Journal of Positive School Psychology http://journalppw.com
2022, Vol. 6, No. 11, 1884-1893

Effectiveness Of White Cane Usage And Social Adjustment Of Persons With Virtual Impairment

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ABSTRACT

This research work examined the effectiveness of white cane usage and the social adjustment of people with virtual impairment. In order to achieve the objectives of this study, the survey research method was adopted, while the convenience sampling technique was used to select two hundred and fifty (250) respondents as the sample size for the study. The instrument for data collection was a self-developed questionnaire. The method of data analysis employed was the independent t-test statistical tool. The study revealed that there is a difference in the social adjustment of people with visual impairment in long cane use; also that there was no link between (a) adjustment and educational aspirations; (b) adjustment and self-concept; and (c) adjustment and academic achievement in visually impaired children. The study recommended that visually impaired people should be made to appreciate the philosophy of mobility training by making sure that it is both development and reward-driven in nature.

Introduction

Individuals with any degree of visual impairment, whether complete blindness, partial sight, or poor vision, are identified as such. Many of the people these individuals interact with are cruel or unethical in their behaviour. They also have less life experience and fewer friends than their topic counterparts (Beaty, 1994). People who are blind, for instance, may suffer from low self-esteem, which manifests itself in a variety of negative behaviours such as apathy, reliance, and unwillingness to take responsibility (Gurb, 2000). This doesn't always help them communicate with their sighted peers, even if they are in a conventional classroom setting. However, many of them are still unable to socialise well with others (George and Duquette, 2006). People who are visually impaired confront numerous additional challenges, such as those related to mobility, orientation in unfamiliar environments, and the development of support systems. With so many issues, it's no wonder they have trouble getting along with themselves. Moreover, a person's way of thinking, feeling, and acting must shift drastically once they lose their sight (Dodds and Flannisen, 2004). Neglecting to correct a visual impairment, no matter how severe, may lead to emotional distress.

One's ability to readjust may vary widely depending on the scope and depth of accessible psychological resources and rehabilitation programmes. It's a horrible illness that has serious consequences for people's health and the economy. The individual's loved ones and the community at large are all impacted. Loss of sight due to disease or accident forces drastic lifestyle adjustments, which may be emotionally and psychologically taxing on the victim. Those with eye disorders Many people everywhere in the globe have to contend with terrible circumstances. To achieve acceptance within a given culture, one must engage in a process known as social adjustment, in which they modify their behaviour in accordance with the

norms, standards, and requirements of that community. One way of looking at it is as a mental operation. Adjusting to new norms and ideals. "Getting along with other people as best you can" is known in the field of psychology as "adjustment." Frederick (2004). Adaptability is a manner of acting that allows one to satisfy both immediate and long-term requirements. To succeed in life, one must be able to play by the rules and strike a balance between competing forces. In order to get along with oneself, other people, or one's surroundings, one must go through the process of adjustment. The purpose is to maintain harmony between a person and their surrounding environment. In the case of Nathan and Vanjik (2001).

According to Shumnger and Oneail (2014), adjustment has been studied in psychology from two perspectives: as an endpoint and a process. You must be doing what you should be doing and doing it well in order to consider adjustment a success. For this to happen, we'd have to use objective standards to evaluate products. However, researchers in the field of psychology have shown an interest in studying the transformation. One way to do this is to watch the blind person in action as they navigate the world around them. A blind person is said to have adjusted if the individual's interactions with his or her surroundings conform to norms. The suspect would be considered to be behaving typically. Doctors should be consulted for cases of extreme outlier-ism. Dissimilarities of this kind are known as maladjustment. An abnormal pattern of behaviour is one that deviates significantly from the norm.

Because sight is one of the most crucial methods to receive information about the world, people with visual problems have difficulty with ADL. Wilcock (2008) noted the significance of good eyesight in the workplace. In his opinion, the visual sense accounts for anywhere from 75% to 90% of the information that is permanently preserved in the human brain. By the time you reach adulthood, you'll have developed very precise binocular vision, which will aid you in using sophisticated hands and tools. In occupational science, this "capacity" belongs to the "physical subsystem" (Primeau, 2006). Focusing one's attention and using visual cues to absorb and retain information are essential skills in today's competitive and globalised society. Therefore, losing one's eyesight will have repercussions on one's capacity to earn a living, interact with others, unwind, and look after oneself. The inability to see clearly may make even routine tasks like grocery shopping, getting dressed, and cooking difficult (Watson, 2000). Further, it may make it difficult to accomplish things like read, drive, write, recognise people, and walk (Higgins and Bailey 2000).

Problem Statement

It appears that their quality of life has been diminished because of their visual impairment, which has made it difficult for them to obtain an education, find a suitable spouse, secure gainful employment, avoid physical and verbal abuse, and be subjected to the kind of negative family and social attitudes that can damage self-esteem and increase the risk of otherwise avoidable mental health issues. People who are visually impaired have unique challenges beyond those already listed, including mobility, information access, communication, and transportation. This makes it challenging for them to adapt to their new environment. People who are visually impaired confront unique challenges that must be met before they can fully integrate into mainstream society.

Theoretical Framework

Social Comparison Theory

Many individuals believe that making comparisons to others is the most significant

factor when gauging their social standing. One's self-evaluation, and hence one's understanding of oneself, may be improved by comparison to others, whether such comparison yields good, neutral, or negative results. Individuals evaluate the quality of their thoughts and characteristics by comparing them to those of their "significant partner," according to Festinger's Social Comparison Theory from 1954. Self-worth and comparisons may alter the significance of a "significant other." In order to avoid feeling terrible about themselves, people may minimise the significance of a significant individual whose attributes appear considerably superior or significantly different from their own, as suggested by Festinger's theory of cognitive dissonance from 1957. Social comparison theorists contend that there are several methods through which comparisons may be made. According to Wills's (1981, 1987) Theory of Downward Comparison, persons with low self-esteem are more likely to engage in comparisons that boost their confidence. To feel better about themselves, people often go to individuals they perceive to be in worse situations. The term "contrast effect" describes this phenomenon. But they might also increase their confidence by making comparisons to others they know. The term for this phenomenon is "assimilation" (Brown et al., 1992). Social comparisons (parallel, downward, and upward) are regarded to aid in the functioning and well-being of those who are members of stigmatised groups (Festinger, 1954). Stigmatized groups, according to Gecas (1972), may find that selective downward comparison is less scary and helps them feel better about themselves.

Prevalence of Visual Impairment

The Globe Health Organization (WHO) Task Force on Data on Blindness and Impaired Vision reported in 1995 that 37.1 million individuals throughout the world had low vision or were blind. A worldwide prevalence of 0.7% was therefore calculated. The prevalence of blind persons in Africa is well-known. Scientists estimate that roughly 1% of the African population, and a far larger percentage of those in Sub-Saharan Africa, are visually impaired. Among adults, poor eyesight and blindness are most often caused by cataracts, corneal, and retinal illnesses (Oduntan2005:44-45). More than 1.4 million youngsters younger than 14 are blind. The majority of the world's 15 million visually impaired children live in underdeveloped nations like Ethiopia, where kids are sent to residential schools for the blind despite their ability to see. Due to their inability to afford vision correction procedures, individuals are unable to or choose not to attend mainstream educational institutions (Khan, 2008:1). There are 1.6% persons in Ethiopia who are blind (1.1% in urban areas and 1.6% in rural regions) and 3.7% people who have limited eyesight (2.6% in urban areas and 3.8% in rural areas). When compared to males, women have a higher prevalence of visual impairments. Blindness affects 1.9% of women and 1.2% of men, while reduced vision affects 4.1% of women and 3.1% of men. In Ethiopia, blindness affects almost 6% of the population, including 0.1% of children (Federal Ministry of Health of Ethiopia, 2006: 4). Both the government and non-profit organisations in Ethiopia contribute to the country's special education system. The government has funded special education programmes that integrate into normal schools for students with disabilities. (White and Michael 2006:7) Every single one of them is under-resourced. In most urban areas, special education classrooms and housing units are in high demand yet severely limited. As a result, there are still many youngsters and students who are unable to attend classes. Ethiopia's annual report for 2010 shows that the number of pupils participating in a special education programme for those with impaired vision or who are blind varies widely from grade to grade. There are a combined 7911

pupils in kindergarten through grade eight, junior high (grades nine through ten), and high school (grades eleven through twelve) (Ministry of Education, 2010). Friendship with the visually impaired is typically frowned upon. This may be due to the fact that they aren't often accepted in most social circles. Many blind children and teenagers, for instance, have trouble playing, ask irrelevant questions, and display an excessive amount of devotion. Some of these persons may also engage in other problematic behaviours, such as making odd head and hand movements or poking their eyes when in a seated, standing, or moving position (Tirago 2012:5). The process of coming up with new ideas is fundamental to the way we think. People with poor vision have difficulty picking up some concepts since so much of what we know is conveyed visually. Individuals who are blind are often less adventurous and more reserved. This limits their ability to acquire knowledge compared to others who can see. As a consequence, students with impaired vision may be limited in their exposure to the world beyond the classroom. This may cause them to become more submissive, reliant, and powerless. Their psychological functioning, namely self-esteem, may be impacted. Having high self-esteem means that you believe in yourself and your abilities. The key to long-term fulfilment, success, and improvement lies in this area (Scott & Murry, 2001:287).

Some children with exceptional needs have difficulty integrating because they place too much emphasis on themselves and their impairment. They are not like other children who are less prone to react negatively to what they perceive to be rude or unjust behaviour. Those who are socially adjusted are better equipped to deal with uncertainty about how others may respond to them (Tekle 2004:33). Visually impaired students have unique psychological and social requirements because of the profound impact that sight loss may have on an individual. There may not be enough opportunities to interact with positive role models, engage in pleasurable pursuits, gain knowledge about human sexuality, or become familiar with and accepting of one's own visual impairment (AFB, 2003:9).

Because of the aforementioned issues, getting acclimated to living with a handicap may be challenging. Self-adjustment to a handicap is recognising the constraints posed by the impairment and coming to terms with them in a positive manner. This is not the same as "any easy acceptance of disability," when the bar for success is set artificially low by predetermined norms, as Tefera (2002:23) puts it. Because of this, it may be more challenging to adapt and find happiness through developing a healthy sense of self-worth and learning to accept oneself the way one should.

Assessment of White Cane Usage and Social Adjustment of Persons with Visual Impairment

Most professionals and users of mobility aids think that the long cane is the best, most practical, least expensive, and most widely accessible mobility aid ever created. It's often cited as one of the few generally acknowledged and tried-and-true major forms of unaccompanied travel (Uslan, 2000). A well-trained cane user also stands proudly and strides confidently. People's sympathies for him shifted to adoration as a result of this. In 1872, blind British man Hank Levy invented the cane to help him get about. It wasn't until 1946, when Hoover modified Levy's touch method in the US, that it was widely recognised in England (Dodds, 2003). The term "cane" refers to a variety of walking aids, including the traditional long cane, the foldable cane, the white wooden cane, the support or orthopaedic cane, and the laser cane (Dodds, 1993). There were benefits and drawbacks to each kind of cane, such as how compact they folded up for storage or how effectively they navigated stairs. Canes were primarily used for defence, exploration, and

locating obstacles like holes, drops, and other changes in ground level. Additionally, it serves as a warning that the user has vision problems and should exercise caution when driving (Mullen, 2009). The most popular method was touching. Skillful use of the cane, including tapping left to right and stepping in time with the cane, was necessary. Therefore, mastering the cane's usage was the first priority. Carroll (2001) argues that "the cane is worse than worthless without effective education." There was a severe shortage of trainers in Kenya, therefore it was typical to see blind men accompanied by young boys, each of whom carried one end of a cane or long staff. The term "sighted guide" describes this method. The study confirms what the researcher and others suspected—that there is a severe shortage of experts who can educate persons with vision impairments these crucial travelling skills. Even though statistics were unavailable, it seemed that relatively few Kenyans who were visually impaired had received training in orientation and mobility, and that the same was true of trained mobility teachers. However, a study conducted by Ellis (2001) found that those who had been trained to properly use canes were far more mobile than those who had not. Educators agree that students who have lost their sight benefit greatly from structured instruction in orientation and mobility. Many presenters at the 16th international mobility conference in Spain emphasised the importance of direction and mobility in fostering independence and confidence in persons with visual impairments (Malki, 2004). The capacity to go about on one's own was frequently a deciding element in a person's ability to find and hold gainful employment and to lead a life of independence and respect (Uslan, 2000). Orientation and mobility training, as has been noted by others, is crucial for fostering independence and self-reliance in a blind person of any age (Tooze, 2001; Yakura, 1994). According to Blash and Welsh (2000), many persons with visual impairment are unable to do this on their own. In order to ensure that everyone has the opportunity to learn how to travel to the best of their ability, formal or organised mobility services have been established. But society must act to ensure that opportunity is available to everybody and that those who succeed do not only do it by coincidence. The opportunity to enrol in structured orientation and mobility programmes should be made available to all individuals, including the elderly and handicapped, who might benefit from such instruction. For the sake of consistency in policy and to facilitate these individuals' integration into mainstream society, we had to take this step. Rules, environmental modification, and the development of novel apparatuses were insufficient. Learning opportunities should be provided when they are most useful and appropriate (Tooze, 2001).

A person using a white cane can detect impediments up to a distance of one metre in front of them. Typically, a cane tap will extend from the left hand to the right hand, covering the whole length of the cane. With only a few taps, the user may learn a lot about the terrain's surface and slope (Collins, 2004). However, a white cane does have its drawbacks, such as its convenience and accessibility. We started by investigating the limited detection range, which is less than two paces (Dowling, 2007) and normally only detects impediments at a distance equal to the cane's length (Jacquet, Bellik, &Bourda, 2006). Due the user can't be sure how near objects are outside of this range, walking speed is reduced because of it. Users must be vigilant since they cannot see objects more than two paces away (Hatwell, Streri, &Gentaz, 2003). Walking becomes more laborious as a result (Ulrich & Borenstein, 2001). Walking speed may be affected by the quantity of preview information, according to Clark-Carter (2005). One research indicated that visually impaired adults who used a Sonic Pathsounder (Kay, 2004) to expand the preview information

(3.5 m) walked 18% quicker than those who used a white cane (Clark-Carter, Heyes, & Howarth, 2006). In turn, this boosts the user's self-assurance, which in turn brings them closer to their optimal walking pace. The theory that a person's walking pace is influenced by their own walking velocity and assurance is supported by Manduchi et al. (2010). A user's sense of confidence may be inferred from the rate at which they walk; providing more preview data increases this rate (Clark-Carter et al., 2006). It has been shown that walking quicker is associated with a decreased risk of tripping and falling as well as having less inadvertent contact with objects (Hartong, Jorritsma, Neve, Melis-Dankers, & Kooijman, 2004). More than a third (36%) of the 289 blind and legally blind adults surveyed by Manduchi and Kurniawan (2011) reported experiencing medical repercussions as a direct result of an event that resulted to a fall. Furthermore, rapid motion poses the greatest threat to the blind (Pelli, 2006). When it comes to detecting moving objects, Singh et al. (2010) argue that a detection range of merely 1 m is insufficient. Cane-users need to be quick-thinking and responsive because of the limited scope of their sense of smell (Dowling, 2007). In addition, from a usability standpoint, there may be issues with the range of a white cane's detection. People who rely on white canes are more likely to fall since it doesn't alert them to hazards over their heads. We've established that persons who are blind and rely on white canes are more likely to have accidents with barriers at head level in these scenarios (Manduchi & Kurniawan, 2011). Giving visually impaired people a method to detect impediments above their knees and in a larger region is crucial for their safety (Kanagaratnam, 2009). In instance, when persons age and have visual impairments, they tend to demonstrate a decline in their ability to evaluate moving impediments (Rubin & Salive, 2005). (Czaja&Sharit, 2008). This suggests that it may be difficult for the visually impaired, such as the elderly, to touch the ground properly to check for impediments. Not to mention, they'll become bored of tapping constantly, which is a major drawback (Dowling, 2007). According to research by Lacey et al. (2005), elderly users fatigue considerably more rapidly than their younger counterparts. Finally, the inverse of your age is your reaction time (Birren, Woods, & Williams, 2000). Because of their slower reflexes, the elderly often find it difficult to avert danger. Using a white cane might increase the risk of injury and add extra time and effort to your daily routine.

RESEARCH METHODOLOGY

Research Design

For this study, a survey after the fact was used. This method was thought to be the best because it helped the researcher describe, look at, write down, analyse, and make sense of the variables found in the study. It's also helpful because the information was gathered from a pretty large group of people.

Area of the Study

The study area is the city of Madaba, which is the capital of the Madaba Governorate and has about 60,000 people. It is best known for its mosaics from the Byzantine and Umayyad eras, especially a large map of the Holy Land made in the Byzantine era. Madaba is 30 kilometres (19 miles) south-west of Amman, which is the capital of Jordan.

Population of the Study

The population of this study consisted of all the students of special Educations in Madaba

Sample and sampling Technique

A sample of 250 visually impaired students was used for the study.

Instrumentation

In order to collect data for the study, a questionnaire was employed. The instruments were used to learn more about the interplay between the independent and dependent factors. Questions were also posed to the public. The research instrument consisted of three distinct pieces: A, B, and C. Respondents' personal details were collected in Section A. In Part B, we analysed the formulas behind the variables. Every factor was assigned a score between one and four, with four being a "strongly agree" response, three representing "agree," two representing a "disagree," and one representing a "strongly disagree" response. Inverse weighting was applied to responses that were written in a negative tone.

Validation of the Research Instrument

Both of the study tools were submitted to a panel of research professionals for verification. The goal was to make sure the questionnaire questions were written in a way that was understandable to the respondents and that they adequately covered the topics of interest. Examining the instrument's face and content validity was the last goal of the validation process. The final verdict was that the instruments were reliable enough to use.

Reliability of the Instrument

To evaluate the devices' precision, the researcher used Pearson Product Moment Correlation (PPMC) analysis. Twenty non-participants were picked at random from the research region and given the social adjustment questionnaire to test the instruments (SAQ). A 0.72 dependability coefficient was calculated from the data we gathered and analysed. This result demonstrated the instrument's dependability.

Administration of the Instrument

The sample of visually impaired persons were given the questionnaire after the office gave their approval (they were introduced in a letter). Every survey question was read aloud to ensure no information was missed. To better accommodate respondents and the immediate way of distributing, completing, and collecting surveys, the researcher had to educate five more research assistants. The researcher used this strategy to make efficient use of everyone's time and prevent any questionnaires from going missing. All the distributed copies were gathered at the end for archival purposes.

Method of data analysis

The collected data were analyzed using appropriate statistical technique such as descriptive statistics for research questions while t-test analysis was used to test the null hypothesis.

Data Analysis

Research Question

What is the influence of long cane use on the social adjustment of persons with visual impairment?

Table 1: Descriptive Analysis of the influence of long cane use on the social adjustment of persons with visual impairment

Long cane	N	X	SD	**Mean Difference**
High	197	43.88	23.90	

				3.81*
Low	53	31.00	18.06	

***Remarkable difference**
Source: Field Survey

The above table 1 presents descriptive analysis of the influence of long cane use on the social adjustment of persons with visual impairment. From the analysis it was observed that that there was high influence of long cane with a mean score of (43.88) than their counterpart with high low influence of (31.00), with the mean difference of 9.98. The result therefore means that long cane has remarkable influence on adjustment of visually impaired persons.

Hypothesis Testing

There is no significant influence of long cane use on the social adjustment of persons with visual impairment.

Table 2: Independent t-test analysis of scores on the different in long cane use on the social adjustment of persons with visual impairment

Long cane	**N**	**X**	**SD**	**T_{cal}**	**T_{crit}**
High	197	43.88	23.90	3.81*	1.96
Low	53	31.00	18.06		

*Significant at 0.05 level; df= 248; N= 250

Table 2 presents the obtained t-value as 3.81. This value was greater than critical t-value (1.96) at 0.05 level of significant with 248 degree of freedom. This observation indicates that the different in long cane use on the social adjustment of persons with visual impairment was statistically significant. Hence, null hypothesis four which assumed no significant difference was rejected.

Discussion of the Findings

Long cane usage has no substantial effect on the social adjustment of persons who are blind was shown to be false, thereby refuting the claim. At the 5% significance level with 248 degrees of freedom, the computed t-value of 3.81 was larger than the crucial t-value of 1.96. Based on these findings, it seems that individuals with vision impairments who use long canes have varying degrees of success in adjusting to their new social environment. Dutta et al. (2014) "A Study of Adjustment, Level of Aspiration, Self-Concept, and Academic Achievement of Visually Handicapped School Children of Assam" concur that the importance of the finding is significant. Based on a simple random approach, researchers chose a sample of 400 visually impaired youngsters, 200 boys and 200 girls, in grades VI to X (age 12 to 16 years) from six visually handicapped schools in lower and upper Assam.

Those who were blinded at a young age were shown to have a comparable level of difficulty adjusting socially, whether they were male or female. It also showed that (a) adjustment did not predict educational goals, (b) adjustment did not predict self-concept, and (c) adjustment did not predict academic accomplishment among children who are visually impaired. The importance of the finding led researchers to embrace the alternative hypothesis and reject the null.

Recommendations

Visually impaired persons should be made to appreciate the philosophy of mobility training by making sure that it is both development and reward-driven in nature.

The school management should endeavour to discourage the underperformance workers by instilling disciplinary actions to enhance high productivity of learners.

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