological solutions were studied and reviewed as a part of the process but their cost management was calculated separately.

**Current Perception**

Current perceptions and methodologies address various aspects in different domains. The main idea behind the research analysis was to understand the logistics behind perceptive and analytical processing that could lead to better solutions for visually impaired and blind people. The critical aspect is, however, that positivity is reflected upon a brain and its corresponding functionality. The personality types of people are different and this tends to change perception. Thus, a patient may not respond to therapies and positivity procedures when it comes to treatment (Gilbert, 2007).

The medical treatments thus need to be paired with technological solutions since social groups of their own accord are not capable of influencing all personality types. The use of technological alterations and the improvement of human

independence should be conducted as a part of any medical treatment, and before any therapeutic concept of positivity is applied. The equality of the two concepts is crucial. A patient will focus on the anticipated level independence to be hoped for after the visual impairment has been compensated for (DeHart & Pelham, 2007).

**Analytical Processing**

However, the daily life activities of humans and their needs to participate equally cannot simply provide the content of a therapy session. Thus, scientists from social and technical domains need to comprehend that special equipment for visually impaired people must allow them to easily and equally participate in the environment (Riddick, 2009). The use of aids and the provision of employment in social sectors as well as openings in technical and non-technical companies should be brought about as a reform. This would ensure dignity and more social standing for people who are visually impaired or blind. With the inclusion of public employment, visually impaired or blind people will be able to see themselves as more responsible and more connected to society. This change of perspective on how best to combine treatments with positivity brings to light more socially-oriented approaches as well as technological advancements (Murray et al., 2009).

**Positive Approach**

To bring about a positive effect on the environment for visually impaired and blind people such social implications need to be developed as laws or reforms. This also implies that social groups and the government might have to consider their own errors (De Laat, et al., 2013), since openings of positions and even legalized groups require permission to operate. Legal constructs must always be followed. Importantly, impaired people should be provided special opportunities, and should never be automatically regarded as not being capable enough. The testing services and entry level examinations should all be of the normal standard, however, the key point is that the use of technology will enable impaired people to learn and be prepared to achieve that standard (Dayan et al., 2010).

**Methodology**

The study was conducted under the guidance of standards and rules provided by the Preferred Reporting Items for systematic reviews and Meta-Analyses (PRISMA). This systematic review was structured to not only achieve a perspective analysis based study on visual impairments and blindness, it was also conducted to achieve higher end possibilities, i.e. solutions on three different domains that affect the category of visual impairment and blindness. The systematic review was conducted using various resources from standard journals. Many research items were studied, and based on the research study and analysis, the methodological review has been presented as a part of the study and analysis. A standard collaborating checklist was formulated alongside the PRISMA standard 27-item checklist to understand and clearly define the results associated with the research review and analysis.

A new self-constructed list was also established to serve the three distinct categories that have been reviewed and studied in order to meet the requirements and categories that a single list would not have been able to accomplish on its own (Krahé & Altwasser, 2006). The selection of items prevalent in the list was based on the three primary categories and the constraints that follow up from the research area of that particular domain. The category checklists for this particular review have been

combined for common areas to observe the findings, correlation mapping, and discrepancies that might appear in analyzing the social and technical aspects related to health care of visually impaired and blind people.

### Functional Properties

The functional properties that are associated with the checklist used are not deployed as a criterion for measuring the strength and quality of articles or research considered. The metrics have been designed to analyze the prevalent situation, and to further highlight both its internal connections and the interconnections between various categories. This systematic review is focused on three categories namely: the biomedical research, studies with a visual impairment focus, and blindness statistics, cases and guidance.

### Biomedical Studies

The systematic review of biomedical studies related to blindness was put through the channel of checklists and analysis phase of the study to understand the causes, shortcomings, disparities, needs, and skills such as soft and hard skills that vary over the map. Both regional and local studies were analyzed through various platforms for a better understanding of the literature, and for more effective communication of the changes that require both attention and renovation at different levels.

### Role of Positive Thinking

The next mainstream field of review analysis was for the purpose of understanding and exploring the role of positive thinking to change the lives of people who are visually impaired and blind. The research review conducted was focused on analyzing the latest as well as early decision-based models about the impact positive thinking has on the mind, and how it can be used to bring about change in the mentality of people who are struggling with impairment and blindness. Medical as well as social papers on positivity, that can bring about change, have been studied and reviewed (Gregg, & Sedikides, 2010). The study of social and medical aspects was carried on with various criteria, to help understand the cause and effects related to visual impairment. Recent studies and projects have been undertaken to facilitate building a model that helps to identify the changes that actually have promising results, as well as those changes that can be used to bring about more opportunities for blind and visually impaired people (Zeigler-Hill, 2006).

### Use of Technology

The third category concentrated on results from the previous two categories. This technological category, studied as literature for the perturbed systematic review, covered the use of technology to bring about change in the lives and living standards for visually impaired and blind people. It revealed that ideas and interventions undertaken to support blind or visually impaired people were based on both positive thinking and the need to overcome the social barriers impaired people encounter in daily life. Typically, the category incorporated positive thinking by using cognitive medical sciences and establishing more comprehensible concepts that help the visually impaired and blind.

### Results

The search was based on different research platforms and comprised of almost 450 articles. Each article was processed

through the criteria of exclusion and inclusion. The following procedure was followed for generating an article set for research study and review.

**Phase-1:** For this phase, the 450 articles were gathered and the articles were categorized into the specific categories:

- a. Biomedical
- b. Social aspects of positive thinking
- c. Technologically oriented solutions

**Phase-2:** In this phase each list of gathered articles was scrutinized. Each article was processed through the checklists as well as the exclusion and inclusion criteria for that particular category.

Each article was subject to some common checklists for quality standards and data standards; the checklist was extensive and broad. It covered many aspects based on the type of concentration under consideration. The generic checklist for each of the category is summarized below (Dandeneau & Baldwin, 2004).

**Table II: Generic Checklist for Article Scrutiny**

Articles	Dataset standard (%)	Mathematical proofs	Scientific proofs	Quality of dataset	Information detail level
450	90%	Yes	Yes	Very High	Explanatory

The results from Phase 2 became input into the next phase that analyzed each and every article based on the models or definition-based claims the articles provided (Crowther et al., 2001).

**Phase-3:** This phase comprises analysis of the models or solutions presented as a part of the research or study. The selection of parameters for analyzing the domains depended upon the many distinct categories available (Marigold, et al., 2007). Each category reflected the nature of the domain under consideration. The following considerations were analyzed for each domain separately. For the economic evaluation, some of the selected questions have been presented below to provide an idea of the evaluation (Crocker et al., 2006).

- a. **Economic Evaluation:** This was done by gathering data and analyzing for the health costs and benefits provided by each study conducted. The metric of evaluation was based on the following criteria  $\frac{\text{Overall Quality(Q)}}{\text{Relevance of the study (R)}}$
- b. **Cost Minimization Analysis (CMA):** This was evaluated for studies that involved closely related concepts and results. The intervals between two studies reflected similar outputs in a decided range. This standard was selected from the World Health Organization to serve as a deciding factor in the selection of studies (Morag et al., 1999). Thus, any blindness treatment can be categorized using the following process in incremental formulation: If a New Blindness Treatment cost is approximately same as for an Old Treatment or a New Therapy cost is approximately same as for an Old Therapy, then the cost will be regarded as incrementally same and the study or process could be included. Three research articles supported this category (Chen, 1994).

Table-III: Generic CMA Results & Analysis

Research Article	Domain	Degree of Resemblance	CMA application
Article No 334	Technological solutions	95%	Yes, Valid
Article No 345	Technological solutions	100%	Yes, Valid

- c. **Cost Effectiveness Analysis (CEA):** This was applicable on all biomedical domain articles. This focused on finding out the effect of intercessions that can be primarily and very easily expressed in a single unit of measure such as the considered ones were for improvement in vision, the degree of blindness, and so on,(Buhrmester et al,2011).
- d. **Cost Utility Analysis (CUA):**This was used to create the aspect category for determining the extent of the side effects of a treatment, and the benefits of a prescribed treatment (Brunnström et al., 2004).
- e. **Cost Benefit Analysis (CBA):** This was used as a comparison of two different prevalent conditions related to vision. Two separate diseases were subject of interest (Brockner, & Guare, 1983).
- f. **Quality Adjusted Life Year (QALY):** This metric was used for combining the quantitative (months count) measure with a qualitative (effective quality over the month count) measure.

Table-IV: Generic Checklist for Therapy Observation(3 cases only have been presented.)

Effect of therapy	% change in condition	Ability to perform daily tasks	Accept-ance rate	Reje-ction rate	Cause of other diseases	Reluctan-ce towards treatment
Positive	67%	23%	50%	50%	NA	No
Positive	89%	76%	100%	0%	NA	No
Negative	10-15%	20-45%	15-35%	67% +/-	No	Yes

The overall view of systematic review analysis for article selection is presented in the flow chart below.

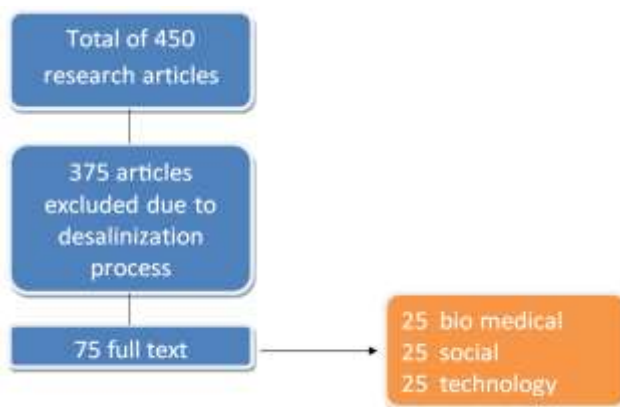


Figure-I: Overall systematic review process flow

**Discussion**

The systematic review has presented solid ground rules that establish the fact that positive thinking can bring about change in the lives of people who suffer from visual impairment and blindness. The review was conducted in three different domains that classified the interjections between the three categories (Briñolet al., 2006).The points to be considered are the social causes and social awareness, since the medical world is working and treating communities. However, the cost associated with treatment and benefits that are made available to people are highly dependent on the region and economic conditions (Bosson et al., 2006). The basic purpose of cost functionality should be to provide high-quality treatment for a better-living standard for visually impaired and blind people (Jambor& Elliott, 2005).

Consequently, the studies set forth the ideas that lower

economic conditions. Economic barriers need to be minimized in order to tackle more health related issues in blindness and visual impairment (Rolland & Walsh, 2006).Based on analysis techniques and procedures, the economic trade-offs observed

**present the following results.**

- Third world countries tend to be less careful about operations (Hodge et al., 2013)
- Third world countries are more focused on earning money to survive rather than to take care of health related to visual impairment or any other disease (Movahedi et al.,2011).
- Economic conditions present a much worse situation since low-income areas are not provided with the facility for regular check-ups or medication (Burgstahler & Doe, 2014).

- Medication is considered as a non-healthy choice in rural areas of third world countries thus presenting a harsh attitude towards the treatment (Huurre et al., 1999).
- No public or free health care hospitals have been established in rural areas to benefit people suffering from blindness (Bergh et al., 2012).
- Blindness at birth is considered a taboo in rural countries, as revealed by the statistics from rural areas studies in third world countries.
- Treatment at government or public hospitals involves many sanitation problems that cause the operations to require further surgeries (Sowislo & Orth, 2013).
- Cost management and care at hospitals for special patients is expensive and inadequate (Marinoble, 1998).
- The 50 and above age group tend to have more eye ailments compared to young people.
- Health insurance policies do not exist in third world countries. There are banking systems that do provide insurance and companies that offer health insurance to their employees. But then again studies reflect that most of the patients that do not receive such privileges belong to the low-income category (Baker et al., 2002).

Many other factors presented themselves as a part of the systematic review. However, the impact of social and positive thinking related to many crucial considerations, such as:

- The positive thinking study reveals which groups effectively contribute towards the development of centers for blind and visually impaired people (Lombana, 1980).
- The studies reveal that a positive outlook from society is more effective than the effect of the patient's own positive thinking (Back et al., 2009).
- The research studies conducted tests and presented analysis reports that suggest that the greater part of society needs to understand that blindness (Vandereycken, 1986) is not a curse or a mortal disease. Thus, the acceptance rate from society can be increased by a public education program using various forms of seminars and public health conferences, as well as helpful charity organizations that can communicate the message and create a more sympathetic environment for blind and visually impaired people (Anthony et al., 2007).
- The cost associated with bringing about a change in perception is directly proportional to the level of illiteracy and economic support of an area or country
- The establishment of rehabilitation centers is another way to encourage less privileged people to come and improve their prospects (Altman, 1981).
- Therapy and local group establishments can greatly increase the morale of local patients, especially those whose environments that are more like normal refreshment centers for blind people, so that the psychology (McFarlane, 1988) of the patients is not compromised.
- Special schools for students who are blind should increase the degree of acceptance in college in countries, whether they are low-income or high-income based countries (Althof et al., 2006).
- Teaching parents and community members to be more responsible towards the special people in the society should increase the degree of acceptance.
- Building traffic rules to help blind people move about even when they are alone would obviously be of assistance (Ahmed & Holtz, 2007).

## Conclusion

The studies and analysis presented suggest that positive thinking and inclusion in behavior does bring about change for the visually impaired and blind community. The use of technology and the creation of new technologies can help bring people with blindness closer to an unimpaired visual reality with greater happiness and more success-oriented life stories. The above 50s can be given good health care, and they can still be made feel wonderful and useful members of society

The social behavior studies in this case indicate that a more positive outlook from the society can change the way blindness and blind people are perceived currently. The next phase of improvement and the area of concentration involves building economic conditions in the favor of sight impaired and blind people, without the disparities and barriers that exist at the moment. Finally, technology has provided many solutions that not only bring ease to people suffering from visual impairment and blindness, but also focus on changing their possible courses of action in daily life. In this way, people will be able to reach out for more opportunities even with a lifelong impairment.

## Acknowledgements

This project was funded by the Deanship of Scientific Research (DSR), at King Abdulaziz University, Jeddah, under grant no. (G- 430/246/1437). The authors, therefore, acknowledge with thanks to DSR for their technical and financial support.

## Declaration of Interest Statement

The authors declare that they have no competing interests.

## References

- [1] Ahmed, S., & Holtz, S. A. (2007). Social and economic consequences of obstetric fistula: Life changed forever? *International Journal of Gynecology & Obstetrics*, 99, S10-S15. doi:10.1016/j.ijgo.2007.06.011
- [2] Althof, S. E., O'Leary, M. P., Cappelleri, J. C., Hvidsten, K., Stecher, V. J., Gline, S., ... & Siegel, R. L. (2006). Sildenafil citrate improves self-esteem, confidence, and relationships in men with erectile dysfunction: Results from an international, multi-center, double-blind, placebo-controlled trial. *The journal of sexual medicine*, 3(3), 521-529. <http://dx.doi.org/10.1111/j.1743-6109.2006.00234.x>
- [3] Altman, B. M. (1981). Studies of attitudes toward the handicapped: The need for a new direction. *Social problems*, 321-337. <http://dx.doi.org/10.1525/sp.1981.28.3.03a00070>
- [4] Ambachtsheer, K. P. (ed) (2012). *Reinventing Pension Fund Management: Easier Said than Done, in Pension Revolution: A Solution to the Pensions Crisis*, John Wiley & Sons, Inc., Hoboken, NJ, USA. doi: 10.1002/9781119197959.ch14
- [5] Anthony, D. B., Wood, J. V., & Holmes, J. G. (2007). Testing sociometer theory: Self-esteem and the importance of acceptance for social decision-making. *Journal of Experimental Social Psychology*, 43(3),

- 425-432.  
<http://dx.doi.org/10.1016/j.jesp.2006.03.002>
- [6] Back, M. D., Krause, S., Hirschmüller, S., Stopfer, J. M., Egloff, B., & Schmukle, S. C. (2009). Unraveling the three faces of self-esteem: A new information-processing sociometer perspective. *Journal of Research in Personality*, 43(5), 933-937. <http://dx.doi.org/10.1016/j.jrp.2009.04.002>
- [7] Baker, S. M., Stephens, D. L., & Hill, R. P. (2002). How can retailers enhance accessibility: giving consumers with visual impairments a voice in the marketplace. *Journal of Retailing and Consumer Services*, 9(4), 227-239. [http://dx.doi.org/10.1016/s0969-6989\(01\)00034-0](http://dx.doi.org/10.1016/s0969-6989(01)00034-0)
- [8] Bergh, S., Selbæk, G., & Engedal, K. (2012). Discontinuation of antidepressants in people with dementia and neuropsychiatric symptoms (DESEP study): double blind, randomised, parallel group, placebo controlled trial. *BMJ*, 344, e1566. <http://dx.doi.org/10.1136/bmj.e1566>
- [9] Briñol, P., Petty, R. E., & Wheeler, S. C. (2006). Discrepancies between explicit and implicit self-concepts: Consequences for information processing. *Journal of personality and social psychology*, 91(1), 154. <http://dx.doi.org/10.1037/0022-3514.91.1.154>
- [10] Bosson, J. K., Lakey, C. E., Campbell, W. K., Zeigler-Hill, V., Jordan, C. H., & Kernis, M. H. (2008). Untangling the links between narcissism and self-esteem: A theoretical and empirical review. *Social and Personality Psychology Compass*, 2(3), 1415-1439. <http://dx.doi.org/10.1111/j.1751-9004.2008.00089.x>
- [11] Brockner, J., & Guare, J. (1983). Improving the performance of low self-esteem individuals: An attributional approach. *Academy of Management Journal*, 26(4), 642-656. <http://dx.doi.org/10.2307/255912>
- [12] Brown, R. P., & Bosson, J. K. (2001). Narcissus meets Sisyphus: Self-love, self-loathing, and the never-ending pursuit of self-worth. *Psychological Inquiry*, 12(4), 210-213. [http://dx.doi.org/10.1207/s15327965pli1204\\_1](http://dx.doi.org/10.1207/s15327965pli1204_1)
- [13] Brunnström, G., Sörensen, S., Alsterstad, K., & Sjöstrand, J. (2004). Quality of light and quality of life—the effect of lighting adaptation among people with low vision. *Ophthalmic and Physiological Optics*, 24(4), 274-280. <http://dx.doi.org/10.1111/j.1475-1313.2004.00192.x>
- [15] Buhmester, M. D., Blanton, H., & Swann Jr, W. B. (2011). Implicit self-esteem: nature, measurement, and a new way forward. *Journal of personality and social psychology*, 100(2), 365. <http://dx.doi.org/10.1037/a0021341>
- [16] DeHart, T., & Pelham, B. W. (2007). Fluctuations in state implicit self-esteem in response to daily negative events. *Journal of Experimental Social Psychology*, 43(1), 157-165. <http://dx.doi.org/10.1016/j.jesp.2006.01.002>
- [17] De Laat, S., Freriksen, E., & Vervloed, M. P. (2013). Attitudes of children and adolescents toward persons who are deaf, blind, paralyzed or intellectually disabled. *Research in developmental disabilities*, 34(2), 855-863. <http://dx.doi.org/10.1016/j.ridd.2012.11.004>
- [18] De Leo, D., Hickey, P. A., Meneghel, G., & Cantor, C. H. (1999). Blindness, fear of sight loss, and suicide. *Psychosomatics*, 40(4), 339-344. [http://dx.doi.org/10.1016/s0033-3182\(99\)71229-6](http://dx.doi.org/10.1016/s0033-3182(99)71229-6)
- [19] Domingo, M. C. (2012). An overview of the Internet of Things for people with disabilities. *Journal of Network and Computer Applications*, 35(2), 584-596. <http://dx.doi.org/10.1016/j.jnca.2011.10.015>
- [20] Ettema, D., & Smajic, I. (2014). Walking, places and wellbeing. *The Geographical Journal*, 181(2), 102-109. <http://dx.doi.org/10.1111/geoj.12065>
- [21] Falk, C. F., Heine, S. J., Takemura, K., Zhang, C. X., & Hsu, C. W. (2014). Are Implicit Self-Esteem Measures Valid for Assessing Individual and Cultural Differences? *Journal of personality*, 83(1), 56-68. <http://dx.doi.org/10.1111/jopy.12082>
- [22] Fitzgerald, R. G., Ebert, J. N., & Chambers, M. (1987). Reactions to blindness: A four-year follow-up study. *Perceptual and motor skills*, 64(2), 363-378. <http://dx.doi.org/10.2466/pms.1987.64.2.363>
- [23] Forest, A. L., & Wood, J. V. (2012). When social networking is not working individuals with low self-esteem recognize but do not reap the benefits of self-disclosure on Facebook. *Psychological science*, 0956797611429709. <http://dx.doi.org/10.1177/0956797611429709>
- [24] Franck, E., De Raedt, R., Dereu, M., & Van den Abbeele, D. (2007). Implicit and explicit self-esteem in currently depressed individuals with and without suicidal ideation. *Journal of behavior therapy and experimental psychiatry*, 38(1), 75-85. <http://dx.doi.org/10.1016/j.jbtep.2006.05.003>
- [25] Gebauer, J. E., Riketta, M., Broemer, P., & Maio, G. R. (2008). "How much do you like your name?" An implicit measure of global self-esteem. *Journal of Experimental Social Psychology*, 44(5), 1346-1354. <http://dx.doi.org/10.1016/j.jesp.2008.03.016>
- [26] Gilbert, C. (2007). Convincing governments to act: VISION 2020 and the Millennium Development Goals. *Community Eye Health Journal*, 20(64). [http://dx.doi.org/10.1057/9780230604933\\_1](http://dx.doi.org/10.1057/9780230604933_1)
- [27] Gleser, J. M., & Brown, P. (1986). Modified judo for visually handicapped people. *Journal of Visual Impairment & Blindness*. <http://dx.doi.org/10.1177/026461968600400308>
- [28] Gregg, A. P., & Sedikides, C. (2010). Narcissistic fragility: Rethinking its links to explicit and implicit self-esteem. *Self and Identity*, 9(2), 142-161. <http://dx.doi.org/10.1080/15298860902815451>



- [29] Hall, P. L., & TARRIER, N. (2003). The cognitive-behavioural treatment of low self-esteem in psychotic patients: a pilot study. *Behaviour research and therapy*, 41(3), 317-332  
[http://dx.doi.org/10.1016/s0005-7967\(02\)00013-x](http://dx.doi.org/10.1016/s0005-7967(02)00013-x)
- [30] Harrison, T. (2006). Health promotion for persons with disabilities: what does the literature reveal? *Family & community health*, 29(1), 12S-19S.  
<http://dx.doi.org/10.1097/00003727-200601001-00004>
- [31] Hayeems, R. Z., Geller, G., Finkelstein, D., & Faden, R. R. (2005). How patients experience progressive loss of visual function: a model of adjustment using qualitative methods. *British Journal of Ophthalmology*, 89(5), 615-620.  
<http://dx.doi.org/10.1136/bjo.2003.036046>
- [32] Heider, D. (2014). *White news: Why local news programs don't cover people of color*. Routledge.  
<http://dx.doi.org/10.5840/tpm20146565>
- [33] Hewett, R., Douglas, G., & Keil, S. (2014). Wellbeing of young people with visual impairments. *Visual Impairment Centre for Teaching and Research, University of Birmingham*.  
<http://dx.doi.org/10.1177/0264619614535374>
- [34] Hodge, S., Barr, W., Bowen, L., Leeven, M., & Knox, P. (2013). Exploring the role of an emotional support and counselling service for people with visual impairments. *British Journal of Visual Impairment*, 31(1), 5-19  
<http://dx.doi.org/10.1177/0264619612465168>
- [35] Huurre, T. M., Komulainen, E. J., & Aro, H. M. (1999). Social support and self-esteem among adolescents with visual impairments. *Journal of Visual Impairment and Blindness*, 93, 26-37.  
<http://dx.doi.org/10.1080/15017410109510766>
- [36] Ickes, W. J., Wicklund, R. A., & Ferris, C. B. (1973). Objective self awareness and self esteem. *Journal of Experimental Social Psychology*, 9(3), 202-219  
[http://dx.doi.org/10.1016/0022-1031\(73\)90010-3](http://dx.doi.org/10.1016/0022-1031(73)90010-3)
- [37] Jambor, E., & Elliott, M. (2005). Self-esteem and coping strategies among deaf students. *Journal of Deaf Studies and Deaf Education*, 10(1), 63-81.  
<http://dx.doi.org/10.1093/deafed/eni004>
- [38] Jahnke, S., Imhoff, R., & Hoyer, J. (2015). Stigmatization of people with pedophilia: Two comparative surveys. *Archives of sexual behavior*, 44(1), 21-34  
<http://dx.doi.org/10.1007/s10508-014-0312-4>
- [39] Jones, J. T., Pelham, B. W., Mirenberg, M. C., & Hetts, J. J. (2002). Name letter preferences are not merely mere exposure: Implicit egotism as self-regulation. *Journal of Experimental Social Psychology*, 38(2), 170-177  
<http://dx.doi.org/10.1006/jesp.2001.1497>
- [40] Koole, S. L., Govorun, O., Cheng, C. M., & Gallucci, M. (2009). Pulling yourself together: Meditation promotes congruence between implicit and explicit self-esteem. *Journal of Experimental Social Psychology*, 45(6), 1220-226.  
<http://dx.doi.org/10.1016/j.jesp.2009.05.018>
- [41] Krahe, B., & Altwasser, C. (2006). Changing negative attitudes towards persons with physical disabilities: An experimental intervention. *Journal of Community & Applied Social Psychology*, 16(1), 59-69  
<http://dx.doi.org/10.1002/casp.849>
- [42] Krizan, Z., & Suls, J. (2008). Are implicit and explicit measures of self-esteem related? A meta-analysis for the Name-Letter Test. *Personality and Individual Differences*, 44(2), 521-531  
<http://dx.doi.org/10.1016/j.paid.2007.09.017>
- [43] Leary, M. R. (2007). Motivational and emotional aspects of the self. *Annu. Rev. Psychol.*, 58, 317-344.  
<http://dx.doi.org/10.1146/annurev.psych.58.110405.085658>
- [44] Leksell, J. K., Johansson, I., Wibell, L. B., & Wikblad, K. F. (2001). Power and self-perceived health in blind diabetic and nondiabetic individuals. *Journal of Advanced Nursing*, 34(4), 511-519  
<http://dx.doi.org/10.1046/j.1365-2648.2001.01780.x>
- [45] Leksell, J. K., Wikblad, K. F., & Sandberg, G. E. (2005). Sense of coherence and power among people with blindness caused by diabetes. *Diabetes research and clinical practice*, 67(2), 124-129.  
<http://dx.doi.org/10.1016/j.diabres.2004.06.002>
- [46] Link, B. G., & Phelan, J. C. (2001). Conceptualizing stigma. *Annual review of Sociology*, 363-385.  
<http://dx.doi.org/10.1146/annurev.soc.27.1.363>
- [47] Lombana, J. H. (1980). Fostering positive attitudes toward handicapped students: A guidance challenge. *The School Counselor*, 27(3), 176-182.  
<http://dx.doi.org/10.1002/j.1556-6978.1980.tb01625.x>
- [48] MacDonald, G., Saltzman, J. L., & Leary, M. R. (2003). Social approval and trait self-esteem. *Journal of research in personality*, 37(2), 23-40.  
[http://dx.doi.org/10.1016/s0092-6566\(02\)00531-7](http://dx.doi.org/10.1016/s0092-6566(02)00531-7)
- [49] Major, B., Quinton, W. J., & Schmader, T. (2003). Attributions to discrimination and self-esteem: Impact of group identification and situational ambiguity. *Journal of Experimental Social Psychology*, 39(3), 220-231  
[http://dx.doi.org/10.1016/s0022-1031\(02\)00547-4](http://dx.doi.org/10.1016/s0022-1031(02)00547-4)
- [50] Marigold, D. C., Holmes, J. G., & Ross, M. (2007). More than words: reframing compliments from romantic partners' fosters security in low self-esteem individuals. *Journal of personality and social psychology*, 92(2), 232  
<http://dx.doi.org/10.1037/0022-3514.92.2.232>
- [51] Marinoble, R. M. (1998). Homosexuality: A blind spot in the school mirror. *Professional school counseling*, 1(3), 4-7  
<http://dx.doi.org/10.5330/psc.n.2012-16.4>
- [52] McGregor, I., Nash, K. A., & Inzlicht, M. (2009). Threat, high self-esteem, and reactive approach-motivation: Electroencephalographic evidence. *Journal of Experimental Social Psychology*, 45(4), 1003-1007

- <http://dx.doi.org/10.1016/j.jesp.2009.04.011>
- [53] Morag, M., Morag, A., Reichenberg, A., Lerer, B., & Yirmiya, R. (1999). Psychological variables as predictors of rubella antibody titers and fatigue—a prospective, double blind study. *Journal of Psychiatric Research*, 33(5), 389-395. [http://dx.doi.org/10.1016/s0022-3956\(99\)00010-2](http://dx.doi.org/10.1016/s0022-3956(99)00010-2)
- [54] Movahedi, A., Mojtahedi, H., & Farazyani, F. (2011). Differences in socialization between visually impaired student-athletes and non-athletes. *Research in developmental disabilities*, 32(1), 58-62. <http://dx.doi.org/10.1016/j.ridd.2010.08.013>
- [55] Murray, S. L., Leder, S., MacGregor, J. C., Holmes, J. G., Pinkus, R. T., & Harris, B. (2009). Becoming irreplaceable: How comparisons to the partner's alternatives differentially affect low and high self-esteem people. *Journal of experimental social psychology*, 45(6), 1180-1191. <http://dx.doi.org/10.1016/j.jesp.2009.07.001>
- [56] Papadopoulos, K. (2014). The impact of individual characteristics in self-esteem and locus of control of young adults with visual impairments. *Research in developmental disabilities*, 35(3), 671-675. <http://dx.doi.org/10.1016/j.ridd.2013.12.009>
- [57] Pelham, B. W., Koole, S. L., Hardin, C. D., Hetts, J. J., Seah, E., & DeHart, T. (2005). Gender moderates the relation between implicit and explicit self-esteem. *Journal of Experimental Social Psychology*, 41(1), 84-89. <http://dx.doi.org/10.1016/j.jesp.2003.10.008>
- [58] Pinter, B., & Greenwald, A. G. (2005). Clarifying the role of the "other" category in the self-esteem IAT. *Experimental Psychology*, 52(1), 74-79. <http://dx.doi.org/10.1027/1618-3169.52.1.74>
- [59] Pronin, E., Lin, D. Y., & Ross, L. (2002). The bias blind spot: Perceptions of bias in self versus others. *Personality and Social Psychology Bulletin*, 28(3), 369-381. <http://dx.doi.org/10.1177/0146167202286008>
- [60] Riddick, B. (2009). *Living with dyslexia: The social and emotional consequences of specific learning difficulties/disabilities*. Routledge. <http://dx.doi.org/10.4324/9780203864579>
- [61] Rolland, J. S., & Walsh, F. (2006). Facilitating family resilience with childhood illness and disability. *Current opinion in pediatrics*, 18(5), 527-538. <http://dx.doi.org/10.1097/01.mop.0000245354.83454.68>
- [62] Rudolph, A., Schröder-Abé, M., Schütz, A., Gregg, A. P., & Sedikides, C. (2008). Through a glass, less darkly? Reassessing convergent and discriminant validity in measures of implicit self-esteem. *European Journal of Psychological Assessment*, 24(4), 273-281. <http://dx.doi.org/10.1027/1015-5759.24.4.273>
- [63] Sakellaropoulo, M., & Baldwin, M. W. (2007). The hidden sides of self-esteem: Two dimensions of implicit self-esteem and their relation to narcissistic reactions. *Journal of Experimental Social Psychology*, 43(6), 995-1001. <http://dx.doi.org/10.1016/j.jesp.2006.10.009>
- [64] Sedikides, C., & Gregg, A. P. (2008). Self-enhancement: Food for thought. Perspectives on *Psychological Science*, 3(2), 102-116. <http://dx.doi.org/10.1111/j.1745-6916.2008.00068.x>
- [65] Sherrill, C., Hinson, M., Gench, B., Kennedy, S. O., & Low, L. (1990). Self-concepts of disabled youth athletes. *Perceptual and motor skills*, 70(3c), 1093-1098. <http://dx.doi.org/10.2466/pms.1990.70.3c.1093>
- [66] Sowislo, J. F., & Orth, U. (2013). Does low self-esteem predict depression and anxiety? A meta-analysis of longitudinal studies. *Psychological bulletin*, 139(1), 213. <http://dx.doi.org/10.1037/a0028931>
- [67] Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: a social psychological perspective on mental health. *Psychological bulletin*, 103(2), 193. <http://dx.doi.org/10.1037//0033-2909.103.2.193>
- [68] Thomas, D. (2015). *The social psychology of childhood disability* (Vol. 30). Psychology Press. <http://dx.doi.org/10.4324/9781315722849>
- [69] Van Puyenbroeck, J., & Maes, B. (2009). The Effect of Reminiscence Group Work on Life Satisfaction, Self-Esteem and Mood of Ageing People with Intellectual Disabilities. *Journal of Applied Research in Intellectual Disabilities*, 22(1), 23-33. <http://dx.doi.org/10.1111/j.1468-3148.2008.00434.x>
- [70] Walton, J., Priest, N., Kowal, E., White, F., Brickwood, K., Fox, B., & Paradies, Y. (2014). Talking culture? Egalitarianism, color-blindness and racism in Australian elementary schools. *Teaching and Teacher Education*, 39, 112-122. <http://dx.doi.org/10.1016/j.tate.2014.01.003>
- [71] Wentura, D., Kulfanek, M., & Greve, W. (2005). Masked affective priming by name letters: Evidence for a correspondence of explicit and implicit self-esteem. *Journal of Experimental Social Psychology*, 41(6), 654-663. <http://dx.doi.org/10.1016/j.jesp.2004.02.005>
- [72] Zeigler-Hill, V. (2006). Discrepancies between implicit and explicit self-esteem: Implications for narcissism and self-esteem instability. *Journal of personality*, 74(1), 119-144. <http://dx.doi.org/10.1111/j.1467-6494.2005.00371.x>