The effect of photovoice on explicit & implicit prejudice towards persons with disability

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The Effect of Photovoice on Explicit & Implicit Prejudice towards Persons with Disability

Masters of Arts Thesis in Community Psychology

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# Table of Contents

Acknowledgment ........................................................................................................... 4

Abstract ........................................................................................................................ 5

The Effect of Photovoice on Explicit & Implicit Prejudice towards Persons with Disability ........................................................................................................... 6
  Inclusion ....................................................................................................................... 11
  Disability Prejudice ..................................................................................................... 15
  Community Psychology in Disability Research and Intervention ............................... 20
  Photovoice .................................................................................................................. 23
  Photovoice and Prejudice Reduction ........................................................................... 25

Methods ......................................................................................................................... 27
  Research Participants ................................................................................................. 27

Instruments .................................................................................................................... 28
  Attitude towards Disabled Persons Scale ................................................................. 29
  Implicit Associations Test ......................................................................................... 30
  Demographic survey ................................................................................................. 32

Procedure ....................................................................................................................... 33
  Disability Etiquette Session ...................................................................................... 33
  Photovoice Session .................................................................................................... 33
  Data Collection .......................................................................................................... 35

Ethical Considerations ................................................................................................. 35

Results ............................................................................................................................ 36
  Experience with Disability .......................................................................................... 37
  Changed Views towards People with Disability ........................................................ 37
    Self-assessment ......................................................................................................... 37
    IAT test results ......................................................................................................... 38
    ATDP scale results ................................................................................................... 38
  Participants’ Reactions to the Disability and Photovoice Sessions ............................. 39
  Comments on Participation in the Study .................................................................... 41

Discussion ....................................................................................................................... 42
  Limitations and Suggestions for Future Research ..................................................... 46

Conclusion ...................................................................................................................... 47
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

References ........................................................................................................................................48
Appendix ...........................................................................................................................................67

  Documentation of Informed Consent for Participation in Research Study ................67
  Demographic Survey for Disability Etiquette Session ......................................................69
  Demographic Survey for PhotoVoice Exhibition ...............................................................70
  Attitudes Toward Disabled Persons (ATDP) .................................................................72
Acknowledgments

I could not have completed any of my graduate work without the following people. I would like to dedicate this work to my father who has always encouraged and helped me pursue my graduate studies. I would like to thank my mother, who is the strongest person I have ever known, for her support and prayers. My husband, for his understanding, patients and support (I know you did your best). My daughter, for being my source of strength and happiness. I would also like to thank my sisters for being there to back me up in times of need. Thank you to my supervisor, Dr. Carie Forden for her kindness, constant guidance, support and encouragement. Thank you to my readers and committee members, Dr. Heba Kotb and Dr. Jillian Campana for your time and valuable comments and input. Thank you to my other professors who have inspired me and grew my interest in the field (Dr. Yasmin Saleh, Dr. Naela Refaat, Dr. Mona Amer, Dr. Mohamed Taha, Dr. Iman Shetta) I have learned a lot from you. Dr. Mona Amer, “I know” you got my back several times and I thank you for that. Thank you to other professors and experts for their time and support and for willing to help without even knowing me, (Dr. Alexandra Gaziz, Dr. Heba Hagrass, Dr. Hala Abdel Hak, Dr. Aly Abdel-latif). Thank you to my peers whom I learned a lot from, both academically and personally. I would also like to thank Helm NGO, Helm Project participants and Helm Club for their trust and cooperation. Thank you Nesma Gad; my internship supervisor, for your support and dedication throughout my internship. Thank you to Dr. Sahar Sobeih and the AUC Conservation Lab for your cooperation while working on the exhibition. Last but not least, thank you to all my dear friends for your understanding and encouragement.
Abstract

This study examined the effect of Photovoice on implicit and explicit prejudice towards People with Disability (PWD). Research participants \((n=80)\) were undergraduate students at an American university in Egypt. The participants were divided into two groups; one attended an educational session on disability \((n=39)\) while the other group attended a Photovoice exhibition \((n=41)\). After participants attended either the educational session or the Photovoice exhibition, their level of explicit prejudice was measured using the Attitudes Toward Disabled Persons Scale (ATDP) while their level of implicit prejudice was measured using the Implicit Attitude Test (IAT). It was predicted that participants attending the Photovoice exhibition would display lower levels of both types of prejudice. However, no significant difference between the groups was found. The average scores, across the sample, showed a moderate level of both explicit and implicit prejudice towards PWD. Results were analyzed using SPSS and thematic analysis. Additionally, factors effecting research results were discussed and comparisons with similar researches were made. Finally, research limitations were highlighted and implications for future research were considered.
The Effect of Photovoice on Explicit & Implicit Prejudice towards Persons with Disability

According to El Refaie, (2016), one of the most pressing and invasive issues affecting the development of nations worldwide, is the issue of disability. But firstly, in order to tackle or discuss disability, one must first fully understand what the word implies. Defining disability is not an easy matter but rather a complicated and controversial one (Albrecht, 2001). According to the World Health Organization (WHO) & World Bank (WB) (2011), disability is part of life and almost everyone will experience a temporary or permanent impairment at some point in their lives. Originally, the word disability was associated with physical impairment only, for example, a loss of a leg or an arm (Linden, 2017). However, the definition of the word disability has evolved into a more holistic and multidimensional concept. According to the International Classification of Functioning, Disability and Health (ICF), disability is a term that encompasses impairment, activity limitation, participation restriction and the environment that acts together with all of these factors (Leonardi et al., 2006). This definition means that disability is not only a medical condition, whether physical or mental. But it is also a social construct that is the outcome of the social (interpersonal relationships and human interactions) and physical milieu (accessible streets and venues) that surrounds people with disability (Altman, 2014). In order to reach more understanding on the concept of disability, it is important to know the difference between a disability and a handicap. According to the WHO (1980), a handicap is the inconvenience resulting from a disability or an impairment which hinders the individual from executing normal roles. On the other hand, the word impairment is merely concerned with the physical aspect of disability, for example lack of mobility is considered an impairment, but the inaccessible environment turned that impairment into a disability (Albrecht, 2001). However, a handicap affects the social, cultural and economic
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

environment of the disabled person, which implies, that a handicap is more of the social aspect of the disability or the impairment.

Until today, there hasn’t been an agreed upon definition for disability in the literature because disability is defined from a variety of perspectives including medical, social and bio-psychosocial aspects. All these perspectives have a different view on disability (World Health Organization [WHO] & World Bank [WB], 2011). For example, the medical model views disability as a result of a physiological impairment due to an illness or injury which means that disability is considered as a condition that requires treatment (Llewellyn & Hogan, 2000). On the other hand, the social model of disability challenges the medical model, by arguing that PWD are not disabled by their impairments but rather by the disabling barriers they face in society (Oliver, 2013). According to the social model, a person with impairment only becomes disabled when there is a social barrier which hinders the person from living life fully and normally (Eyler, 2010). An example of this as given by Eyler (2010) would be, if a person with visual impairment in an organization is not provided with Braille or large font material, only then the person is considered as disabled. Another model of disability is the bio-psychosocial model which tries to integrate the medical and social perspectives in defining disability by looking at the relationship between the physical, social and psychological factors of having a disability and considering disability as a result of the interaction between those factors (Covic et al., 2003).

Among the most inclusive definitions of disability, is that of the United Nations ILO Convention on the Rights of Persons with Disabilities (ILO, 2008) which defines disability “as a result of the interaction between impairments, attitudinal and environmental barriers that hinders the full and effective participation of the disabled in society on an equal basis with others (p. 28).” Because it highlights the barriers that persons with disabilities face, this holistic and
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

A multidimensional approach provides more opportunity for designing better health care and community development, prevention and intervention programs which aim to promote the inclusion and participation of persons with disability in addition to improving their wellbeing (Leonardi et al., 2006).

When it comes to disability types, there is a discrepancy in the types of disabilities and the health hazards associated with them. Persons with disabilities (PWD) are considered to be a very heterogeneous group with substantial differences in disability type and severity (Peterson-Besse et al., 2014). According to Kang et al., (2016), disability can be classified into six major types of disabilities: hearing and speech, visual, physical, intellectual, mental and multiple disabilities. For Carvalho-Freitas & Slathi, (2017), the different forms of disability are grouped into broader categories with subcategories for each. This makes it easier to classify, although considering and acknowledging multiple disability as a type of its own is of great importance.

The categories according to Carvalho-Freitas & Slathi, (2017) are as follows: 1) Physical (mobility impairment) 2) Cognitive (intellectual impairment) 3) Sensory (hearing and speech) 4) Emotional (psychological dysfunction or disorder). There are also subgroups to this classification, with a wide range of health conditions that are considered as a disability (Mann et al., 2014). Rowland et al., (2014), discussed the importance of classifying and grouping disability types and knowing the disparities between them and how this helps in creating more effective disease prevention and health promotion interventions for people with disability and the general population. Nonetheless, having such a heterogeneous disability population makes it a complex public health issue that necessitates doing more extensive research and providing more services to cover and tackle all sorts of disability issues.
Knowing and considering the numbers of disability prevalence is also crucial for public health programs to be able to address the needs of persons with disabilities. Moreover, PWD represent a significant number of the world population. In 2004, the analysis of the Global Burden of Disease showed that 15.3% of the world’s population had moderate or severe disability which means that at a given time, around 978 million people are experiencing a disability of any sort (World Health Organization [WHO] & World Bank [WB], 2011; Richardson, United Nations Development Program [UNDP], 2017). In the United States, according to Erickson et al., (2010), 12.1% of the U.S population has a disability. In another study by Courtney-Long et al. (2013), it was found that the number of adults in the U.S who have self-reported a disability through The Behavioral Risk Factor Surveillance System (BRFSS) (which is a telephone (landline and cell phone) survey for the U.S. non-institutionalized civilian population) were 53 million citizens. Due to the large population of People with Disability World Wide, disability is considered as a global public health and a human rights issue (Kang et al., 2016).

When it comes to the Egyptian context, disability is defined in a relatively broader and more generic way compared to other countries (Zidan, 2012). In Egypt, a person with a disability is often defined as someone who needs rehabilitation services to meet his/her basic needs in society in order to overcome the effects of impairments such as movement related function, sensory function and mental function which brings physical, social, economic, and psychological disability (Japan International Cooperation Agency [JICA], 2002). This definition is a reflection of how disability is perceived in practice, as it focuses on providing assistance to the disabled instead of availing an enabling empowering environment. The latter also implies that the medical model is still prevailing in Egypt despite of the international acknowledgment that disability is
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

both a social and medical issue that needs sociopolitical action. But still, there is little evidence of the social model implication in real life and social policies are still adopting the medical model which consequently affects PWD on a societal level (Hagrass, 2005). According to JICA (2002), around 10% of the Egyptian population are PWD and the percentage of different types of disabilities are divided into 74% mental disability, 15% mobility impairment, 7% visual impairment and 4% hearing impairment. However, disability figures in Egypt are not very accurate as people sometimes hide disability because of the stigma associated with it (Zidan, 2012).

According to the literature, there is a two way or a causal relationship between poverty and disability, because poverty leads to disability and vice versa (Elwan, 1999; Mclachlan & Swartz, 2009). The latter also explains why the percentage of persons with disability is higher in developing countries than in the more developed ones (Filmer, 2008). Mclachlan & Swartz (2009), illustrated this cycle of disablement and impoverishment by giving an example of a parent of a child with a severe physical disability in a low income country, where the parent may have to quit work in order to take care for the child and because of the lack of assistive devices and accessibility, this parent will carry his/her child or adolescent on his/her back whenever she/he needs to go or take him/her somewhere. Because of these challenges, the child may have very low opportunities going to school; the parent will possibly develop a medical condition in addition to back problems, not to mention developing mental disorders such as anxiety and depression which are types of disability. Thus since Egypt is a developing country, it is expected that the percentage and the struggles of PWD are higher due to the lack of services and the existence of several factors that increase the chances for developing a disability including: poverty, malnutrition, poor sanitary conditions and unhealthy cultural traditions like
consanguineous marriages (Quandil 1989; Nosseir 1989; El-Laithy 2001; Fergany 2002; Abdel-Azeem et al., 2009). Moreover people in Arab countries including Egypt or Egyptians living abroad, feel more shamed and stigmatized by disability so that they tend to hide it, which prevents many of them from seeking treatment (Zidan 2012). On the other hand, there are a few social-political steps that have been taken in Egypt regarding Persons with Disability such as PWD representation in the parliament and the existence of several collaborations with international organizations under the supervision of the Ministry of Social Solidarity such as the International Association of Schools of Social Work and the International Federation of Social Workers, who are bringing social workers from developed to developing countries including Egypt in order to train social workers on working with children with disability and institutionalized adults with disability. Other international organizations play an important role in supporting or funding projects/interventions for PWD such as World Bank, UNDP, UNICEF and Handicap International. Moreover, local organizations and Disabled Persons Organizations (DPOs) are playing a vital role in the enhancement of the quality of life of PWD across all aspects of life. Some of these organizations are: Helm, SETI, ADVANCE, EPAVI, Nedaa, Aman foundation and Upper Egypt/Al Saiid Foundation. However, and despite of the growing support for disability issues, there is limited research in this area, and needless to say, few interventions targeting prejudice against PWD or targeting the full inclusion of PWD in society (Zidan, 2002; Hagrass 2009).

Inclusion

One cannot discuss disability issues without talking about the concept of inclusion, which if effectively applied, and could serve on its own as a solution for most, if not all, disability issues. Imagine a society where there is full inclusion and integration of PWD. It would be a
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

society where students with disability are accepted in all schools and where all teachers are qualified to educate children with disability. PWD will be walking in the streets, taking public transportation, going to university in addition to having full access to all types of services. Moreover, in an inclusive society, PWD would be allowed to specialize in whatever they want to if proven to be good at it, just like anyone else. An inclusive society would also mean that PWD would be seen on TV, as presenters not only guests, as actors as well as spectators, they would be seen in hospitals, as physicians rather than only patients.

Unfortunately, reality is quite different as according to the WHO, PWD are excluded from most, if not all, aspects of society such as education, employment and health (WHO, 2011). This exclusion, contradicts the basics of the United Nations (UN) Convention on the rights of Persons with Disability (UNCRPD) which is an international human rights arm of the UN intended to protect the rights of PWD (Hendricks, 2007). It is important to note that Egypt is one of the signatories of the optional and ratified protocol of the convention. As for El Refaie, (2016), the first step towards the inclusion and empowerment of PWD is providing them with the basic services. Unfortunately, PWD still do not have full access to basic services which are, along with other factors, hindering the full inclusion of PWD in society which is a global issue. In a study done by Alghazo et al., (2003), it was discovered that the attitudes of teachers in public schools in Jordan and United Arab Emirates, was the main barrier for students’ inclusion in the regular classrooms. Moreover, when it comes to employment, Wheman, (2011), stated that despite the national state policies the inclusion of people with intellectual and developmental disability in the work place is still low (39%). Finally, according to Ralph (2013), the main barrier to the full inclusion of PWD in the society is our attitudes towards them which stresses on
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

the importance of studying those attitudes as well as exploring and investigating the reason behind our thoughts and behaviors towards PWD.

Recently, there is focus on another concept or orientation in disability studies which is also crucial to the inclusion and wellbeing of PWD which is empowerment. According to Morris (1997), empowerment means choice and control which increases the sense of PWDs’ control on their lives. Morris (1997) also highlighted the importance of discarding the notion and the ideology of care (being cared for) as the only way to empower PWD since it is considered as a form of repression and prejudice. What proves this shift and the effectiveness of this approach is for example when a country like New Zealand recently changes its strategy to be focused on the empowerment and inclusion of PWD after a lot of community consultations (Seccombe, 2007). Moreover, according to the Community Based Rehabilitation (CBR) strategy of the WHO, which stated that empowerment is one of the basic key components of life in addition to health, education livelihood and social activities (lemmi, 2013).

When it comes to the laws and regulations fostering the inclusion and empowerment of PWD in Egypt, the first disability law was drafted in 1959, giving PWD in Egypt the right to education and vocational training. Later, other laws came out in 1964, 1971 and 1982. However, according to activists and PWD in Egypt, these laws are just ink on paper (Abdel Zaher, 2018). However, there is a glimpse of light with the new bill in support law which was written with the involvement of more than 100 PWD. The new law should give PWD the right for tax reduction, inclusive education, decreased working hours and free accessible public transportation including other rights that if executed properly, will serve in the inclusion of PWD in the Egyptian society (Hidji 2016, Abdel Zaher, 2018). Moreover, the bill support law implementation will be
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

monitored and as part of this law enactment, discriminatory behavior and exploitation will be condemned in addition to ensuring changing social attitudes to end any discriminatory behavior.

In general, there has been recently a growing interest and awareness of the rights of PWD in Egypt. According to Sadek (2008), activists in human rights and civil society in Egypt and Africa in general have given more attention to PWD because of the increase in awareness regarding the necessity of having them integrated in society. According to a newspaper interview done by el Hidji (2014) interviewing activists and governmental officials, it was stated that Egypt is on the right track when it comes to the inclusion of PWD despite the existence of obstacles such as lack of training and resources. In another interview, both activists and current/former government officials stated that the challenges of PWD in Egypt are still there but there is a growing interest in disability issues which is manifested in the current representation of PWD in the parliament. Furthermore, a few conferences were also hosted by local NGOs or by international foundations existing in Egypt. For example, in April 2016, The International Foundation for Electoral Systems (IFES) and Egypt National Council for Disability Affairs (NCDA), organized and hosted a conference in Cairo with the purpose of the inclusion of PWD in the elections (International Foundation for Electoral Systems [IFES], 2016). Another conference was organized and hosted by Helm NGO under the name “A City for All” which assembled top management from Egypt and global companies such as Disney World with the purpose of sharing best practices with regard to workplace accessibility and inclusive employment (Rise, n.d.). Although there are a few efforts and undergoing changes within the Egyptian society when it comes to disability rights, the full inclusion of PWD will never exist unless there is a shift in attitudes and behaviors towards them, even if thousands of laws were enacted and fully executed. Therefore, studying the causes and mediating factors of attitudes is a
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

pressing need for changing prejudicial attitudes and stereotypes towards PWD, thus, promoting their full inclusion and integration in society.

**Disability Prejudice**

All over the world, there are a number of issues associated with the wellbeing of PWD other than the disability itself, such as lower access to health care and education not to mention the stigma and social exclusion. These issues arise from the environment and external factors that a PWD must deal with on a daily basis. According to the social model of disability, disability is the interaction of the individual with the impairment and the social and physical environment in which the person lives (Scotch et al., 2011). This definition helps us understand the importance of external factors to the wellbeing of PWD that can either serve to enable or disable inclusion and participation in the society.

Historically, a person’s position in society determined how he/she was treated which led to the oppression and maltreatment of people who are different including PWDs (Hassanein, 2015; Seccombe, 2007). Until today, while some believe that having a child with disability is a blessing and a manifestation of God’s will, others perceive them as a punishment from God (Hassanein, 2015; Hussein, 2012; Blankinship & Glover, 2007). Unfortunately, PWD face many challenges and issues throughout the course of their lives, one of which is being marginalized and alienated by the society (Finn & Jerry, 1999). According to Kang et al., (2016), PWD are one of the most socially isolated and excluded group in every society. Nonetheless, PWD face other challenges and issues such as having equal access to healthcare, education, employment opportunities, and receiving the right disability services they need (WHO & WB, 2011). For example, according to the Bureau of Labor Statistics in the U.S, in 2014, only 17.1% of PWD were employed compared to 64.6% without a disability (Balcazar & Balcazar, 2016).
Furthermore, stigma, discrimination and prejudice are commonly faced by PWDs especially in developing countries where attitudes towards disabilities are more negative and less accepting than in developed countries, leading to social marginalization, poverty and poorer health conditions (Albrecht & Credo, 2005; Flores et al., 2016). According to Zidan (2012), in African countries, PWD face negative experiences related to the laws, treatments and services, in addition to the persistent attitudes and beliefs that undermine them both socially and culturally and which hinder them from getting needed services and most importantly, from living a normal life. In Egypt, according to Hagrass (2009), PWDs face many challenges that spread to all aspects of life, those challenges are reinforced by a charity model where people with disability are treated as less fortunate and worthy of help which leads to more stigma, victimization and degradation as PWD are solely defined by their impairment which causes the disempowerment of PWDs, inhibiting their full and equal participation in the society. Since public attitudes have a great impact on the inclusion and integration of PWD in society, a clearer understanding of those attitudes is necessary for tailoring more effective community interventions/programs that aim to change perceptions and attitudes in hopes of a full integration of PWDs in society (Morin et al., 2013).

According to Brostrand (2006) and Ralph (2013), the way people think about disability will affect people’s actions and attitudes towards disability. Needless to say, the latter implies that wrong beliefs about PWD will yield negative attitudes and prejudice. According to Matsui (2017), prejudice “is a wrong belief and an unfair and unreasonable opinion towards someone with no prior thought or knowledge,” and it is a major focus of disability studies. Prejudice stems from negative beliefs which are translated into emotions that are consequently manifested into behavior (Kite & Whitley, 2016). For example, when someone encounters a person from a
marginalized or stigmatized group, it automatically activates stereotypes about this group which leads to negative emotions and behavior (Devine, 1989). This may be magnified by the fact that PWD are often isolated and excluded, leading to a greater chance of this negative cognitive process when encounters between disabled and non-disabled people happen. In order to prevent this cognitive process from reoccurring, there needs to be more contact and interaction between PWD and persons without disability. According to the contact hypothesis theory, prejudice is linked to the amount and nature of interaction between people from different communities or groups which could decrease if people from different groups have contact with each other under conditions of equal status contact (Healey, 2014). In the case of disability, this theory implies that the full and equal integration of PWD in society will lead to more contact and eventually, decreasing prejudice towards PWD.

In order to clearly understand the notion of prejudice, the cognitive-behavioral model of stigma by Corrigan & Lee (2013) explains the difference between prejudice, discrimination and stereotype and how their interaction leads to stigma by hypothesizing that stigma is formed of negative cognitive (stereotypes), emotional (prejudice), and behavioral (discrimination) reactions toward people with disability (Figure 2).

According to Phelan et al., (2008), there are three roles for stigma and prejudice which are: abuse/exploitation and dominance (dominant groups keeping minorities groups down to exploit their resources and have more than what they possess), norm enforcement (make everyone abide by the same norms of the prejudiced) and disease avoidance (avoiding and keeping people away because of their aesthetic differences). For people with disabilities, this means that there are few job opportunities and lower pay (exploitation and dominance);
stereotypes that are played out in the media (norm enforcement); and being ignored or treated as a child (avoidance).

There is also variation in the degree of prejudice or stigma depending on the type of disability. According to Werner and Bergman (2017); Barr and Barcchitta (2014), research has shown that some types of disabilities are considered or perceived as more negative than others (mental and intellectual disability being the most stigmatized and some types of physical disability being the least). Interestingly, prejudice doesn’t have to be acted upon or aggressively expressed; it could be very subtle to the point that it could be unnoticed or unknown to the person holding the prejudice himself (implicit prejudice) but at the end it still negatively affects the PWDs (Deal, 2006). This type of prejudice has increased because overt expressions of hostility or discrimination toward disabilities are condemned by society. Hence, people are unconsciously fostering subtle or implicit prejudice (Schimchowitsch, 2016). Therefore, in order to understand the nature of prejudice and its underlying causes, one must assess both the implicit (automatic) and explicit (controlled) attitudes and processes (Vaughn et al., 2011; Beer et al., 2008). According to Deal (2006), behavior towards PWDs can be altered but underlying attitudes may still be prejudiced or lead to prejudice behaviors later on.

Although prejudice can be seen as an automatic and unconscious response, it has also been found that prejudice can be mediated and controlled as people have the ability to change and choose their mindset (Sassenberg & Moskowitz, 2004; Lai et al., 2013). Previous researchers have studied how prejudice and stereotypes can be restrained through interventions done in different settings and targeting different groups. For example, it is possible to reduce prejudice by exposing the individual to counter-stereotypes (Blair & Banaj, 1996) which can be done by stimulating the brain through focused mental imagery where people are asked to consciously
create a mental image or representation of a person, object or situation by imagining it and seeing it with the “mind’s eye” (Blair et al., 2001). Another way to reduce implicit and explicit prejudice is by using meditation which can reduce automatic mental processes that stimulate and trigger prejudice (Schimchowitsch, 2016). Another option is Evaluative Conditioning where people are presented with an experience linking concepts (gay, disabled) with attributes that differ from their preexisting assumptions or stereotypes (strong, responsible) to generate new ones. For example, pairing PWD with positive words and images and people without disability with negative words and images (Lai et al., 2013). Moreover, intergroup contact, which is based on encouraging the frequent interaction and communication between PWD and non-disabled people, was also found to have significant impact on reducing prejudice (Carvalho-Freitas & Sathi, 2017; Galli et al., 2015; Brostrand, 2006). Extended contact, which is a strategy that was proven to reduce prejudice that depends on indirectly introducing the person from the minority group when the opportunity for direct contact is limited. An example of this would be extended contact through story telling which is sometimes used with children as a preventative measure of prejudice (Cameron & Rotland, 2006). There are also other interesting ways for reducing prejudice such as disability simulation (Brostrand, 2006) However, it has been found that while this method sometimes reduces prejudice, at other times it backfires and increases the stereotypes associated with PWDs because some people, when going through the experience of being disabled for a few hours, think they are managing quite fine and that PWD do not experience that much of a problem, leading to more stereotyping of PWD (Silverman et al., 2014). Lastly, Photovoice, which documents and communicates life experiences through the use of captioned photographs taken by people from marginalized communities has also been used and been found to reduce disability prejudice (Povee et al., 2013).
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

The existence of a psychological approach that seeks to change people’s attitudes and perceptions, in addition to policy and social efforts, is of crucial importance to the inclusion of equal treatment of PWDs (Guimón, 2014). Unfortunately, people who are the victims of prejudice are often socially and emotionally impacted since in response to prejudice and stereotyping, PWD may internalize what they have been told about disability and come to have negative emotional reactions to it and low self-expectations, adversely impacting their ability to live up to their potential (Corrigan & Watson, 2002). Moreover, the stigma and prejudice inflicted upon PWDs does not affect them only, it also impacts family members and caregivers, causing psychological distress and lower life satisfaction (Werner & Shulman, 2014). In a country like Egypt where stigma and prejudice are more prominent, the families of PWDs face even greater stigma and social isolation and exclusion (Hagrass, 2009).

Figure 1: Cognitive-behavioral Model of stigma

Community Psychology in Disability Research and Intervention

Due to the factors that hinder the wellbeing of PWD and their families, there is no doubt that there is a lot of work that needs to be done in the area of disability, especially in the Egyptian context. This is when the contribution of a discipline like Community Psychology
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

becomes necessary in order to develop community based research, interventions and prevention programs and projects that target behaviors such as prejudice, stigma, lack of awareness as well as environmental factors like accessibility, policies and resources (F. Balcazar & Y.Balcazar, 2016). Community Psychology is a discipline that fosters a different model of research where researchers work alongside with PWD who are the primary source of the knowledge and information needed to create positive social change (Goodley & Lawthom, 2005). One of the practices or orientation of Community Psychology is using Community Based Participatory Research (CBPR) with marginalized communities. CBPR is based on community inclusion during the entire research process which helps in creating more rigorous research and targeted interventions, in addition to building the capacity of the community as well as the researchers’ by conducting culturally sensitive and relevant research which also insures that the research will directly benefit the community (Vaughn et al., 2017). Moreover, according to McDonald et al., (2013), since CBPR focuses on issues of interest and concern to community members, this in itself increases feelings of self-respect and trust which promotes research participation and more valuable knowledge. This consequently, helped researchers in combating one of the main challenges of doing research which is research participation (Merzel & D’Afflitti, 2003).

According to Parks (2006, p.83), “Participatory research is an action oriented research activity in which ordinary people address common needs arising in their daily lives, and in the process, generate knowledge”. Parks (2006) also stated that what differentiates participatory research from basic social research is that through their involvement in the research process, community members are able to translate findings into action (Wallerstein & Duran, 2010). In CBPR the strength of all parties involved are utilized and appreciated. Needless to say, community members are considered as knowledge holders not research subjects where research is done
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

“with” them not “on” them (Koster et al., 2012). CBPR is considered as one of the most beneficial and effective methods of research because of its success, sustainability and substantial benefits to all involved parties (researcher, participants and community) (Minkler et al., 2008; Smith et al., 2003). CBPR have been increasingly used with disability research (McDonald & Stack, 2016). PWD have benefited and still could benefit greatly from CBPR orientation as it focuses on the inclusion and full participation of PWD in the research process. By turn, this is one of the issues that all stakeholders, in the field of disability, are advocating for, which is inclusion. In a study done by King et al., (2016) which involved using CBPR in a tobacco cessation program for PWD, the results showed that 22% of participants quit smoking which is greater than the standard rate. CBPR was also found to be beneficial for people with developmental disabilities, and demonstrated that their inclusion in science and society is possible (McDonald & Stack, 2016). Finally, in a study done by Newman et al., (2014), CBPR was adopted with people with spinal cord injury. It led to more in depth knowledge about the challenges they faced, and helped in efforts to improve the lives of people with spinal cord injuries.

According to Nelson and Prilleltenski (2010) & McDonald and Stack (2016), there is a strong tie between the values of community psychology and disability studies since they both focus on issues related to oppression, power and the empowerment of self-determination while using the ecological model. Over the last 50 years, community psychology has played an important role in the field of disability and disability studies including empowerment interventions, accessibility projects, and employment research. However, there is still more room for future research, especially in community living and participation which is essential for the inclusion of PWD (F.Balcazar & Y.Balcazar, 2016). One way of tackling barriers to community
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

living and participation, could be through assessing the attitudes of other members in the community towards PWD.

**Photovoice**

Photovoice is a qualitative research methodology where people from marginalized communities and whose voices are not heard, document their live experience with an aim to create social change and policy development (Annang et al., 2016). This methodology became very popular in the social sciences, health and education as a Community Based Participatory Research (CBPR) or Participatory Action Research (PAR) tool and is still growing in popularity as a tool for advocacy and social change (Johnston, 2016). Like most CBPR/PAR tools, Photovoice also differs from the traditional types of research as it is based on reflection, dialogue, data collection, while involving and empowering community members to take action and improve their lives (Baum et al., 2006). By engaging in Photovoice, community members get inspired and empowered by being their own self advocates and experts, deciding what needs to be changed and how (Baum et al., 2006). This approach diminishes the gap between researcher, participants/community members and organizations and equalizes the power differences in terms of knowledge, authority and responsibility or accountability (Johnston, 2016). Moreover, Photovoice is designed to reveal and collectively tackle the root cause of societal problems that arise in the community while engaging and empowering participants in order to change policies and bring about positive change (Strack et al., 2010). It is based on the notion that “power is held by those who have voice, set language, make history, and participate in decisions” (Schneider, 2010, p. 47).

In a Photovoice research/project, the photos are produced and represent the participants’ view point as a result of a research process where both research and participants are working in a
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

collaborative environment that is governed and controlled by ethical principles (Johnston, 2016). One of the ethical principles of Photovoice is mutual respect between participants, by listening to each other and respecting each other’s views. Another ethical principle of Photovoice is obtaining informed consent if another person is the subject of the photo and could be identified. According to Wang & Burris (1997), Photovoice is a CBPR method that has its roots in Freirean philosophy which aims to encourage individuals to critically think and reflect on their communities and social conditions, the feminist theory (which seeks to empower vulnerable communities and population while using the existing expertise and knowledge which cannot be obtained elsewhere) and documentary photography, which is based on the principle of giving people the camera to document and record aspects of their lives and communities to instill change. In short, Photovoice is “a process by which people can identify, represent, and enhance their community through a specific photographic technique” (Wang et al., 2000, p.82). Wang & Burris (1997), identified three main goals for Photovoice: 1) to enable people to document and reflect on their communities’ strengths and concerns; 2) to foster critical conversation and dialogue about the important issues portrayed in their photos through group discussions; and 3) to change policies by reaching policy makers.

All Photovoice projects go through the same process where participants are first introduced to the methodology including the definition of Photovoice, the process, what to expect and what is required from the participants and project team. Moreover, the ethical considerations as well as basic photography skills are also presented to the participants. Participants take photos which are then discussed with the group, who decides which photos to display and how to caption them. Finally, the photos are showcased in an exhibition which is
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

generally attended by community members, advocates and policy makers who are able to engage with the photographers who are standing next to their photographs (Annang et al., 2016).

One of the advantages of Photovoice is that it can be done by anyone as it doesn’t require profound knowledge in photography or necessitate shooting beautiful or appealing photographs, What’s important is the content and the message communicated through the photographs. That is why Photovoice can be done by a variety of communities tackling all sorts of issues and societal problems such as promoting environmental health and leadership (Madrigal et al., 2014), water sanitation and hygiene (Bisung et al., 2015). When it comes to disability, there have been a number of studies done with people with different types of disabilities using Photovoice as the research tool. These studies found that Photovoice had great impact on the lives of participants as well as their communities, including participants’ empowerment by acting as experts and being active community members and agents/advocates of social change, increased confidence through sharing knowledge, having and input and discovering one’s strengths and new skills development such as self-reflection, active listening, communication and basic photography skills, along with reaching policy makers, and creating social change and community development (Povee et al., 2013; Marx et al., 2017; Cluley 2016).

**Photovoice and Prejudice Reduction**

As stated before, prejudice is an important area of focus in disability research (Matsui, 2017). According to the literature, there are several methods that have been examined which have demonstrated to reduce prejudice. Some of these methods are; perspective taking, intergroup contact and imagery (Na & Chasteen, 2015). It was also found that since the essence of prejudice is negative emotions, feelings and perceptions about other groups, exposing prejudiced people to those groups (in this case, contact with a PWD) (Pettigrew & Tropp, 2008)
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

and exposing them to positive images or experiences with those groups, reduces prejudice (Birtel and Crisp, 2012). Since Photovoice can be used to tell compelling stories, presents positive imagery and involves the participants’ contact with the community, it should have an impact on prejudice reduction. As Carlson et al. (2006) argued, Photovoice could help in changing dysfunctional beliefs and attitudes towards marginalized community members. And as it is often said; a picture speak louder than a thousand words. For example, research has found that a measure of stigma towards people with mental illness decreased after watching the work of a Photovoice project portraying people with mental illness (Tippin & Gregory, 2016). Although in a study done by Reinke et al., (2004), the results showed decreased negative attitudes only when the Photovoice contradicted the stereotypes rather than when it confirmed them.

The effect of Photovoice could also be explained with reference to a combination of theories or models which lay a foundation for the effect of imagery on changing perceptions and attitudes (Chapman, 2015). The first model is the social intuitionist model (Haidt, 2001) which came to argue the rationalist model by stating that moral judgment is not the result of moral reasoning but rather the result of an intuitive, quick evaluation in response to a stimulus which is then followed by moral reasoning. The model also didn’t focus on the effect of private reasoning done by individuals, but rather the effect of social and cultural aspects on one’s judgment. In relation to Photovoice, this model explains the immediacy of photographs in a Photovoice project where they act as a stimulus that is followed by a quick judgment and thus promoting critical thinking and reasoning. The latter could also serve as an explanation as one of the sources of implicit prejudice. The second theory serving as a foundation of the effect of imagery on promoting changed thinking and attitudes is the transportation theory by Green and Brock (2000). The theory explains the effect of a narrative or imagery on transporting the individual to
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

another world which consequently could affect an individual’s real world beliefs. The effect of Photovoice on changing beliefs is then illustrated by the latter theory serving as evidence on the effect of Photovoice on changing prejudice. Finally, the last foundational theory is the theory of visual dissonance (Solso, 2003) which stems from the theory of cognitive dissonance; which is a well known phenomenon in social psychology. According to Solso (2003), the theory of visual dissonance is defined as the state of psychological tension between what one expected to see and what one actually sees which motivates the viewer to resolve this state of tension by thinking and finding a deeper meaning in what he/she sees. The theory could be applied to the concept of Photovoice as it explains the process that the viewer goes through when he/she is exposed to the photographs.

Given the limited number of studies examining the effect of Photovoice on reducing stigma and prejudice against people with disabilities, and the fact that no studies have been found that focus specifically on Egypt, there is a need for research examining this issue. Therefore, the purpose of this research is to investigate the effect of a Photovoice exhibition under the name of “I am able BECAUSE” on the regulation of both explicit and implicit prejudice of people without disability towards people with disability. It is hypothesized that a Photovoice exhibition under the name “I Am Able BECAUSE…!” will have a more positive impact than an educational lecture on disability on both explicit and implicit prejudice of college students towards PWD.

Methods

Research Participants

The research sample was 80 student participants; (39 attended the disability session or control group and 41 attended the Photovoice exhibition or the experimental group).
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

undergraduate students from the age of 18 to 23, from a variety of majors at an American university in Cairo, Egypt. Participants were recruited by their course instructors, with extra credit as an incentive for research participation. Since this university is one of the best universities in Egypt in providing a supportive learning environment for PWD, it was important to assess the attitude of its non-disabled students towards PWD as it could potentially help in the inclusion of the students with disability in the university experience. The participants’ gender was divided into 51 female participants (63.75%) 19 in control group and 32 in experimental group and 29 male participants (36.25%) 20 in control group and 9 in experimental group. The participants had a variety of majors including Engineering (37.5%), Undeclared (10%), Economics and IMC (8.75%) each, Psychology and Political Science (5%) each. The other (25%) is divided between other majors such as Actuarial Science, Film, Finance, Journalism, CMA, Marketing and Double Major.

**Instruments**

Attitudes towards Persons with Disability have always been measured by either direct (explicit) or indirect (implicit) measures of prejudice (Vaughn et al., 2011). Others have searched deeper in efforts to understand the automatic and controlled processes of implicit prejudice using FMRI brain scans, on the basis that the same implicit result could be due to different underlying processes. As some people’s results my show weak implicit bias because they were able to overcome their strong automatic association while others may have the same results just because they didn’t have bias attitudes in the first place (Beer et al., 2008). According to Kurita & Kusumi (2009), in order to get a clearer understanding about people’s prejudice, it is important to measure both explicit and implicit attitudes towards PWD, so this study employed both a measure of explicit prejudice and a measure of implicit prejudice.
Attitude towards Disabled Persons Scale. Explicit measuring techniques are used to measure more blatant forms of prejudice that rely on self-report (Kurita & Kusumi, 2009). Moreover, explicit measures are easy to use and manage and they usually give reliable results (Chen et al., 2011). According to Chen et al. (2011), there are several explicit measures that are used to assess the different behaviors and attitudes towards PWD. Out of these measures, there are a few commonly used ones which are: the Acceptance of Disability Scale which is a self-reported measure that has 4 subscales, 16 total items and 5-point likert scale responses that assesses the attitudes of people with physical and intellectual disability towards their own disability or disability in general. As well as the attitudes of people without disability towards PWD (Linkowski, 1971; Palad et al., 2016), the Scale of Attitudes Toward Disabled People (SADP) by Atontak (1982) which is also a self-completed, 3 subscales with 24 items and 6-point likert scale responses that measures the attitudes towards disability in general and is used by the general public (Palad et al., 2016). Finally, there is the Attitude towards Disabled Persons Scale (ATDP) (Yuker et al., 1960). For the purposes of this research, the ATDP was chosen because the ATDP is the most generally used measurement of explicit prejudice. It is a reliable measurement that measures attitudes and prejudice of nondisabled persons towards disabled persons as well as the attitudes of disabled persons towards themselves (Yuker et al., 1970; Kritsotakis et al., 2017). An example from the ATDP is “Disabled persons are usually more sensitive than other people” an interpretation of this could be that the person thinks that he/she needs to take care of what they say in front of PWD because they are easily hurt (Patrick, 1987). The ATDP is a 6-point likert scale test composed of 20 items and takes only five minutes to complete, has a high test-retest reliability and is internally consistent and reliable (Trevo & Palmer, 2004). The scale ranges from −3 (I very much disagree) to +3 (I very much agree), with
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

no option for a neutral response (Seccombe, 2007). The test is administered using a pen and a paper, and a higher score of the ATDP means that the person has a positive and accepting attitude towards PWD (Matziou et al., 2009).

**Implicit Associations Test.** Explicit measuring techniques are not designed to identify the implicit and more subtle or disguised forms of prejudice as they rely on self-reports while implicit prejudice is not even recognized by the person holding prejudice (Olson & Fazio, 2003). Therefore, new forms of measurements and techniques have been created in order to measure the implicit forms of prejudice. According to Arkes and Tetlock (2004), these new measurement techniques fall under the following categories: a) self-reported measuring tools designed to identify indirect forms of prejudice and resentment b) inconspicuous indicators designed to pinpoint indirect signs or expressions of antagonism or prejudice such as gazes of dislike, keeping a physical distance from the person, facial expressions, tone of voice and selected words in the conversation (Kuklinski et al., 1997). An example of these indicators is the functional magnetic resonance imaging (FMRI) which examines the activity of part of the brain (amygdala) when exposed to stimuli (Hart et al., 2000) c) and Implicit Measurement of Prejudice (IMP); which is the most commonly used and theoretically based measurement that focuses on the linkages between positive and negative words in response to a stimuli (Crosby et al., 1980; Fazio & Olson, 2013).

The IAT is a latency based method introduced by a researcher under the name of Greenwald in 1998 and it is one of the most commonly used measures of implicit attitudes and prejudice towards groups (Arks & Tetlock, 2004; Beer et al., 2008; Bergh et al., 2012; Vaughn et al., 2011). According to Nossek et al. (2005), the IAT has been generally utilized to study the implicit social cognitions because of its reliability, ease of execution and dissemination (as cited
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

in Greenwald & Nossek, 2001). The IAT is designed to measure the strength of the relation between two groups (e.g., man and women) and two characteristics (e.g., strong and weak) by requiring participants to select an attribute to one of the groups while measuring the time it took the participant to perform this selection (Fazio & Olson, 2003). It is assumed that a prejudice or stereotyped view of a group will be reflected in the amount of time a participant takes to make an association. The stronger the association, a participant has between a group of people and different characteristics, the faster their response will be (Bergh et al. 2012). After reviewing previous disability research using the IAT, Vaughn et al. (2011) found that all the research participants were quicker when assigning a good attribute to a stimulus portraying a person without disability.

There are several domains which the IAT can measure such as: stereotypes, racism, self-esteem and prejudice (Fazio & Olson, 2003). This research will use a specific type of IAT that measures prejudice towards people with disability using the disability attitude implicit association test (DA-IAT) (Pruett & Chan, 2006). The DA-IAT is derived from the computerized IAT measurement with the aim of measuring attitudes towards disability in general (Pruette & Chan, 2006). Just like the IAT, the DA-IAT works by measuring the time taken by the participants who are first instructed to associate certain images or words of groups and attributes to each other as quickly as possible (cognitive processing time) by being exposed to a stimulus (word or image) then using a keyboard and pressing with the right/left finger in selecting a category for the stimulus. The results are then calculated in terms of the difference in average time taken to assign the stimulus words or images to a discriminatory attribute (Thomas et al., 2007). Responses of the IAT are given within milliseconds of the stimulus presentation which is why the IAT generates more automatic cognitive processes than other measures (Beer et
The resulting differences in response time are then interpreted in terms of relative association strengths. In the context of this research the results of the IAT were not given in milliseconds as the IAT website translates and categorizes the milliseconds response time to statements describing strength of association, ranging from slight to strong automatic preference for either able or disabled persons. For more information, the IAT test can be found on the following link of project implicit disability IAT test of Harvard University:

https://implicit.harvard.edu/implicit/Study?tid=-1

**Demographic survey.** A 14 question demographic survey was developed to gather and assess information related to age, gender, major, and having a disability or a family member with disability. The survey also asked about knowledge or experience in the field of disability and the type of experience in addition to previous attendance at either a disability etiquette session or a Photovoice exhibition. Moreover, participants were asked to report their opinion regarding the session using 4-point Likert scale. Answers ranging from very informative to didn’t like it and another 4-point Likert scale question regarding their changed attitudes after receiving the session or attending the exhibition. The answer ranged from very much to not at all. There was only one difference between the demographic survey questions of the disability etiquette session compared to the Photovoice exhibition which was the question asking “what did the student think of the exhibition/session”. In the session’s survey participants were asked to give their opinion using a 4-point Likert scale answer. However, in the exhibition’s survey, participants were asked to give their opinion in writing. Finally, a space was provided for the participants to write in case they had any comments.
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

Procedure

Participants attended either a disability etiquette session (control group) or a Photovoice exhibition on disability (experimental group).

**Disability Etiquette Session.** After signing the consent forms, the control group attended an introductory lecture on disability where they learned about disability etiquette. The session was given by a professor and was held at the campus. The professor had experience in the field of disability and working with students with disability at the university’s campus. The session was engaging and dynamic, lasting 60 minutes. The professor introduced and discussed the different types of disability and demonstrated the dos and don’ts of each disability type. Role play is also used during the session to engage the participants, for example asking if any of the participants would like to sit on a wheelchair and act as a person with disability while other participants act as students without disability. The professor then showed what is acceptable or not in the participants’ interaction. The professor also brought a white stick or cane used by people with visual impairment and demonstrated the dos and don’ts of communication.

**Photovoice Session.** The experimental group attended the “I am Able BECAUSE…!” Photovoice exhibition held at the university library. Once the participants arrived at the library foyer, a research assistant was there to welcome them and introduce them to the exhibition participants after consent forms signatures were taken first. The featured Photovoice project was done in collaboration with an Egyptian nongovernmental organization (NGO) based in Cairo working in the field of disability. The project portrayed the strengths of PWD and the little things that made a positive or negative difference in the lives of PWD. The Photovoice project participants were present during the exhibition and discussed their work with the research participants.
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

The Photovoice exhibition attended by the participants, as part of this research, was the result of a Photovoice project, done by the researcher, who was acting as a research facilitator at that time in collaboration with the NGO. The researcher worked on this project as part of her internship in the Community Psychology MA Program. The main participants who agreed to be part of this project were seven men and women with different types of disabilities who worked, volunteered or were trained at the NGO. The participants, along with the researcher decided on the theme which portrayed the different positive things (big or small) in the participants’ lives that made them thrive, motivated them and enabled them to overcome the barriers they face. A basic photograph and Photovoice ethics presentation was given to the participants before proceeding with taking the photos. The participants took a week to take the photos and communicated or met with the researcher during that time in case they wanted to discuss the photos and captions or had any questions. After the photos were taken, the participants and project team gathered and started selecting, sharing and discussing the photos and captions which were then edited by the research and participants accordingly. The captions were again proof read and edited by one of the NGO’s marketing team in case of any linguistic mistakes. Finally, the work was displayed in a conference under the name “A City for All” which was organized by the NGO. It is also worth mentioning that since one of the project participants had a visual impairment and since the project is primarily based on taking photos which is usually perceived as a visual task, we adopted and presented a concept called sensory photography and worked with the participant on different photographic techniques which came in other literature and chooses the one that suits her or she is more comfortable with. The whole process took around 3 months. After project completion, the Photovoice project participants were interviewed and expressed their overall happiness with the experience in addition to giving recommendations for
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

The current and future Photovoice projects. One of the recommendations was displaying the photographs in another venue with bigger display and wider audience in order to raise more awareness and change people’s negative stereotypes about PWD. This research made that possible.

Data Collection. After obtaining the IRB approval, professors of core curriculum courses from various departments were contacted in order to inform them about the research and check their willingness to let their students participate as an extra credit for their courses. Once the professors’ approval was obtained, students were informed accordingly and an e-mail was sent with a link for the research signup sheet that contained different time slots. The ones who expressed their willingness to participate selected a time slot that seemed more convenient according to their availability with no knowledge regarding the type of experiment or group they were signing up for (experimental or control). After attending the lecture or exhibition, participants were escorted to a lab where they were greeted by the researcher who explained the research process. Afterwards, the student performed the project implicit association test of disability (IAT) by Harvard University online, in addition to the Attitudes towards Persons with Disability scale (ADTP) explained earlier. The participants then administered a pen and paper demographic survey. Finally, the scores of the tests were collected and analyzed. When participants were done with the IAT test and received their results on screen, they were asked to keep it open as they were asked to write the IAT results at the end of the hardcopy demographic survey.

Ethical Considerations

Since explicit measures are subject to social desirability, participants might have been encouraged to portray themselves in a more positive manner while completing the ATDP scale
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

(Olson & Fazio, 2003). In order to avoid this as much as possible, participants were informed of this tendency and were asked to take it into consideration while performing the test. Moreover, because of the sensitivity of the subject being measured, it is possible the tests could reveal negative or troubling attitudes or characteristics in the participants’ personalities and trigger feelings of discomfort. Therefore, participants were informed that the results are anonymous and confidential and that the purpose of the research is purely educational and no one is to be judged in addition to the susceptibility of changing prejudicial attitudes. As well, participants were provided with the researcher’s e-mail in case they had any concerns or inquiries. Furthermore, participants were informed about their right to discontinue participation at any point in time during the research. Also, the students who signed up for the Photovoice exhibition were informed about the presence of PWD during the exhibition.

When it came to the research data, consent forms and surveys were stored separately and only the researcher was responsible for analyzing the data. Surveys were then stored in a safe place for the researcher’s reference.

After the data was collected, it was entered into a spreadsheet and analyzed using SPSS for the quantitative data. A t-test was used to see if there was a significant difference in prejudice reduction between the control and experimental groups. Thematic analysis was used to analyze participants’ reactions to the Photovoice exhibition.

Results

The participants were 80 undergraduate college students at an American University in Egypt. In the sample studied, 39 students participated in the control group (disability etiquette session) and 41 in the experimental group (Photovoice exhibition).
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

Experience with Disability

Participants were asked to report whether or not they had a disability and if so, what type of disability they had. Out of the 80 participants, two who were in the control group (2.5%) reported having a disability. The two types of disabilities reported were anxiety, depression and attention deficit disorder (ADD). Fifteen percent of the participants 7.5% in both control and experimental group reported having a family member with disability. The types of disabilities reported were: speech and learning difficulties, visual impairment, hearing impairment, Down’s syndrome, autism and physical disability.

Twenty-seven percent of the participants stated they had previous experience in the field of disability. They were divided into 8.75% for Control Group and 17.5% in the experimental Group. The types of experience in the field of disability indicated by the participants were: volunteer work in hospitals and schools (working with children with disability was one of the most frequently stated types of experience), followed by experience related to course work and projects, training on disability, and finally several social/personal encounters with Persons with Disability. Participants were asked whether they have attended a disability etiquette session or a Photovoice exhibition before. Out of the 39 participants who attended the disability session, 18 (46.15%) stated that they have attended one before. As for the Photovoice exhibition, only 5 participants (12.19%) out of the 41 mentioned attending a Photovoice exhibition before.

Changed Views towards People with Disability

Self-assessment. Participants were asked if the disability session or the Photovoice exhibition had an impact on their views towards People with Disability. From the disability session 30.76% who thought that the session very much changed their views, 46.15% of the participants who attended thought that their views were changed to a limited extent 12% found
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

the session as having a neutral impact and only 1 participant (2.56%) didn’t think it had any impact on his/her views. As for the Photovoice exhibition, 39.02% thought that it very much changed their views towards People with disability, 39.02% thought the exhibition had a limited impact on their views, 14.63% were neutral and 7.31% thought it didn’t have any impact.

**IAT test results.** The IAT website calculated the average time (in milliseconds) it took the respondent to associate a good or a bad attribute to an abled or a disabled person and put it into a category, either having a strong preference for abled-bodied persons, a moderate preference for able-bodied persons, a slight preference for abled-bodied persons, no preference, a slight preference for disabled persons, a moderate preference for disabled persons, and a strong preference for disabled persons. In the analysis these categories were treated as interval data and were transformed to numbers of 1 to 7 where 1 stood for having a strong preference for abled bodied persons, going up to 7 for having a strong preference for disabled persons.

The results of the IAT calculated by SPSS, showed that the average IAT score for participants who attended the disability session was (mean score =2.55) (SD=1.62) compared to the IAT scores of the participants who attended the Photovoice exhibition (mean score=2.20) (SD=1.30), conditions; t (76) = (1.06), p=0.29 showing no significant difference between the two groups. Looking at the two groups together, IAT scores showed the following: 35.8% had a strong preference for abled persons over disabled, 24.7% had a moderate preference for abled over disabled, 13.6% had a slight preference for abled versus disabled, 13.6% showed no preference for abled versus disabled, 4.9% slight preference for disabled, 2.5% had a moderate preference for disabled and only 1.2% had a strong preference for disabled.

**ATDP scale results.** Analyzing the ATDP results, as instructed by the authors, involved reverse scoring item numbers 2, 5, 6, 11 and 12 and then summing all of the items. The total
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

scores can range from -60 to 60. The total score signs were then reversed and a constant of 60 was added to them. Finally, the resulting scores can range between 0 to 120 and the larger the score, the less prejudice felt toward Persons with Disabilities. Also as instructed by the authors, if more than one item is left blank, then the results are considered invalid. Only one participant in the present study did this.

Again, a t-test was run using SPSS to see if there was a difference in ATDP scores for participants attending the disability session and participants attending the Photovoice session. Calculations of the ATDP test scores showed an average score of (m=76.97) (SD=14.93) for participants who attended the disability session, while the average score of participants attending the Photovoice exhibition was (m=79.09) (SD=13.46), conditions; t (78) = (-.67) p= 0.51. Looking at the whole population, 3.6% scored less than 60, 25.9% scored between 60 to 70, 39.3% from 70 to 80, 19.7% from 80 to 90, (13.5%) from 90 to 100 and finally 8.5% scored from 100 to 110. Since the more the score approached 120 the less it reflected prejudicial attitudes, hence the results indicated that the majority of the sample had prejudice towards PWD with most of the majority of the sample scoring below 90.

The independent t-test was performed for the two groups to assess the effect of Photovoice on implicit and explicit prejudice with respect to the disability session. The results showed that there was no significant difference between the IAT scores of the two groups (M=2.55, S.D=1.62) for the disability session and (M=2.20, S.D=1.30), conditions; t (76) = (1.06), p=0.29 versus the ATDP scores for the two sessions which were: (M=76.97, S.D= 14.94) for the disability session and (M= 79.10, S.D= 13.47) for the Photovoice exhibition, conditions; t (78)= (-.67) p= 0.51.

Participants’ Reactions to the Disability and Photovoice Sessions
Opinions regarding the disability etiquette session were given on a 4-point Likert type scale ranging from “Very informative” to “Did not like it”. Out of the 39 participants who attended the disability lecture, 56.41% of them found the session very informative, (41.02%) found it informative. Only one student (2.56%) felt neutral about the session, and none of the participants said they didn’t like it.

As for the 41 participants who attended the Photovoice exhibition, the same question was asked qualitatively, “What was your opinion of the Photovoice session?” Their responses were analyzed using thematic analysis. One of the main themes that came repetitively is how the exhibition instilled hope and left the research participants motivated and optimistic (n = 15). One of the participants wrote “I found it very interesting and hopeful. What I liked most was the hope and grit disable people have”. Another theme that emerged was praising and showing interest in the photos, captions and the setup of the exhibition in addition to the Photovoice experience in general (n=10). With this respect one of the participants wrote “I liked the Braille next to the descriptions of participants as it makes it more inclusive and it shows them as people who are proud of their achievements, rather than just "disabled". Participants also expressed how they liked and appreciated their interaction with the Photovoice project participants and the fact that they were present, represented their work and talked with the research participants about it (n = 8). Regarding this point, one of the participants wrote: “I find it fascinating as also we have seen the disabled people and talked with them to know more” Another one also wrote: “I liked that the disabled "Heroes" were there with us not just photos”. Also, the word inspirational and inspired came a few times in the comments (n = 7) as students were inspired from being part of the experience as one of them stated “The exhibition is really good, it is actually very inspirational to see how other people succeed with a lot more than the ones I think I have. And
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

certainly give a cheerful message and an experience of how people with disabilities are able to manage life and even succeed to stand out”. Moreover, another aspect of the Photovoice exhibition that came up in the participants’ comments was the positive/strength based approach which the Photovoice exhibition was based on \( (n = 5) \). One of the student’s comments with regard to this aspect was: “What I like the most is that the exhibition pictures didn't explicitly state the kind of disability the person has rather, the photos emphasized how much strong they were to overcome the disability they have”. Another interesting theme that emerged from the answers was how attending the exhibition and interacting with the project participants made the research participants reflect on their own lives \( (n = 2) \). For example, one of the participants’ comments was: “I found it very inspiring and actually sat back and reflected on how I take my abilities for granted; it's also very heartwarming to see people with such disabilities look past it and become very successful in their passions”. Another one wrote: “I found it optimistic in a way yet made me feel bad for all the things I take for granted”.

Comments on Participation in the Study

In the demographic survey, a final section was left for the students to write any comments they had in mind. These comments were analyzed using thematic analysis. The most common theme was disagreement, surprise and confusion \( (n = 10) \) regarding the IAT test results as some of the participants felt disappointed by their results, others seemed shocked or surprised while some expressed their confusion/disagreement regarding the test and how it measured prejudice. With regard to this theme some of the participants’ comments were: “I never knew I differentiated”, “After getting the results, I am not sure if I understood the survey well. I had something else in mind. I didn't get how this reflects how I view abled/disabled persons” and “I don't agree with the IAT results’. However some of the participants who were disappointed from
their results found it as a reason to start changing and interact more with people with disability as one of the participants wrote: “I was disappointed with my results but it shows that I need to gain more experience working with disabled people”. Although some of the participants disagreed with the results, there were others who found it logical \( (n=5) \) even if it showed an implicit prejudice towards PWD. With regard to this point, a student wrote: “I believe this might be an automatic reflex towards them as our society underestimates all disabled people. Thus, community members are affected by that thought” another student stated “It is expected, as I have dealt with special needs people before and I didn't feel anything towards it, I have a classmate who is blind and asked for my assignment to copy it and I refused as if he is abled. I helped him like anyone and I know they don't like being treated specially”. Furthermore, the last theme of comments was related to the session and Photovoice as well as the research approach \( (n=3) \). A student complemented the disability session by stating “The Session was informative and useful and I think it should be given periodically to everybody.” Etiquette is something everyone should know” Another one stated “The survey is good in a sense that is new, rather than just asking question, people will automatically answer the better answer. I like the approach of the test”. However, another student criticized the setting of the exhibition, her words were: “I was annoyed from the setting of the disabled persons at the exhibition as I felt as if I'm at a museum. I felt sorry for their situation”.

**Discussion**

The aim of this study was to assess the effect of Photovoice on implicit and explicit prejudice towards PWD. It was hypothesized that the Photovoice exhibition would have a more positive impact on both implicit and explicit prejudice than the disability session. Hence, more positive implicit and explicit attitudes were expected to be obtained. The results showed no
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

difference between the IAT and ATDP scores of the disability session compared to the Photovoice exhibition which means that Photovoice didn’t have a stronger impact on prejudice than the disability session as predicted. Moreover, the results also showed no difference or correlation between the IAT scores and ATDP scores which came in line with Jackson et al., (2006) research where there were low correlation between IAT and ATDP scores assessing attitudes towards athletes with disability. This also matched what Lai et al., (2013) stated that a correlation existed between implicit and explicit prejudice of certain categories such as race, religion, and gender, but when it came to age and disability the relation was weak.

With reference to other similar research, such as Tippin (2016), Photovoice had a positive impact on attitudes towards people with mental illness. However, in this study, a Photovoice video was used rather than a Photovoice exhibition and a pretest was done before the intervention. In other studies, (Tippin, 2016 ; Altindag 2006), Photovoice videos were used as part of a multimodal intervention or program where a video was used along with psychoeducation and real contact, in addition to also performing pre-tests and post-tests as well as having a control group. Unfortunately, there are very limited researches that have used Photovoice as the sole factor for assessing changed attitudes towards PWD.

There are additional factors that can explain or could have contributed to these results. The first one could be that the disability session wasn’t like a regular presentation or class where the instructor just gives information. Participants in turn didn’t just sit and receive information, but rather interacted with the instructor a few times during the session. Also the experience and charisma of the instructor could have had an impact on the quality of the session and how appealing it was to the participants. Another factor with reference to the theory of contact; could have been that the nature and amount of contact of the students in the Photovoice
exhibition was still not an equal status contact where PWD were working collaboratively with students. Another reason behind the results could be the student’s confusion or lack of concentration while performing the IAT test which could have affected their results. As for the ATDP, some phrases or statements seemed to be a bit confusing to some of the participants and could have been interpreted differently by some of them such as the following statement from the ATDP “It is up to the government to take care of persons with disabilities” it could be interpreted that it is up to the government alone to take care of persons with disability or that the government should be the primary source of care along with other help from different sources.

On the other hand, while the quantitative results showed no difference between the two groups, the qualitative data and my own observations showed a few differences. During the research process, I observed that there was a clear difference between the attitudes of participants who attended the Photovoice exhibition compared to the ones who attended the session. Participants who attended the Photovoice exhibition showed more interest in the research process and had more positive feedback in their casual talks with me when they were done with the tests. As well, participants who participated in the Photovoice exhibition showed more courtesy towards me and the research by paying more attention to my instructions, giving the research process, the needed time and concentration in addition to generally having a more positive attitude. On the other hand, the participants who attended the disability session were less engaged and interested in the research and most of them seemed to be in a hurry, in addition to showing signs of frustration or boredom while performing the tests. This doesn’t mean that the participants in one group are better than the other, but rather it highlights the fact that the participants who attended a Photovoice exhibition that portrayed positive aspects in the lives of PWD and who met the participants themselves, seemed to have more positive attitudes and
raised level of interest in the research. This is supported by previous research that found a positive effect of contact on prejudice (Smith & McCulloch, 1978; Meyer et al., 2001; Hergenrather & Rhodes, 2007). The qualitative data obtained from the participant’s comments also supports this as in the survey the participants who attended the exhibition were more expressive and had a lot more to say in their comments.

Another observation was that some of the participants felt uncomfortable when dealing with the Photovoice project participants due to their disabilities. This “existential discomfort” is one of the most significant problems of the inclusion of PWD (Roulstone, 1998). On the other hand, other research participants gave Photovoice project participants hugs or pats on the shoulders which is an indicator of a lack of awareness of the basic etiquette of dealing with a PWD or could also be a sign of pity. In addition, the participants’ comments regarding the photovoice experience were all very positive as most of the students felt empowered and inspired from the photos and some of them referred to PWD as heroes. Although this could be considered a good thing, it could also be an indicator of ambivalent ableism, the result of lowered expectations for PWD (Robb & Power, n.d.). However, one could also argue that this positive feedback and the inspiration felt by the research participants might be legitimate in a country like Egypt where PWD go through a lot of challenges in order to have a normal life. When PWD succeed to stand out and overcome those challenges, one should acknowledge, appreciate and be inspired by their efforts and achievements.

While there was no significant difference in the levels of prejudice between the two groups, the overall results showed that there is implicit and explicit prejudice towards PWD in general. In a study done by Kirtsotacis et al., (2017), Greek medical students also showed low ATDP scores compared to students in more developed countries. The same results were also
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

obtained by undergraduate students in Turkey (Girli et al., 2016). However, when prejudicial attitudes were assessed with US, New Zealand and Dutch medical, nursing and nonmedical students (Miller, 2013; Seccombe, 2007; Ten Klooster et al., 2009; Vaughn, 2011), results showed better attitudes towards PWD. This seems to support the idea that prejudice toward PWD is higher in developing countries than in more developed ones. Therefore, Egypt as well as other developing countries needs to work on more research and interventions, using both traditional and nontraditional research methods while engaging the public and private sector in order to reduce prejudicial attitudes towards PWD which by turn should then lead to more inclusion of PWD.

Limitations and Suggestions for Future Research

The research results can’t be generalized due to the small sample size. Needless to say, the small sample also prevented the researcher from assessing relationships between the variables such as age, gender and major on attitudes towards PWD. In order not to be overly demanding of the PWD who participated in the Photovoice session, it was necessary to limit it to only two days, and this lowered the number of research participants who could be included.

For both the implicit and explicit tests, the same result could reflect different underlying cognitive processes because whereas some participants’ results may show less prejudice or bias, because they were able to overcome their prejudice or strong automatic associations, others may have showed or had the same results because they do not hold bias attitudes or were not prejudicial in the first place. Unfortunately, both IAT and ATDP cannot distinguish between the two cases. In order to clear out this point, a pretest could have been performed to know where the change came from. However, doing a pretest would have given the participants more time to get familiar with the research objective and measures which could have affected the results’ validity.
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

Another solution for this issue could have been including another group who was not exposed to any stimulus or intervention in order to have a deeper understanding and insight on the effect of the Photovoice versus the session on prejudice or do a pre and post-test but that could have affected the results due to familiarity with the measures. However, it could have been considered. Another limitation was the fact that it was challenging for the researcher to find enough number of professors who would agree to give their students extra credit for research participation in addition to time constraints as the researcher had a limited amount of time for data collection, analysis and report writing.

Finally, when it came to the surveys, one of the questions was formulated differently for the Photovoice exhibition group compared to the disability session group. This was the question asking the participants’ opinion regarding the exhibition which was asked in the form of a 4-point likert scale question to a qualitative format where participants could express their opinion regarding the exhibition freely and thoroughly. The latter could be due to the researcher’s bias towards Photovoice and her eagerness to know more about what the participants think of it/ feel about it.

It would have been interesting to interview all the Photovoice participants and ask them about their experience with the session in addition to their opinion regarding the research and participants’ attitude during the exhibition, but this was beyond the scope of the present research. It would also be interesting to do more in depth research on the effect of Photovoice on PWD (photovoice project participants) especially on PWD empowerment and self-stigma.

Conclusion
Prejudicial attitudes existed among participants, which means that more interventions targeting prejudice and inclusion are necessary whether on the university campus or in Egypt in general. This is especially true since the research was done in one of the most accessible universities in Egypt, where a lot of students with disability are enrolled. The results also were in line with other developing countries’ research on attitudes towards disability such as Turkey and Greece who have cultures and socio-political environment that are similar to Egypt. It is also worth noting that the research was done with well-educated and high socio-economic status participants but still, the results showed they had prejudice towards PWD. All of this implies that tackling the issue of prejudice in the Egyptian context needs to be done across all ecological systems of society in order to create real change. Also, research and interventions applying a CBPR orientation need to be targeted at all segments of society: children, adults, professionals, medical doctors, teachers, nurses, government officials and the general public. Finally, there is a lot of room for future research in the area of disability, disability prejudice and especially the effect of Photovoice as a mediator of prejudicial attitudes. Future research should attempt to assess more thoroughly the effect of Photovoice on attitudes towards PWD as a standalone intervention or as part of a multimodal intervention. In addition, using different types of Photovoice tools with different samples and segments of society would be useful in order to be able to identify what works to change attitudes. Such work is essential so that we can tailor interventions that have a positive impact on attitudes, and move us towards the full, equal and effective integration and inclusion of PWD in society.

References
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


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THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


disabilities. Do nurses really overcome children's physical and mental handicaps?


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


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THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD


Appendix

Documentation of Informed Consent for Participation in Research Study

**Project Title:** The Effect of Photovoice on Explicit and Implicit Prejudice towards People With Disability

**Principal Investigator:**
Name: Amira El Zawahry
Email: amiraelzawahry@aucegypt.edu

You are being asked to participate in a research study. The purpose of the research is to assess the effect of a disability educational session on attitudes towards People with Disability. The findings of this study will be of high interest and benefit to the field of disability in Egypt. Hence the results may be published and presented after research completion. The expected duration of your participation is approximately a forty-five minutes session plus thirty minutes for Attitude towards Disability Scale and Implicit Association Test completion.

The procedures of the research will be as follows; you will attend an educational session on disability then you will go to a lab to complete the scales.

There are no risks associated with this research. However, this research might reveal that you have an unintended positive or negative bias toward people with disabilities, and this might cause you some discomfort.

There will be benefits associated with research participation such as; increased knowledge and awareness about disability matters, knowing your unintended biases and attitudes towards People with Disability and receiving an extra credit which was offered by some professors.

The information you provide in this research is anonymous and confidential and will only be used for educational purposes.

If you have further questions about this research please contact: amiraelzawahry@aucegypt.edu.

Participation in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or the loss of benefits to which you are otherwise entitled.

Signature
________________________________________
Printed Name
________________________________________
Date
________________________________________
Project Title: The Effect of Photovoice on Explicit and Implicit Prejudice towards People with Disability
Principal Investigator:
Name: Amira El Zawahry
Email: amiraelzawahry@aucegypt.edu
You are being asked to participate in a research study. The purpose of the research is to assess the effect of Photovoice on attitudes towards People with Disability. The findings of this study will be of high interest and benefit to the field of disability in Egypt. Hence the results may be published and presented after research completion. The expected duration of your participation is approximately 30 minutes for the Photovoice exhibition plus another twenty minutes for tests completion.
The procedures of the research will be as follows; you will attend a Photovoice exhibition under the title “I Am Able BECAUSE...!” then you will be escorted to a lab to perform the scales.
There are no risks associated with this research. However, this research might reveal that you have an unintended positive or negative bias toward people with disabilities, and this might cause you some discomfort.
There will be benefits associated with research participation such as; increased knowledge and awareness about disability matters, learning more about Photovoice as a research method and as a tool for self-expression, knowing your unintended biases and attitudes towards People with Disability and receiving an extra credit which was offered by some professors. The information you provide in this research is anonymous and confidential and will only be used for educational purposes.
If you have further questions about this research please contact: amiraelzawahry@aucegypt.edu.
Participation in this study is voluntary. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled. You may discontinue participation at any time without penalty or the loss of benefits to which you are otherwise entitled.

Signature __________________________________________
Printed Name _________________________________________
Date ________________________________________________
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

Demographic Survey for Disability Etiquette Session

1. Age: ……

2. Gender: ………

3. Nationality: …………………

4. Major: ………………………………………

5. Do you have a disability? Yes□      No □

6. If yes, what type of disability? …………………………………………………

7. Do you have a family member/s with disability? Yes□   No □

8. If yes, what type of disability does he/she have? ……………………………

9. Do you have any experience in the field of disability including (projects, training, work, volunteering or research)? Yes□      No □

10. If yes, kindly elaborate

..................................................................................................................
..................................................................................................................

11. Did you attend a disability etiquette session before? □Yes   □No

12. How did you find the session you took today?

□ Very informative      □Informative   □ Neutral   □Didn’t like it

13. To what extent do you think the session changed your views towards People with Disability?

□Very much      □A little bit   □Neutral   □Not at all

14. Please write down your Implicit Association Test results

(The result is in the form of a sentence)

..................................................................................................................

15. Comments: …..............................................................................
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

Demographic Survey for PhotoVoice Exhibition

1. Age: ……

2. Gender: ……..

3. Nationality: …………………

4. Major: ……………………………………..

5. Do you have a disability? Yes□ No □

6. If yes, what type of disability? ……………………………………………..

7. Do you have a family member/s with disability? Yes□ No□

8. If yes, what type of disability does he/she have? ……………………………

9. Do you have any experience in the field of disability including (projects, training, work, volunteering or research)? Yes□ No□

10. If yes, kindly elaborate

……………………………………………………………………………………
……………………………………………………………………………………
……………………………………………………………………………………

11. Did you attend a Photovoice exhibition before? □Yes □No

12. If yes, what was it about? ………………………………………………………

13. Please tell us how did you find the exhibition you saw today and what did you like the most about it?

……………………………………………………………………………………
……………………………………………………………………………………
……………………………………………………………………………………

14. To what extent do you think the exhibition changed your views towards People with Disability?

□ Very much □ A little bit □ Neutral □ Not at all
THE EFFECT OF PHOTOVOICE ON PREJUDICE TOWARDS PWD

15. Please write down your Implicit Association Test results
   (The result is in the form of a sentence)
   ………………………………………………………………………………………………………

16. Comments: ………………………………………………………………………
   ………………………………………………………………………………………………………
Attitudes Toward Disabled Persons (ATDP)

—Adapted from the Attitudes Toward Disabled Persons (ATDP) Scale, Form O, by Yuker, Block & Young, 1970

Mark each statement in the left margin according to how much you agree or disagree with it. Please mark every one. Use the following numbers to indicate how you feel in each case:

+3 = I agree very much
+2 = I agree pretty much
+1 = I agree a little
-1 = I disagree a little
-2 = I disagree pretty much
-3 = I disagree very much

_____ 1. Parents of children with disabilities should be less strict than other parents.
_____ 2. Persons with physical disabilities are just as intelligent as nondisabled ones.
_____ 3. People with disabilities are usually easier to get along with than other people.
_____ 4. Most people with disabilities feel sorry for themselves.
_____ 5. People with disabilities are often the same as anyone else.
_____ 6. There should not be special schools for children with disabilities.
_____ 7. It would be best for persons with disabilities to live and work in special communities.
_____ 8. It is up to the government to take care of persons with disabilities.
_____ 9. Most people with disabilities worry a great deal.
_____ 10. People with disabilities should not be expected to meet the same standards as people without disabilities.
_____ 11. People with disabilities are as happy as people without disabilities.
_____ 12. People with severe disabilities are no harder to get along with than those with minor disabilities.
_____ 13. It is almost impossible for a person with a disability to lead a normal life.
_____ 14. You should not expect too much from people with disabilities.
_____ 15. People with disabilities tend to keep to themselves much of the time.
_____ 16. People with disabilities are more easily upset than people without disabilities.
_____ 17. People with disabilities cannot have a normal social life.
_____ 18. Most people with disabilities feel that they are not as good as other people.
_____ 19. You have to be careful what you say when you are with people with disabilities.
_____ 20. People with disabilities are often grouchy.