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Malaysians' Attitudes toward People with Disabilities

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Abstract

This paper aims to study the attitudes of Malaysians living in Johor Bahru toward people with disabilities (PWDs). The study examines the difference between demographic factors (level of contact, education level, age and gender) and attitudes toward PWDs. A total of 90 participants living in city of Johor Bahru, Malaysia were recruited in this study using convenience sampling. The data was collected using the questionnaire, namely demographic information and Multidimensional Attitudes Scale toward Persons with Disabilities (MAS). The data is analysed using descriptive statistics, Mann-Whitney U test and Kruskal-Wallis test. Findings show that in general, participants living in Johor Bahru have slightly negative attitudes toward PWDs. Findings also suggested that there is a significant difference between demographic factors (age, level of contact and education level) and attitudes toward PWDs, whereas no significant difference between gender and attitudes toward PWDs. The results of this study implied the importance of fostering attitudes of participants toward PWDs.

Key words: age, level of contact, education level, gender, people with disabilities (PWDs), attitudes of Malaysians towards people with disabilities (PWDs).
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1.0 Introduction

In Malaysia, the number of new registration of children with disabilities (CWDs) fluctuates from 2009 to 2013 but this number has dramatically increased since 2014 (Department of social welfare, 2009, 2015). Department of social welfare (2014, 2015) reported that 11,546 children under the age of 18 registered as having a disability in 2014. The number of CWDs rapidly upsurges in 2015 after 105,174 children register as having a disability.

Negative attitudes of Malaysian toward CWDs have been disclosed recently. Azizan (2015, July 5) reported that low opportunities are given to CWDs and people with disabilities (PWDs) when enrol to schools and universities. Likewise, approximately 1% of CWDs enrol and attend inclusive education or special education programs (Liang, 2016, April 20). In 2007 August, a disabled child was rejected in the enrolment of private school and the child was concurrently discriminated by the person in charge (International Business Publications, 2007).

Low quality and inequitable education are offered to CWDs (Russo, 2011). For instance, limited school facilities (e.g. wheelchair and grab rails) and a small number of qualified special education teachers are found in Malaysia (Nasir & Efendi, 2016). Malaysians perceived that CWDs have higher level of inferiority and low ability and they should not have the equal chances to access public facilities and services (Nasir & Efendi, 2016). By treating with prejudice and discrimination (e.g. low enrolment and low quality of education), CWDs perceives they have low ability and start to feel sad, depressed and anger and less likely to communicate with friends. Even more, they gradually avoid attending classes and intend to leave from their home (World Health Organization & World Bank, 2011).

In some countries, different kinds of negative attitude occur toward people with disabilities (PWDs). For instance, approximately 78% of British mention that long-term care is extremely essential and long-term care ought to be provided to individuals with disabilities (Aiden & McCarthy, 2014). Furthermore, nearly four-fifths of British feel uncomfortable when communicate with PWDs because they will unconsciously express negative feelings about disabilities. They feel uncomfortable during the conversation with PWDs is also due to they have not interacted with PWDs (Aiden & McCarthy, 2014).

There are about 53% of people perceive that prejudice and stereotype sometimes occur to PWDs in United Kingdom (Staniland, 2009). On the other hand, referring to the longitudinal study of Thompson *et al.* (2012), nearly 90% of PWDs suggest that people without disabilities more frequent present negative attitudes towards PWDs during communication and work. Approximately one-third of PWDs in UK perceive that people have low expectations from their work. Thus, PWDs are assigned less tasks and are given less autonomy in job (Hannon, 2007).

In negative attitudes toward PWDs can be reflected from employment and social interaction. Zulfikri (2003) suggested that PWDs in Malaysia are underemployed and are less likely to be promoted to higher positions. Ang, Ramayah and Vun (2013) found that superiors have low expectations for the job performance of PWDs. In addition, employers assign fewer tasks to PWDs because employers perceive that PWDs are less productive compare with people without disabilities. As a result, approximately 48% of PWDs are unemployed in Malaysia in 2012 (Md Shamsudin, & Abdul Rahman, 2014).

Khoo, Tiun and Lee (2013) agreed with Ang and found that nearly 40% of PWDs in Malaysia are discriminated by their employers. In other words, employees are hard to discuss their problems with employers because employers frequently neglect their request and problems. Omran, Schwarz-Herion and Viehbacher (2011) mentioned that nearly 48% of Malaysians are less likely to communicate with PWDs, especially people with mental illness. It is because they will unintentionally express negative feelings about mental illness. 48% of Malaysians are unwilling to communicate with PWDs is also due to they are unknowledgeable in helping PWDs during emergency. Jyothi *et al.* (2015) found that 85% of Malaysian young adults avoid contact with PWDs because they thought that the behaviour of PWDs is dangerous and parlous.

Malaysians gradually demonstrate positive attitudes toward PWDs in recent years. Yusof, Ali and Salleh (2015) found that employers are more likely to employ PWDs because PWDs are hardworking, responsible and honest. Superiors also realize that job performance of PWDs matches with the job description of specific position and their performance are similar as general workers. Kamaruzaman *et al.* (2011) noted that PWDs are able to solve the job-related problems and superiors start to employ PWDs to different positions.

Kamapalan and Li (2010) proposed that workers in voluntary welfare organization in Malaysia and Singapore gradually perceive that PWDs are same as general people in terms of having the needs of sexuality. Razali *et al.* (2013) noted that teachers gradually pay attention and care to children with disabilities during teaching and learning lesson after the teachers were trained.

PWDs are entitled to exercise their civil, political, social, economic and cultural rights on an equal basis with general people. Convention on the Rights of Persons with Disabilities proposed that PWDs have the equal opportunities to be employed and to participate in transportation and facilities. This convention aims to promote, protect and guarantee the equal enjoyment of all human rights and freedom to PWDs (United Nations, 2006). In Malaysia, there are several legislations and policies have been established to benefit and protect PWDs.

Persons with Disabilities Act 2008 suggested that PWDs have the equal opportunities and rights to access public facilities, amenities, services and buildings. Furthermore, PWDs have the equivalent chances in employment, education and leisure activities (Laws of Malaysia, 2008). Furthermore, National Social Policy emphasized that every Malaysian, include PWDs, having the opportunities to receive basic necessities and social support system and services (United Nations, 2009).

National Welfare Policy 1990 aims to foster the interaction between general people and PWDs and to promote a secure society (Furuto, 2013; Islam, 2015). Additionally, National Plan of Action for Persons With Disabilities is employed to boost the awareness and attitude of general people towards PWDs. This policy also discusses the equal rights of PWDs in education and health care (Islam, 2015).

Child Act 2001 proposes four core principles to protect child under age of 18, with and without disability, as following: (1) non-discrimination, (2) best interest of the child, (3) the right to life, survival and development, and (4) respect for the views of children (Laws of Malaysia, 2001). National Policy for Children and Action Plan 2009 executes programmes and strategies to enhance survival, development, protection and participation of children. For instance, awareness programmes

are conducted to enhance the awareness of Malaysian toward children and these programmes further alert Malaysians to protect children (United Nations Children's Fund Malaysia, 2014).

Studies found that variables such as level of contact, educational level, age and gender play an important role in influencing people's attitudes toward PWDs (Livneh, 1982; Hampton & Zhu, 2011; Thompson *et al.*, 2011; Rathbone, 2013 Greene, 2014). After having physical interaction with PWDs, younger adults gradually present more positive attitudes toward PWDs than others who do not physically interact with PWDs (Greene, 2014). For instance, younger adults feel less stressful and start to communicate with PWDs about their common interest (Greene, 2014). McManus, Feyes and Saucier (2011) noted that positive attitudes toward PWDs are more likely to be developed if individuals pay attention when contact with PWDs.

Furthermore, individuals with high-school qualification are more likely than graduates and postgraduates to think that PWDs always present problematic behaviour and less intelligent (Thompson *et al.*, 2011). Adults with degree and master qualifications tend to exhibit positive attitudes toward PWDs compare with adults with high-school qualification (Agyemang & Delle, 2013). Furthermore, older adults over age of 56 are more likely than other age groups to stereotype and discriminate PWDs (Livneh, 1982). Gozali (1971) found that individuals whose age 51 and above tend to be less tolerant to the behaviour and characteristic of PWDs. Females are more likely than males to present positive attitudes towards PWDs (Miller, 2010). Adults females tend to help and communicate with PWDs, whereas adult males usually avoid contact and ignore the request of PWDs (Hampton & Zhu, 2011).

1.1 Problem Statement

Negative attitudes of Malaysian toward PWDs have been detected from various issues (e.g. education, employment and social interaction). For instance, low opportunities are offered to CWDs and PWDs when enrol to schools and universities (Liang, 2016, April 20). A disabled child was rejected in enrolment of private school just because the child suffered disability (International Business Publications, 2007). Furthermore, limited school facilities (e.g. wheelchair and grab rails) and a small number of qualified special education teachers are offered in Malaysia (Nasir & Efendi, 2016).

PWDs are less likely to be employed and to be promoted to higher positions (Zulfikri, 2003). Superiors perceive PWDs are less productive and assign fewer tasks to them (Ang, Ramayah & Vun, 2013). Moreover, 48% of Malaysians avoid to contact and communicate with PWDs because they will unintentionally express negative feelings about disability (Omran, Schwarz-Herion & Viehbacher, 2011).

Positive attitudes should be demonstrated by Malaysians to PWDs. Md Shamsudin and Abdul Rahman (2014) suggested that Malaysians should have the knowledge about disability and they should not stereotype PWDs and CWDs as rebellious and problematic individuals. Pang (2013) proposed that employers should regularly contact with individuals or workers with disabilities. By having this experience, employers would realize the strengths of PWDs on work and less likely to avoid PWDs and to reject their registration.

Strand, Benzein and Saveman (2004) suggested that government, police force and citizens should more concern about the emotional conditions and safety of PWDs because violence (e.g. sexual abuse and neglect) regularly happen among PWDs, especially people with intellectual disability. Although these suggestions and relevant laws (e.g. Child Act 2001, Persons with Disabilities Act 2008 and National Plan of Action for Persons With Disabilities) are offered, negative attitudes of Malaysian toward PWDs are frequently disclosed.

Discussion in the previous section has revealed that negative attitudes toward CWDs (e.g. rejection and low opportunities in school enrolment, low quality education provides) are prevalent in Malaysia (Russo, 2011; Liang, 2016, April 20). Nearly 98% of CWDs in developing countries have not participated school (Zikin, & McConachie, 1995; Sagahutu & Struthers, 2014). In addition, only few studies were conducted in America, United Kingdom and Nigeria to examine citizen's attitudes toward PWDs (Akhidenor, 2007; Getachew, 2011).

To the best of researchers in studying the Malaysian's attitudes toward PWDs, it was found that there are limited studies were conducted in Malaysia to determine Malaysian's attitudes toward PWDs, especially to CWDs (Lee, Abdullah, & Mey, 2011; Ang, Ramayah & Vun 2013; Ang & Supinah, 2013; Shamsudin & Rahman, 2014; Nasir & Efendi, 2016). Most of the studies describe the current attitudes of Malaysians toward PWDs in employment and toward CWDs in education and only Ang and Supinah (2013) studied the influence of contact level and gender on attitudes toward PWDs. Thus, the intention of this research is to study Malaysians' attitudes toward people with disabilities. Therefore, the research questions of this study are:

1. What are the attitudes of Malaysians living in Johor Bahru toward people with disabilities?
2. Is there any difference between demographic factors (level of contact, education level, age and gender) and attitudes toward people with disabilities?

2.0 Literature Review

As discussed in definition of terms, attitudes are defined as the beliefs or ideas charge with emotions influencing a person to behave in specific ways to people, objects and situations (Akhidenor, 2007). In other words, attitudes consist of affect (A), behaviour (B) and cognition (C) (Findler, Vilchinsky & Werner, 2007). From the researches or literature reviews, there are some definitions of attitudes have been described and applied.

Wilson, Lindsey and Schooler (2000) proposed that attitudes consist of implicit and explicit attitudes. Implicit attitude is defined as the affect which happens automatically and unconsciously toward people and objects. However, explicit attitude is defined as the cognitive attitude which occurs consciously and controllably toward people and objects. This attitude requires people to retrieve and recall how to express to individuals and objects. Eagly and Chaiken (1993) suggested that 'attitude is a tendency that is expressed by evaluating a particular entity with some degree of favour or disfavour' (p.1).

Kassin, Fein and Markus (2011) proposed that attitude is the '…positive, negative or mixed reaction to a person, object, or idea'. Additionally, Kassin and his colleagues also mentioned that attitude consists of affect and behaviour. Visser and Mirabile (2004) noted that attitude comprises of cognition and attitude refers to 'array of summary evaluations stored in memory.' Bogardus (1931) stated that '[a]n attitude is a tendency to act towards or against some environmental factor which becomes thereby a positive or negative value' (p. 52). Additionally, attitude also refers to the affect for or against to the people and objects (Thurstone, 1931). As a summary, the definitions of attitude involve one of the three components which are ABC and involve the combination of A and B or A and C.

2.1 Attitude Formation and Theories

Attitude is formed and learned after exposure to the association among two or more objects. For instance, the co-occurrence of neutral stimulus (e.g. PWD) and unconditioned stimulus (e.g. smell of excreta) influence individual to feel disgust toward PWD when they take care PWD. In this case, the attitude of individual (e.g. feeling of disgust) toward PWD only forms after the smell of excreta disappears (Olson & Zanna, 1993). Crano and Prislin (2008) referred to this type of attitude formation as direct experience. Furthermore, experimentalists suggested that attitudes are only formed if individuals repeatedly expose to the objects, people or situations (Zajonc, 1968; Grush, 1976).

Behaviourists and researchers suggested that attitudes are formed after learning (Thurstone, 1931; Findler, Vilchinsky & Werner, 2007; Bohner & Dickel, 2011). By referring to observational learning, individual is more likely to imitate the behaviour and attitude of model after observing the model and after he thought that the reinforcement which model receives is attractive (Pascoe, 2011). For example, teenage girl starts to imitate the model by purchasing the shirt and watch which dressed by model in the advertisement. It is because teenage girl intends to have the feelings of charm which received by the model (Pascoe, 2011). Consumers tend to purchase product in certain shop and having favourable evaluations if they notice that other consumers frequently purchase in there and if knowing

that the shop receives more positive feedbacks (Czarniewski, 2014). Negative attitudes such as stereotype and prejudice also can be learned through observational learning (Smith & Berge, 2009).

Tripartite model of attitudes is the main theory applied in this study. This model consists of cognitive, behavioural and affective components (Rosenberg & Hovland, 1960). Affective component refers to the feelings and emotions toward objects or people (Farley & Stasson, 2003). Cognitive component is considered as the beliefs and thoughts about the people or objects (Pratkanis, Breackler & Greenwald, 1989). Behavioural component refers to the observable action toward people or objects and this action is connected with internal attitude which is found in previous experience or self-perception (Crano & Prislin, 2008).

Ajzen (2005) mentioned that affective, behavioural and cognitive components are interrelated. From the self-reported of participants, they have discrimination against PWDs because (1) they behaved this behaviour before, (2) they feel stress toward PWDs and (3) they thought PWDs are troublesome when communicate and taking care of PWDs; Participants also said that three reasons co-occur when having discrimination to PWDs (Khalid *et al.*, 2010). By applying tripartite model, Kim, Lu and Estrada-Hernandez (2015) found that young adults have negative attitude toward PWDs because they less knowledge about disabilities and, thus, they feel fear when seeing PWDs and unwilling to help PWDs.

2.2 Development of Attitudes

Development of attitude over the lifespan is considered as a discontinuous process which is similar to a U-shaped curve (Kloep, 2016). Attitude is dramatically vulnerable during early adulthood and late adulthood. When youngsters enter adulthood, they start to vote in elections, think about the enhancement on responsibility of work and strive for achievement. They also consider to choosing their marital partners and widening their social circle (Fiske & Macrae, 2012). Furthermore, youngsters become the target audience of TV advertisers who try to influence youngsters by applying impressive and persuasive messages (Sutton & Douglas, 2013). As a result, these social-related factors dramatically influence and change the attitude of younger adults.

Attitude is less likely to be changed and become more stable after early adulthood (18 years old) and during middle adulthood (43 to 63 years old). Visser and Krosnick (1998) noted that cognitive functioning of adults gradually improves and develops after early adulthood and adults start to think critically whether their attitude will motivate or prejudice others.

When adults enter middle adulthood, they are having the positions with authority, they desire to maintain the relationship with family and social interaction with workers (Fiske & Macrae, 2012). Under these circumstances, they recall about their experience in maintaining family relationship and interaction of workers and think critically about what are the more appropriate attitudes and ways toward workers and family (Kloep, 2016). As a result, middle-aged adults slightly change their attitude and this change depends on their previous experience and knowledge.

Attitude is extremely susceptible during late adulthood. Fiske and Macrae (2012) proposed that attitude change in late adulthood is triggered by the decline in cognitive functioning. Older adults are usually hard to retrieve their previous experience and knowledge when solving current issues. As a result, they frequently feel sad and helplessness (Fiske & Macrae, 2012). Retirement typically occurs in late adulthood and this transition influences older adults to adapt a new role and attitude in later life (Visser & Krosnick, 1998). Furthermore, decrease in social network and in social support affects the attitude of older adults (Visser & Krosnick, 1998). Older adults frequently feel sad because they have fewer friends with whom they discuss essential issues (Sutton & Douglas, 2013).

2.3 Disabilities

Disability is any continuing condition which restricts activities of daily life. Most of the disabilities are differentiated in visible (e.g. visual impairment and physical disability) or invisible (e.g. mental disability, learning disability, speech impairment and hearing loss) (Getachew, 2011). In Malaysia, children and people register as CWDs or PWDs if they are diagnosed with one of the

disabilities (e.g. visual impairment, hearing loss, learning, physical, mental and speech disabilities or others) (United Nations Children's Fund Malaysia, 2014; Department of social welfare, 2015).

2.3.1 Vision impairment

Vision impairment (VI) can be considered as limited range of sight and focus and VI is hard to be corrected by spectacles and its severities range from low vision to blindness (Department of Veterans Affairs, 2002; Seyama, 2010). People with VI (include both adults and children) tend to use their perceptual abilities and cognitive functions in daily life (Seyama, 2010). Children with low vision and blindness can draw a dog after interpreting the description of teacher about the features of a real dog. The correctness in the drawing of children with low vision and blindness is about 70% and 38% respectively after marked by examiner (Vinter, Fernandes & Claudet, 2009). In addition, people with VI apply their tactile sense in Braille during writing and reading (Kiomoka, 2014). People with VI also try to understand the feelings of people by listening and communicate with them (Department of Veterans Affairs, 2002).

VI influences the emotions, daily living skills and socialization of children with this disability. Department of Veterans Affairs (2002) noted that people with VI are more likely to feel depressed and worry because they cannot see what is happening now, especially the conditions of busy streets and noise hallways. Furthermore, children with VI are difficult to perform activities of daily living (e.g. dressing and eating) independently because they are hard to observe and to learn these behaviours from others (Papadopoulos, Metsiou & Agaliotis, 2011).

Children with VI present deficits in socialization and further results in social isolation. This outcome occurs is due to: (1) children with VI have less chances to observe and learn social skills from others since young, thus they use inappropriate gesture and frequently asking irrelevant questions during communication (Lieberman & Robinson, 2004); (2) people tend to avoid socialize with VI children and perceive these children perform various facial expression (Runjic, Prcic & Alimovic, 2015).

2.3.2 Hearing loss

Hearing loss (HL) is a disability which people only can hear the sound greater than 25 decibels (dB) and the severities of hearing loss range from mild to profound (deaf) (Kung & World Health Organization, 2016). People with HL tend to communicate with others loudly and frequently use facial expressions (e.g. smiling and nodding). Additionally, people with HL request others to repeat their statements during conversation (Stevenson *et al.*, 2011). As a result, HL people tend to use hearing aids and employ sign language when communicate with others (Gravel & O'Gara, 2003).

HI directly impacts the ability in comprehension, self-esteem and academic performance of children with this disability. Experimentalists mentioned that children with HI are hard to comprehend the spoken language because of the decline in auditory speech (Pittman, Vincent & Carter, 2009; Jerger *et al*., 2013). Children with HI perceive they have low ability in communication and in socialization because of: (1) they cannot clearly hear and understand the conversation of friends (Theunissen *et al.*, 2014), and (2) ask irrelevant questions during conversation (Warner-Czyz *et al.*, 2015). In addition, children with HI tend to have poor academic performance due to the deficit in receptive language (Daud *et al.*, 2010).

2.3.3 Learning disability

Learning disability (LD) can be considered as a disability results in auditory, writing and arithmetic (Büttner & Hasselhorn, 2011). For instance, Archie who is a child with LD pronounces the word "cat" as "/k/-at" although he can visually recognize this word and although learn the pronunciation of cat about two years ago (Cole & Traupmann, 1981). Furthermore, children with LD are hard to discriminate the phoneme during conversation (Cortiella & Horowitz, 2014). Likewise, Helen mispronounces the words "beer" as "deer" and "thin" as "fin" after his friends say beer and fin (Cole & Traupmann, 1981). Apart from that, children with LD are difficult to write on a straight line

and some of them need to count the number of objects in a long period of time (Swanson, Harris & Graham, 2013).

Researchers found that LD influences the emotions and academic performance of children with LD. Children with LD tend to have slightly poor academic performance compare with general children. It is due to the delay in learning in terms of children with LD need more time to practice in writing and in learning grammar (Steenken, 2000). Casto (2005) agreed with Steenken and found that children with LD are more likely to have poor performance in Mathematics. In addition, more than 25% of children with LD report they feel sad, depressed and lonely. This phenomenon is due to (1) peer rejection about behaviour of children with LD, and (2) having difficulties in reading and writing (Bryan, Burstein & Ergul, 2004).

2.3.4 Physical disability

Physical disability (PD) is defined as the difficulty in movement of lower or upper limbs and it includes spina bifida, cerebral palsy and muscular dystrophy (Miller, 1995). People with PD tend to move slowly and they may need mobility aids (e.g. wheelchairs, walkers, canes) during movement (Foreman & Arthur-Kelly, 2014). Although having the problems in movement, people or children with PD are able to attend general class and their syllabus is same as other students (Porter, 2007). Furthermore, children with PD join parallel play with general children and PD children sometimes interact with them (Porter, 2007).

Study found that PD affects socialization and body image of children (under the age of 18) with this disability (Gürsel & Koruç, 2011). Adolescents with PD are more likely to have negative evaluations about their body image and perceive they are lacking of fitness (Younesi, 1998; Gürsel & Koruç, 2011). Taleporos and McCabe (2001) noted that teenagers with PD tend to have dissatisfaction about their body, such as unattractive physical appearance, compare with general adolescents. Furthermore, children with PD have fewer chances in socialization because their friends prejudice and discriminate about their disability and reject PD children having communication together (Þorvarðardóttir, 2014).

2.3.5 Mental disability

Mental disability (MD) or mental illness refers to a range of mental health conditions which affect thinking, mood or behaviour (Stein *et al.*, 2010) and it includes neurodevelopmental disorders, depressive disorders and others. People with autism tend to present stereotyped behaviour and fixated interest on objects (American Psychiatric Association, 2013). For instance, children with autism tend to flap their hands regularly and they only like to play specific toys (Honey *et al.*, 2007).

Furthermore, people with attention deficit hyperactivity disorder (ADHD) are hard to maintain their attention and impulsively engage in activities (American Psychiatric Association, 2013). For example, John plays the ball in a short period of time and suddenly stops playing. Additionally, he cannot wait to take the ball in the next round and grabs it from his friends (Michelson *et al.*, 2001; Nichols & Waschbusch, 2004). People with major depressive disorder (MDD) tend to feel sad and loss of interest in activities. Likewise, people with MDD are less likely to socialize with people and participate in activity (Belmaker & Agam, 2008).

Mental disability directly affects the socialization and family relationship. Experimentalists mentioned that children with MD seldom socialize with others because peers reject to having communication with them and peers perceive behaviour of children with MD is dangerous (Corrigan & Watson, 2002). Social Exclusion Unit (2004) found that children with MD less likely socialize with friends and teachers because they frequently avoid interacting and communicating with MD children. In addition, poor family relationship (e.g. less concern and involvement) occurs because parents are frustrated about the stereotyped behaviour of their child (Farber & Kirk, 1959). Parents with MD children tend to neglect their children and feel sad, anger and stress because of the unpredictable behaviour of children (Di Giulio, Philipov & Jaschinski, 2014).

2.3.6 Speech impairment

Speech impairment (SI) refers to the difficulty in articulation of speech sounds or voice (McCormack *et al.*, 2010). People or children with SI are more likely to pronounce the words wrongly when they are alone. For instance, Kara, a child with SI, frequently pronounces her name Kara as Tara when she is alone (McCormack *et al.*, 2010). Thus, some of the parents are hard to realize that their children suffer this problem. Additionally, people with mild SI may speak slowly and people with severe SI are hard to speak (e.g. mute) (Shriberg *et al.*, 1999).

People with SI suffer in social isolation after they are diagnosed with having this impairment (Schuele, 2004). Lúcio *et al.* (2013) found that social isolation occurs among people with SI because of: (1) people with SI perceive they are hard to speak properly; (2) people gradually avoid communicating with SI people and they do not clearly understand the conversation with SI people.

2.3.7 Disability in Malaysia

There are about 1.15 billion people in the world having a disability and they can be considered as one of the vulnerable minority groups (World Health Organization, 2016). In Malaysia, 897,639 people suffer disability and they represent 3% of the country's population in 2015 (Department of social welfare, 2013, 2014, 2015; United Nations Children's Fund Malaysia, 2014). Nearly 251,120 children have a disability and this number includes the registration as children with disabilities (CWDs) from 2002 to 2015 (Department of social welfare, 2009, 2010, 2011, 2012, 2013, 2014, 2015).

By referring to Figure 2.1, the number of new registration as CWDs dramatically increases from 14,487 to 29,289 during 2009 to 2012, although the number of new registration as CWDs slightly decreases in 2010. However, the number of children register as CWDs substantially decreases from 29,289 to 11,546 during 2012 to 2014. In addition, there is lowest number of children register as CWDs in 2014, whereas highest number of children is recorded (105,174) in 2015 during the registration as CWDs (Department of social welfare, 2009, 2010, 2011, 2012, 2013, 2014, 2015). As a summary, the number of new registration as CWDs implies essential information although the number fluctuates yearly. We can detect that number of CWDs dramatically increase if we sum up the number of new registration on previous year.

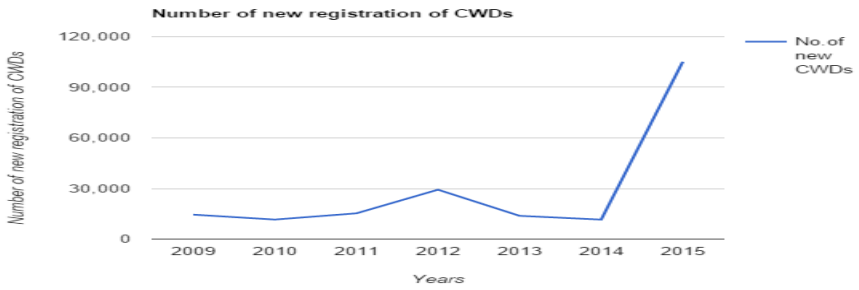

Figure 2.1 Number of new registrations of CWDs from 2009 to 2015

2.4 Attitudes toward People with Disabilities

The purpose of studying the attitudes toward PWDs is to change the negative attitudes toward PWDs (Greene, 2014). Several instruments (Attitude Toward Disabled Persons Scale, Scale of Attitudes Toward Disabled Persons, The Integration with Disabled Persons Scale and Multidimensional Attitudes Scale toward Persons with Disabilities) are employed in literature to measure the attitudes of individuals without disabilities toward PWDs, before change negative attitudes of individuals without disabilities. In addition, convenience sampling is the main sampling method applied in the study of attitudes toward PWDs (Akhidenor, 2007; Getachew, 2011).

2.4.1 Methodical issues in the study of attitudes toward people with disabilities

Attitude Toward Disabled Persons Scale (ATDP) is the first established instrument in measuring the attitudes of individuals toward PWDs (Yuker, 1970). This self-reported questionnaire consists of 30 questions with six-point Likert scale (Yuker, 1970). In addition, ATDP examines: (1) the attitudes of individuals to disabled people in general rather than to people with specific disability, and (2) the attitudes of individuals toward PWDs in unidimensional scale (Findler, Vilchinsky & Werner, 2007). The reliability of ATDP has been extensively tested ($0.77 \leq \alpha \leq 0.83$) since it has been applied in more than 400 studies (Yuker & Block, 1986).

Various issues (e.g. culture difference, specific range of score, bias and unidimensional scale) are found after using ATDP in the study of attitudes toward PWDs. Mamboleo (2009) noted that ATDP is formulated by American researcher (Yuker) and this instrument is related to social norms and culture of America. Thus, ATDP is hard to be applied in other countries (e.g. Kenya, Malaysia and Japan) and hard to receive an accurate result.

Seccombe (2007) claimed that ATDP does not have a clear cut in the total score to differentiate between positive attitudes and negative attitudes. Thus, the total scores in ATDP (attitudes of individuals) only can be interpreted by comparing with others (Haskell, 2010). Kamenstein (2008) noted that participants may change their existing beliefs to more positive in ATDP because participants realize experimentalists intend to measure their attitudes toward PWDs. Yuker (1970) mentioned that ATDP is not factorially pure because this instrument measures the attitudes of individuals toward PWDs in general rather than in subscales.

Scale of Attitudes Toward Disabled Persons (SADP) is developed by Antonak in 1981 and it consists of 24 items with six-point Likert scale. In addition, SADP is used to measure the attitudes of individuals toward PWDs as a group and as general disabilities (Antonak, 1981). By using factor analysis, Antonak suggested that SADP comprises three subscales: (1) optimism-human rights, (b) behaviour misconception, and (c) pessimism-hopelessness (Antonak, 1981; Findler, Vilchinsky & Werner, 2007). The reliability of SADP has been widely tested in a number of studies and it range from 0.74 to 0.91 (Findler, Vilchinsky & Werner, 2007).

SADP's weaknesses (e.g. reliability and wording) are detected in the study of attitudes toward PWDs. Martín and Álvarez Arregui (2013) noted that SADP is not extremely reliable and it has low levels of internal consistency because this instrument was developed about 35 years ago. Similarly, it is not appropriate to be used in longitudinal studies (Lee *et al.*, 2015). Lee and his partners also stated SADP only can measure attitudes of individuals toward people with general disabilities rather than people with specific disability. Impecoven-Lind (2004) found that the wording or description of the items in SADP may polarize the beliefs and feelings of individuals towards PWDs. For instance, item 22 mentions that 'Disabled people indulge in bizarre and deviant sexual behaviour' (Antonak, 1981).

Multidimensional Attitudes Scale toward Persons with Disabilities (MAS) is the latest instrument in measuring attitudes of individuals toward PWDs as individual basis (Findler, Vilchinsky & Werner, 2007). This instrument comprises: (a) a vignette which describes Joseph sits beside a new friend who sits on the wheelchair and (b) 34 items in affect, cognitive and behaviour subscales and with five-point Likert scale. The reliability of MAS ($0.83 \leq \alpha \leq 0.90$) has been widely tested since 2007. Similarly, MAS has been applied in more than 50 studies in Korea, Ethiopia, America and Nigeria (Akhidenor, 2007; Findler, Vilchinsky & Werner, 2007; Getachew, 2011). The MAS is a valid instrument because researcher found that there is a significant relationship between subscales of MAS and ATDP scale (Findler, Vilchinsky & Werner, 2007).

Limitations of MAS are found in the study of attitudes toward PWDs. Getachew (2011) claimed that MAS is developed by American experimentalist and it is related to individualistic culture. Thus, MAS is not suitable to measure the attitudes of Ethiopians who have collectivist beliefs and norms. Furthermore, the score of MAS do not reflect the intentions or behaviour of individuals toward PWDs (Wicker, 1969). Wilgosh and Skaret (1987) found that there is no relationship between score in attitudinal survey and actual behaviour of individuals.

Greene (2012) noted that vignette in MAS only describes about person with PD. Thus, participants who have less knowledge and contact about people with PD tend to score inconsistently. Furthermore, social desirability bias occurs when using MAS (Vermeltfoort *et al.*, 2014). For

instance, participants tend to give the answer which matches with the intention of experimentalists when answering MAS (Bonnett, 2015).

Convenience sampling is the main sampling method applied in the study of attitudes toward PWDs (Akhidenor, 2007; Getachew, 2011; Burkhardt & Haney, 2012; Md Shamsudin, & Abdul Rahman, 2014). By applying this sampling method, Akhidenor (2007) and Md Shamsudin and Abdul Rahman (2014) recruited participants with all age (e.g. adolescents, young adults, middle-aged adults and older adults) and with no exclusion criteria. Burkhardt and Haney (2012) recruited participants with at least 18 years old in their study by using convenience sampling.

By using convenience sampling method, Getachew (2011) recruited college students in his study since he intends to examine the attitudes of college students toward PWDs. However, Greene (2014) applied random sampling method to recruit college students in his study. In the study of Ryan (2013), participants with above 18 years old are recruited by snowball sampling in order to examine their attitudes toward PWDs.

One-way ANOVA is mainly applied in the study of attitudes toward PWDs to determine the difference between categorical variables (e.g. age, education level and level of contact) and continuous variable (e.g. attitudes toward PWDs which is measured by MAS, ATDP or SADP) (Akhidenor, 2007; Getachew, 2011; Ryan, 2013). Independent T-test is employed to determine the difference between gender and attitudes toward PWDs (measured by MAS) in previous studies (Findler, Vilchinsky & Werner, 2007; Getachew, 2011; Rathbone, 2013; Ryan, 2013). Findler, Vilchinsky and Werner (2007) employed MANOVA to measure the differences between gender and attitudes toward PWDs in cognitive, behavioural and affective component.

2.5 Factors Affecting Attitudes toward People with Disabilities

This section elaborates the demographic factors (level of contact, education level, age and gender) which are regularly discussed in the study of attitudes toward people with disabilities. These demographic factors significantly predict the attitudes of individual toward people with disabilities in literature.

2.5.1 Level of contact

Social scientists gradually realize the ideas of intergroup contact after World War II (Watson, 1947; Williams, 1947). By referring to the ideas of social scientists, Allport proposed his intergroup contact hypothesis which mentions contact with people with differences tends to reduce prejudice or tends to change the attitudes of individuals (Allport, 1954; Pettigrew, 1998). Similarly, the first study of contact with PWDs suggested that individuals tend to change their attitudes toward PWDs after interact with them (Amsel & Fichten, 1988).

Studies in recent years also found that individuals tend to have more positive attitudes (e.g. feeling of comfortable and regular communication) toward PWDs after physically interact with them (Watanabe, 2003; Krahé & Altwasser, 2006; Wilson & Scior, 2015). Hence, level of contact may be the most influential variable to predict the attitudes of individuals toward PWDs (Yuker, 1994; Wilson & Scior, 2015).

From the longitudinal study of Tracy and Graves (1996), they found that younger adults gradually present positive attitudes after physically interact with PWDs. 56% of participants feel uncomfortable and fear to interact with PWDs during their first visit. However, 92% of participants feel comfortable and regularly communicate with PWDs after several times visit and interact with PWDs. Wishart and Johnston (1990) emphasized that individuals who have more contact and more positive experience with PWDs rarely stereotype PWDs as dangerous and less intelligent, compare with individuals who have less contact with PWDs.

By recruiting 235 participants, Lee (2016) confirmed that attitudes of participants toward PWDs is improved through interact with PWDs. Participants incline to feel comfortable and enjoyable and tends to communicate with PWDs after participate activities with PWDs. Armstrong *et al.* (2016) found that individuals who have experience in contact with PWDs feel less stressful and present

greater empathy when interact with PWDs again. However, people with no previous contact with PWDs incline to present negative attitudes.

Hong, Kwon and Jeon (2014) stated that the more frequent contact respondents have with PWDs, the more positive attitudes respondents present to PWDs. By analysing the data of 1397 adults, Blundell (2014) found that adults are more likely to feel elation and serenity, after frequently interact with PWDs and after having positive experience with PWDs. Comparing with people with no contact with PWDs, people who have previous interaction with PWDs tend to think that PWDs is similar as general individuals (Fichten, Tagalakis & Amsel, 1989).

In addition, only a study about contact level with PWDs was conducted in Malaysia. Ang and Supinah (2013) stated that Malaysian with no contact with PWDs tends to stereotype PWDs as less intelligent and problematic, whereas Malaysian with previous contact with PWDs are more likely to present positive attitudes to PWDs.

2.5.2 Education level

Psychologists suggested that higher education is a major way to change negative attitudes or to reduce prejudice toward PWDs (Bobo & Licari, 1989). By enriching the knowledge about intergroup members (e.g. PWDs) from coursework and from book, the feeling of comfort and familiarity with intergroup members can be improved (McClosky, 1964).

Agyemang and Delle (2013) found that individuals with higher level of education (e.g. bachelor's degree and master's degree) present more positive attitudes than individuals with lower level of education (e.g. primary and secondary school graduate). It is because people with higher level of education tend to understand that PWDs is not a people with inability in all of the situations. Compare with people with master's degree and doctoral degree, individuals with bachelor's degree and secondary school graduate are more likely to stereotype PWDs as dangerous and problematic person (Awoyera, 2011).

By analysing the data from 1538 adults, Thaver, Lim and Liau (2014) noted that individuals with higher education level feel more comfortable and relax when communicate with PWDs, whereas individuals with low education level feel stressful and avoid communicating with PWDs. Thaver and his partners also found that graduate and non-graduate demonstrate similar attitudes towards PWDs and educational level (e.g. secondary school graduate, bachelor's degree, master's degree) is only the variable in measuring attitudes toward PWDs. Novo-Corti (2010) emphasized that individuals with primary school qualifications tend to having the thought of PWDs should not receive the equal chances in education, compare with individuals with secondary school qualifications and with bachelor's degree.

By recruiting 696 participants, Gosse and Sheppard (2012) found that individuals with bachelor's degree tend to present more positive attitudes (e.g. feeling of comfort and engage in conversation) toward PWDs than individuals with primary and secondary school qualification. In the study of Au and Man (2006), they mentioned that people with master's degree and doctoral degree feel more relax and comfortable than individuals with bachelor's degree when interact with PWDs.

2.5.3 Age

Studies mentioned that people with different age groups (e.g. young adults, middle-aged adults and older adults) present specific attitudes toward PWDs. Akhidenor (2007) found that young adults and middle-aged adults tend to present positive attitudes toward PWDs, whereas older adults are more likely to feel distress and avoid interaction with PWDs. Burkhardt and Haney (2012) confirmed that older adults tend to present more negative attitudes towards PWDs than young adults.

A study conducted by Al-Abdulwahab and Al-Gain (2003) to determine the attitudes of health care professionals toward PWDs. They found that middle-aged adults tend to feel more enjoyment when interact with PWDs, whereas older adults feel more stressful during the physical interaction. Livneh (2012) agreed with Al-Abdulwahab and Al-Gain and stated that older adults are more likely to discriminate and prejudice PWDs because of the vulnerability in changing attitudes in old age.

By recruiting 93 participants, Agyemang and Delle (2013) noted that middle-aged adults (36-55 years old) intends to have more physical interaction with PWDs and feel comfortable and relax

when interact with them. Randle and Reis (2016) mentioned that older adults present more negative attitudes toward PWDs than women and young adults. Likewise, older adults tend to believe that PWDs seldom engage in physical activity, PWDs are unproductive in working and PWDs less likely to have children. Randle and his partner predict the negative attitudes of older adults toward PWDs may due to older adults rarely participate in anti-stigma campaign during their school time (Randle & Reis, 2016).

By applying factor analysis and one-way analysis of variance (ANOVA), Morin *et al.* (2013) emphasized that older adults are more likely than young adults to feel discomfort when contact with PWDs and to avoid communicate with PWDs. Siperstein *et al.* (2005) noted that young adults and middle-aged adults tend to present positive attitudes to PWDs, whereas older adults are more likely to discriminate and prejudice PWDs.

2.5.4 Gender

Miller (2010) reviewed 45 studies which discuss the attitudes toward PWDs and he concluded that female presents more positive attitudes toward PWDs, whereas male tends to demonstrate negative attitudes. Similarly, Cavusoglu *et al.* (2014) mentioned that women present more empathy and acceptance to the behaviour of PWDs. However, men tend to feel fear and further avoid interaction with PWDs. By recruiting 404 adults, Vilchinsky, Werner and Findler (2010) confirmed that male feels more nervous and frustrated than female when male contacts with PWDs.

From the report of Randle and Reis (2016), they noted that females are more likely than males to present positive attitudes toward PWDs. For instance, females believe that PWDs are the important employees in every company and they can boost the profit and performance of the company. Additionally, women tend to think that PWDs should have the equal chances to access healthcare and public services. From the experimental study of Barr and Bracchitta (2012), they found that males are less likely to communicate with PWDs when they meet a new friend with disability. However, females are more willing to communicate and interact with a new friend with disability.

Dachez, Ndobo and Ameline (2015) mentioned that females tend to initiate conversation with PWDs because females think that they can make PWDs feel comfortable, whereas males are less likely to communicate with PWDs because they accidentally present negative feelings to PWDs. Çerkez, Yektaoğlu and Direktör (2016) agreed with Dachez and found that females tends to demonstrate more positive attitudes than males toward PWDs.

Volosnikova and Efimova (2016) noted that women are more likely than males to present positive attitudes (e.g. empathy and help PWDs in emergency) toward PWDs. However, some studies found that male and female tend to present similar attitudes towards PWDs (Mamboleo, 2009), and males tend to present more positive attitudes than females toward PWDs (Dukmak, 2013).

2.6 Research Conceptual Model

The conceptual model of this study involves independent variables (level of contact, gender, education level and age) and dependent variable (attitudes toward PWDs). A conceptual model is depicted in Figure 2.2 based on the discussion from the previous section.

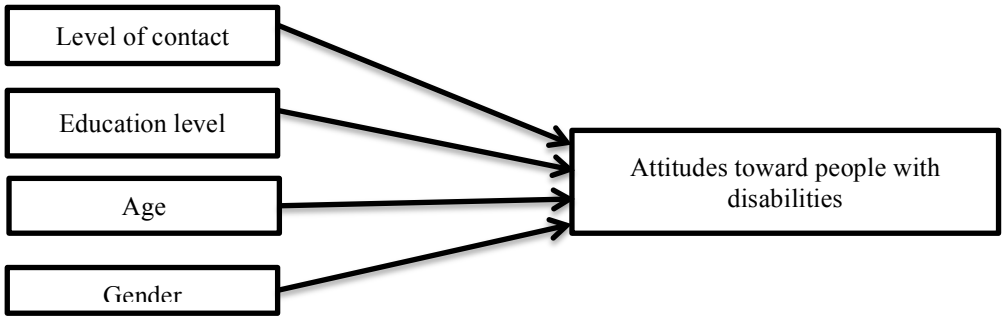

Figure 2.2 Conceptual model of the study

3.0 Method

This section discussed the methodology and data analysis technique applied in this study to determine the attitudes of Malaysians toward PWDs. It involved (a) research design, (b) population and sampling, (c) research procedures, (d) research instruments, (e) data analysis techniques, (f) framework of data analysis, (g) instruments pretesting, and (h) pilot study

3.1 Research Design

Quantitative research method was used in this study. This study was a descriptive research about attitudes of Malaysian living in Johor Bahru at the time the research is conducted. Descriptive research design was employed in the study of attitudes toward PWDs (Akhidenor, 2007; Getachew, 2011). Akhidenor (2007) emphasized that descriptive research design is an important research design when studying a new area or topic. It is because this design tends to describe the characteristic of current issue systematically and accurately.

3.2 Population and Sampling

The target population of this study was adult who are 18 years old and above. Similarly, the population for the study of attitudes toward PWDs was also adult over the age of 18 (Getachew, 2011; Burkhardt & Haney, 2012; Ryan, 2013; Greene, 2014). It is because adults may have more knowledge and experience about disabilities. Adults tend to think critically and to make appropriate decision in MAS, whereas adolescents are more likely to make inappropriate decision and to express negative feelings when imagine the situation of vignette in MAS. Clinical psychologist proposed that inappropriate behaviour of adolescents is due to the change in frontal lobe during adolescence (White, 2009).

This study recruited 90 adults living in Johor Bahru through convenience sampling. Previous studies recruit approximately100 participants, such as Bartholomew and Horowitz (1991) examined the attachment style among young adults by recruiting 71 respondents and Ye (2007) collected 130 responses. This sampling method was also employed in the study of attitudes toward PWDs (Akhidenor, 2007; Getachew, 2011; Burkhardt & Haney, 2012; Md Shamsudin, & Abdul Rahman, 2014). Convenience sampling is a nonprobability sampling method where the members of target population meet the specific practical criteria (e.g. easy accessibility, geographical proximity or willingness to participate) of the study (Zikmund, 1989). This sampling method tends to be used in recruiting participants along the roads, trails, utility corridor, near the camp and around parking areas. Exclusion criteria in recruiting participants is allowed with using convenience sampling but specific reasons of using criteria need to be elaborated critically (Zikmund, 1989; Zikmund, 2013).

Convenience sampling is appropriate to be applied in this study because it is low cost and easy to recruit participants (Etikan, Musa & Alkassim, 2016). Similarly, the result of this study with using convenience sampling is important to the future research which will be conducted with probability sample. Furthermore, convenience sample tends to generate insights to the selected sample rather than create generalization to entire population (Parasuraman, 1986).

3.3 Research Instruments

The collected data consists of a paper questionnaire and it includes three sections which are (a) demographic information which involves the descriptive information of the participants, (b) Multidimensional Attitudes Scale toward Persons with Disabilities (MAS) (Findler, Vilchinsky & Werner, 2007) which measures the attitudes of participants, and (c) Rosenberg's Self-Esteem Scale (RSES) which measures the attitudes of participants.

3.3.1 Demographic information

The demographic information consists of the self-report questions of participants and the questions involve (a) gender, (b) level of contact, (c) education level and (d) age.

3.3.2 Multidimensional attitudes scale toward persons with disabilities (MAS)

The Multidimensional Attitudes Scale toward Persons with Disabilities (MAS) is used to measure the attitudes of individuals toward PWDs. MAS is developed by Findler, Vilchinsky and Werner in 2007. Findler and his partners propose attitude consists of three components or three subscales which are affect, behaviour and cognition. Affect refers to the positive or negative emotions of persons. Behaviour is considered as the direct behaviour toward the individual or object. Cognition refers to the beliefs and thought of individual about an object or a person (Antonak & Livneh, 1988; Findler, Vilchinsky & Werner, 2007).

The MAS is a self-reported questionnaire, it comprises 34 items and a vignette. The affective subscale consists of 16 items, behavioural subscale comprises 8 items and cognitive subscale consists of 10 items (Findler, Vilchinsky & Werner, 2007). Each item in MAS is based on five-point Likert scale, ranging from 1 (not at all) to 5 (very much). The higher scores represent the more negative attitudes of individual toward PWDs.

The vignette in MAS describes Joseph sits beside a new friend who sits on the wheelchair. Thus, participants need to imagine the situation of Joseph face with the person sit on the wheelchair before rating the items. Several assists are provided to participants in understanding the vignette. For instance, when participants did the questionnaire, different types of disabilities (such visual impairment, physical disability, mental disability, learning disability, speech impairment and hearing loss) were briefed and addressed. In addition, researcher explained the scenario to participants if they did not understand it well. Thus, participants could comprehend the vignette well. This prediction is supported by the internal consistency of MAS in the pilot study ($\alpha_{MAS} = 0.962$).

The convergent validity of MAS is statistically proved since MAS is significantly related to the Attitude Toward Disabled Persons Scale (ATDP) which is the first instrument measures the attitudes toward PWDs (Findler, Vilchinsky & Werner, 2007). In the study of Findler, Vilchinsky and Werner (2007), Findler and his partners recruited 132 participants and majority of them are college students and they found that the reliability (Cronbach's alpha) of affect is .83, behaviour is .88 and cognition is .88. In addition, Findler also emphasized that behaviour is positively related to emotions (r =.41) and cognition is positively related to behaviour (r =.35). This result implies three subscales or factors share a common core but each of them represents distinct dimension (Findler, Vilchinsky & Werner, 2007; Vilchinsky, Werner, & Findler, 2010).

By having such reliability, correlation and multidimensional measurement, MAS is extensively employed in the studies of attitudes toward PWDs to measure the attitudes of individuals toward PWDs (Getachew, 2011; Greene, 2012; Ryan, 2013; Lund, & Seekins, 2014; Vermeltfoort *et al.*, 2014).

3.4 Data Analysis Techniques

Descriptive statistic and inferential statistic were employed in this study. This section presented the study questions and data analysis techniques in terms of descriptive statistic and inferential statistic used to address each study question.

3.4.1 Descriptive statistic

Descriptive statistic is the statistic which quantitatively describes or summarizes data in a simple, clear and meaningful way (Elston & Johnson, 2008). Descriptive statistic examines the integrity of large and small data sets and compares among the values of the variables (Elston & Johnson, 2008). Additionally, descriptive statistic also determines which statistics best portray the data (Elston & Johnson, 2008; Price & Chamberlayne, 2008).

Descriptive statistic includes percentage which describes the distribution of the categorical variables and shows which groups or variables have the higher frequency. In addition, percentage supplies a frame of reference for reporting research results.

Percentage was employed in this study to address research question one, what are the attitudes of Malaysians living in Johor Bahru toward people with disabilities. Thus, percentage describes which degree of likelihood (not at all, slightly, moderately, much or very much) of participants has the highest frequency or response in attitudes and in its subscales such as affect, behaviour and cognition. In this study, attitudes toward PWDs are determined as ordinal scale variable.

3.4.2 Inferential statistic

Inferential statistic is the statistic which generalizes a conclusion about the population based on the sample draw from the population (Isotalo, 2001; Singpurwalla, 2013). Testing of statistical research questions is mainly used in inferential statistics. In this testing, research questions need to be defined and samples need to be determined from the population. Then, variables are determined as independent or dependent variables. Lastly, statistical test need to be selected properly (Price & Chamberlayne, 2008).

The statistical test uses in research questions testing consists of parametric and nonparametric statistical test. Parametric test suggests the samples need to be normally distributed and data from different groups have the same variance. Parametric test determine correlation and differences between variables and it involves Pearson correlation, independent T-test, regression and analysis of variance (ANOVA) (Delorme, 2009).

Nonparametric test proposes that samples are not normally distributed and data from different groups have different variance or extreme value. Nonparametric test also examines the correlation and difference between variables and it involves Mann-Whitney U test, Spearman's correlation and Wilcoxon test (Delorme, 2009). This study employs nonparametric test such as Mann-Whitney U test and Kruskal–Wallis test to address research questions.

Nachar (2008) mentioned that Mann-Whitney U test is used to compare the medians or mean ranks between two unrelated groups or dichotomous variable on a continuous or ordinal variable. Mann-Whitney U test assumes the dependent variable from the two groups is not normally distributed. In addition, Mann-Whitney U test can only use to compare the means of two groups and this test does not imply causal relationship between independent variable and dependent variable.

Mann-Whitney U test was employed to examine research question two, is there a significant difference between demographic factors (level of contact, education level, age and gender) and attitudes toward people with disabilities. This test only measured the difference between independent variables (gender and level of contact) and dependent variable (attitudes toward people with disabilities). It was because, in this study, attitudes are determined as ordinal variable, level of contact and gender were considered as categorical variable. Thus, by using this test, the mean difference in MAS scores between individuals who have physical contact with PWDs and individuals who have not contacted with PWDs was tested. Furthermore, difference in attitudes between male and female was examined.

Researchers noted that Kruskal–Wallis test used to determine the differences in median or mean rank occur between two or more independent groups (Neideen & Brasel, 2007; Zikmund, 2013). Kruskal–Wallis test assumes that the dependent variable is continuous or ordinal scale variable and there is no relationship between the independent groups. In addition, this test does not causal relationship between independent variable and dependent variable (Zikmund, 2013).

Kruskal–Wallis test was applied to examine research question two, is there a significant difference between demographic factors (level of contact, education level, age and gender) and attitudes toward people with disabilities. This test only examined the difference between independent variables (education level and age) and dependent variable (attitudes toward people with disabilities). It was because, in this study, education level was considered as categorical variable with three groups which were undergraduate, postgraduate and others and attitudes toward PWDs were determined as ordinal variable. Age was determined as categorical variable with three unrelated groups which are young adults (18 to 35 years old), middle-aged adults (36 to 55 years old) and older adults (56 years old and above).

3.5 Pilot Study

Pilot study is a small version of a full scale study, trial run done in the preparation of the major study or pretesting of the research instrument (Dikko, 2016). Furthermore, pilot study is also known as feasibility study (Van Teijlingen & Hundley, 2002). The sample size for conducting a pilot study is about 10 to 30 participants (Isaac & Michael, 1995; Hill, 1998; Van Belle, 2002; Julious, 2005).

There are some advantages or benefits when conducting a pilot study. Firstly, it tests the adequacy or appropriateness of the research instrument (Dikko, 2016). From this benefit, research can know the comprehension level of participants about the instrument. Furthermore, it identifies the problems in research procedure, in proposed sampling method and in data analysis technique (Van Teijlingen & Hundley, 2002). Thirdly, it gives advance warning about where the main research project could fail (Dikko, 2016).

After conducting the pilot study, internal consistency of MAS and RSES were found to be excellent respectively ($\alpha_{MAS} = 0.962$, $\alpha_{RSES} = 0.917$) by analysing the data from 13 participants (see also Table 3.2 and Table 3.3).Thus, researcher predicted that MAS and RSES are appropriate and adequate to be applied in this study and participants can understand the scenario. This result also enhances the success and accuracy of this study.

Table 3.2: Reliability of MAS

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.962	.967	34

Table 3.3: Reliability of RSES

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.917	.917	10

4.0 Results

Four sections were discussed in this section which are (a) respondent's profile, (b) attitudes of Malaysian living in Johor Bahru toward people with disabilities, (c) difference between demographic factors and attitudes toward people with disabilities. Research questions were addressed in section b and c.

4.1 Respondent's Profile

The respondents from this study were 48.9% male and 51.1% of female and they were from different age group. 43.3% of participants are from the group of 18 to 35 years old, 30% of them were from the group of 36 to 55 years old and only 26.7% of them had age 56 and above (see Table 4.1 and Table 4.2).

63.3% of participants had physical interaction with people with disabilities (PWDs), whereas 36.7% of participants did not contact with PWDs (see Table 4.3). Table 4.4 tabulated the qualification holders who were undergraduates (35.6%), 30% of respondents with postgraduate degree and 34.4% of participants had other qualifications (such as secondary school qualification and primary school qualification).

Table 4.1: Gender information

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	44	48.9	48.9	48.9
	Female	46	51.1	51.1	100.0
	Total	90	100.0	100.0	

Table 4.2: Age group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18to35	39	43.3	43.3	43.3
	36to55	27	30.0	30.0	73.3
	56andabove	24	26.7	26.7	100.0
	Total	90	100.0	100.0	

Table 4.3: Physical interaction

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	57	63.3	63.3	63.3
	No	33	36.7	36.7	100.0
	Total	90	100.0	100.0	

Table 4.4: Education level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undergraduate	32	35.6	35.6	35.6
	Postgraduate	27	30.0	30.0	65.6
	Others	31	34.4	34.4	100.0
	Total	90	100.0	100.0	

4.2 Attitudes of Malaysians living in Johor Bahru toward People with Disabilities

Table 4.5 shows that the response percentage is highest (36.2%) on the degree likelihood of 2 which is slightly. In other words, most of the participants selected the answer such as slightly tension, slightly move away and slightly enjoy meeting new people. This shows that participants have slightly negative attitudes toward PWDs because the frequency of the degree of likelihood mostly distributes on 2 (slightly). In MAS, the higher rating represents the more negative attitudes.

Table 4.5: Attitudes of participants toward PWDs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	561	18.3	18.3	18.3
	Slightly	1108	36.2	36.2	54.5
	Moderately	625	6.4	20.4	75.0
	Much	541	17.7	17.7	92.6
	Very much	225	7.4	7.4	100.0
	Total	3060	100.0	100.0	

Table 4.6 shows that the response percentage is highest (32.4%) for the degree likelihood of 2 which is slightly. This indicated that most of the participants chose the answer such as feel slightly

tension and nervous in the questionnaire. Hence, participants have slightly negative affect towards PWDs because the frequency of the degree of likelihood largely distributes on slightly (2).

Table 4.6: Affect of participants toward PWDs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	283	19.7	19.7	19.7
	Slightly	467	32.4	32.4	52.1
	Moderately	285	19.8	19.8	71.9
	Much	249	17.3	17.3	89.2
	Very much	156	10.8	10.8	100.0
	Total	1440	100.0	100.0	

Table 4.7 shows that the response percentage is highest (43.8 %) for the degree of likelihood of slightly. In other words, most of the participants selected the answers such as slightly think that the man or women in wheelchair does not look like a normal person. This indicated that participants have slightly negative cognition toward PWDs because the frequency of the degree of likelihood mostly distributes on slightly (2).

Table 4.7: Cognition of participants toward PWDs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	141	15.7	15.7	15.7
	Slightly	394	43.8	43.8	59.4
	Moderately	190	21.1	21.1	80.6
	Much	164	18.2	18.2	98.8
	Very much	11	1.2	1.2	100.0
	Total	900	100.0	100.0	

Table 4.8 shows that the response percentage is highest (34.3 %) for the degree of likelihood of slightly. It indicated that most of the participants selected the answers such as slightly move away and get out and leave. Thus, participants have slightly negative behaviour toward PWDs because the frequency of the degree of likelihood mostly distributes on slightly (2).

Table 4.8: Behaviour of participants toward PWDs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not at all	137	19.0	19.0	19.0
	Slightly	247	34.3	34.3	53.3
	Moderately	150	20.8	20.8	74.2
	Much	128	17.8	17.8	91.9
	Very much	58	8.1	8.1	100.0
	Total	720	100.0	100.0	

In sum, the response percentage of attitudes and of its subscale (affect, behaviour and cognition) mostly distributes on degree of likelihood of slightly and moderately (see Table 4.5, Table 4.6, Table 4.7 and Table 4.8). Thus, research question one, what are the attitudes of Malaysians living in Johor Bahru toward people with disabilities was answered and we can infer that Malaysians living in Johor Bahru have slightly negative attitudes in affect, in behaviour and in cognition toward PWDs.

4.3 Difference between Demographic Factors and Attitudes toward People with Disabilities

Table 4.9 and Figure 4.1 shows that there is a difference between level of contact and attitudes toward PWDs. Participants who have no physical interaction with PWDs have more negative attitudes toward PWDs (Median $_{\text{no physical interaction}}$ = 111.00) than participants have the interaction with PWDs (Median $_{\text{physical interaction}}$ = 74.00). Furthermore, respondents who have no physical interaction with PWDs have different attitudes toward PWDs (Interquartile range $_{\text{no physical interaction}}$ = 50), whereas participants who have interaction with PWDs had similar attitudes toward PWDs (Interquartile range $_{\text{physical interaction}}$ = 22).

Table 4.9: Descriptive statistics of attitudes of participants who have physical interaction and have no physical interaction with PWDs

	Physical interaction			Statistic	Std. Error
Total attitude	Yes	Mean		76.19	2.808
		95% Confidence Interval for Mean	Lower Bound	70.57	
			Upper Bound	81.82	
		5% Trimmed Mean		74.43	
		Median		74.00	
		Variance		449.551	
		Std. Deviation		21.203	
		Minimum		44	
		Maximum		145	
		Range		101	
		Interquartile Range		22	
		Skewness		1.343	.316
		Kurtosis		2.343	.623
	No	Mean		110.76	4.636
		95% Confidence Interval for Mean	Lower Bound	101.31	
			Upper Bound	120.20	
		5% Trimmed Mean		111.35	
		Median		111.00	
		Variance		709.252	
		Std. Deviation		26.632	
		Minimum		59	
		Maximum		148	
		Range		89	
		Interquartile Range		50	
		Skewness		-.237	.409
		Kurtosis		-1.322	.798

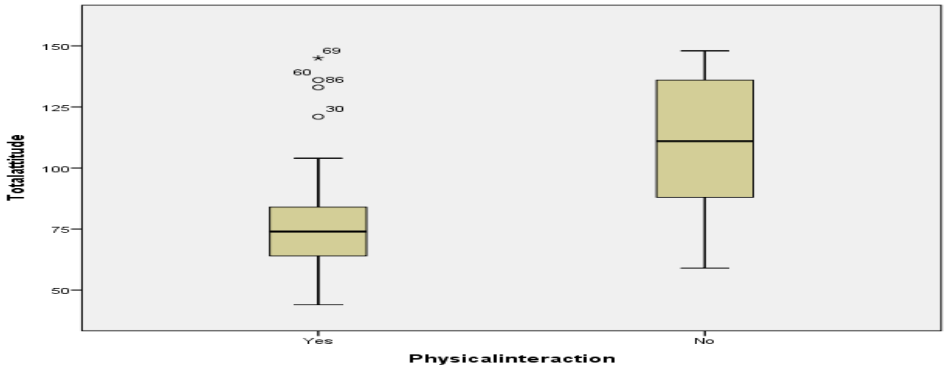

Figure 4.1 Box and Whisker plot about attitudes of participants who have physical interaction and have no physical interaction with PWDs

The descriptive statistics in Table 4.10 and Figure 4.2 shows that there is a difference between education level and attitudes toward PWDs. Participants with other qualifications (secondary school qualification and primary school qualification) have more negative attitudes toward PWDs (Median $_{others}$ = 101.00), followed by participants with undergraduate and with postgraduate degree (Median $_{undergraduate}$ = 78.50, Median $_{postgraduate}$ = 69.00). Furthermore, respondents with other qualifications have different attitudes toward PWDs (Interquartile range $_{others}$ = 59). However, respondents with postgraduate degree and undergraduate degree have similar attitudes toward PWDs (Interquartile range $_{postgraduate}$ = 32, Interquartile range $_{undergraduate}$ = 20). Kruskal-Wallis test is applied to further examine the difference between education level and attitudes toward PWDs.

Table 4.10: Descriptive statistics of attitudes of participants with different education levels, toward PWDs

	Edulvl			Statistic	Std. Error
Total attitude	Undergraduate	Mean		83.31	4.094
		95% Confidence Interval for Mean	Lower Bound	74.96	
			Upper Bound	91.66	
		5% Trimmed Mean		82.01	
		Median		78.50	
		Variance		536.222	
		Std. Deviation		23.156	
		Minimum		44	
		Maximum		146	
		Range		102	
		Interquartile Range		20	
		Skewness		1.096	.414
		Kurtosis		1.696	.809
	Postgraduate	Mean		77.15	4.764
		95% Confidence Interval for Mean	Lower Bound	67.36	
			Upper Bound	86.94	
		5% Trimmed Mean		75.32	
		Median		69.00	
		Variance		612.670	
		Std. Deviation		24.752	
		Minimum		46	
		Maximum		144	
		Range		98	
		Interquartile Range		32	
		Skewness		1.241	.448
		Kurtosis		.967	.872
	Others	Mean		104.81	5.459
		95% Confidence Interval for Mean	Lower Bound	93.66	
			Upper Bound	115.96	
		5% Trimmed Mean		105.41	
		Median		101.00	
		Variance		923.895	
		Std. Deviation		30.396	
		Minimum		48	
		Maximum		148	
		Range		100	
		Interquartile Range		59	
		Skewness		-.118	.421
		Kurtosis		-1.480	.821

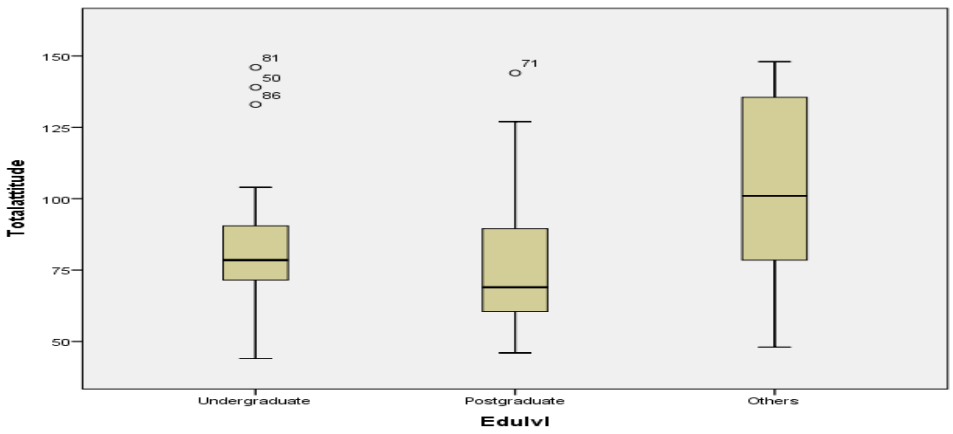

Figure 4.2 Box and Whisker plot about attitudes of participants with different education levels, toward PWDs

Table 4.12 and Figure 4.3 shows that there is a different between age and attitudes toward PWDs. Participants with 56 years old and above present more negative attitudes toward PWDs (Median $_{56 \text{ and above}}$ = 130.00), followed by respondents with 18 to 35 years old (Median $_{18 \text{ to } 35}$ = 82.00) and respondents with 36 to 55 years old (Median $_{36 \text{ to } 55}$ = 69.00). In addition, participants with 56 years old and above have very different attitudes toward PWDs (Interquartile range $_{56 \text{ and above}}$ = 63). In contrast, participants with age of 18 to 35 and of 36 to 55 express similar attitudes toward PWDs (Interquartile range $_{18 \text{ to } 35}$ = 19, Interquartile range $_{36 \text{ to } 55}$ = 27).

Table 4.12: Descriptive statistics of attitudes of participants with different age groups, toward PWDs

	Agegroup			Statistic	Std. Error
Totalattitude	18to35	Mean		81.72	2.583
		95% Confidence Interval for Mean	Lower Bound	76.49	
			Upper Bound	86.95	
		5% Trimmed Mean		81.84	
		Median		82.00	
		Variance		260.155	
		Std. Deviation		16.129	
		Minimum		46	
		Maximum		121	
		Range		75	
		Interquartile Range		19	
		Skewness		-.115	.378
		Kurtosis		.148	.741
	36to55	Mean		77.00	5.020
		95% Confidence Interval for Mean	Lower Bound	66.68	
			Upper Bound	87.32	
		5% Trimmed Mean		75.39	
		Median		69.00	
		Variance		680.308	
		Std. Deviation		26.083	
		Minimum		44	
		Maximum		139	
		Range		95	
		Interquartile Range		27	
		Skewness		1.224	.448
		Kurtosis		.706	.872
	56andabove	Mean		113.83	6.664
		95% Confidence Interval for Mean	Lower Bound	100.05	
			Upper Bound	127.62	
		5% Trimmed Mean		114.94	
		Median		130.00	
		Variance		1065.710	
		Std. Deviation		32.645	
		Minimum		60	
		Maximum		148	
		Range		88	
		Interquartile Range		63	
		Skewness		-.672	.472
		Kurtosis		-1.366	.918

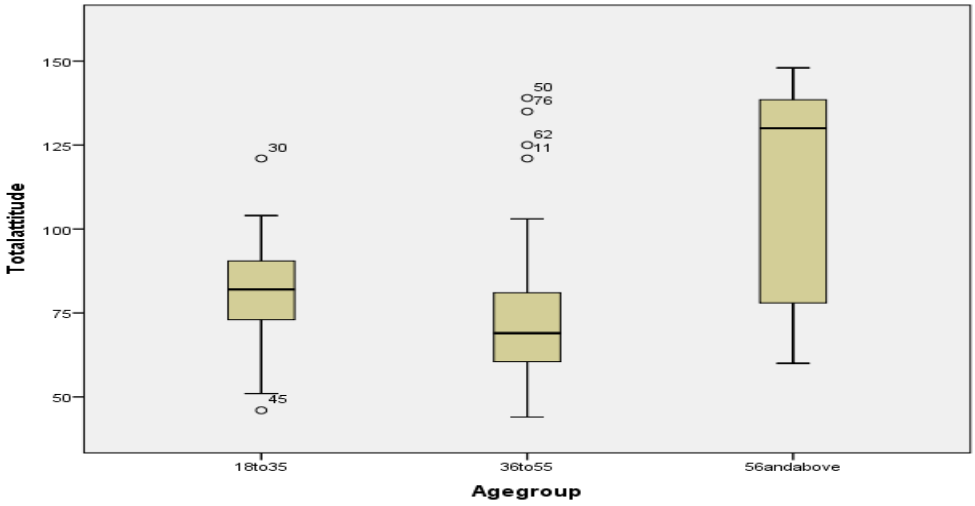

Figure 4.3 Box and Whisker plot about attitudes of participants with different age groups, toward PWDs

Table 4.13 and Figure 4.4 shows that there is not difference between gender and attitudes toward PWDs. Male participants and female participants have similar attitudes and negative attitudes toward PWDs (Median $_{male}$ = 83.00, Median $_{female}$ = 79.00). Male participants have different attitudes toward PWDs (Interquartile range $_{male}$ = 60), whereas female participants have similar attitudes toward PWDs (Interquartile range $_{female}$ = 27).

Table 4.13: Descriptive statistics of attitudes of male and female toward PWDs

	Gender			Statistic	Std. Error
Totalattitude	Male	Mean		92.48	4.859
		95% Confidence Interval for Mean	Lower Bound	82.68	
			Upper Bound	102.28	
		5% Trimmed Mean		91.80	
		Median		83.00	
		Variance		1038.720	
		Std. Deviation		32.229	
		Minimum		48	
		Maximum		148	
		Range		100	
		Interquartile Range		60	
		Skewness		.477	.357
		Kurtosis		-1.256	.702
	Female	Mean		85.41	3.615
		95% Confidence Interval for Mean	Lower Bound	78.13	
			Upper Bound	92.69	
		5% Trimmed Mean		84.65	
		Median		79.00	
		Variance		601.181	
		Std. Deviation		24.519	
		Minimum		44	
		Maximum		139	
		Range		95	
		Interquartile Range		27	
		Skewness		.728	.350
		Kurtosis		.046	.688

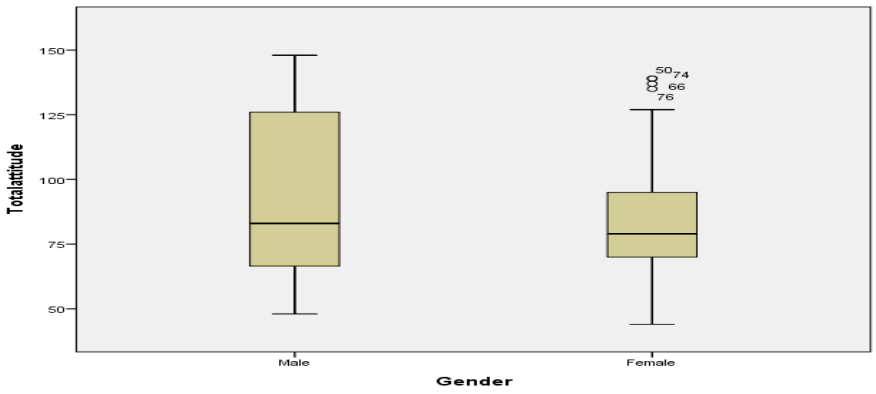

Figure 4.4 Box and Whisker plot about attitudes of male and female toward PWDs

Mann-Whitney U test, Kruskal-Wallis test and Spearman's correlation were conducted to answer two research questions. Mann-Whitney U test examines the difference between demographic factors (level of contact and gender) and attitudes toward PWDs. Kruskal-Wallis test determines the difference between demographic factors (age and education level) and attitudes toward PWDs. Lastly, Spearman's correlation was employed to measure research question three, is there a significant relationship between self-esteem and attitudes toward people with disabilities.

Table 4.10, Table 4.14 and Table 4.15 shows that there is a significant difference between level of contact (physical interaction) and attitudes toward PWDs, although Cohen's effect size (r = .57) suggested that nearly 61% of participants (Fritz, Morris & Richler, 2012) have physical interaction with PWDs and participants have no physical interaction with PWDs will have similar attitudes toward PWDs, U = 290.5, p < .001, r = .57. From descriptive statistics, people with no physical interaction with PWDs tend to have more negative attitudes toward PWDs (Median $_{\text{no physical interaction}}$ = 111.00) than people with physical interaction with PWDs (Median $_{\text{physical interaction}}$ = 74.00).

Table 4.14: Mean rank of attitudes of participants with physical interaction and with no physical interaction

	Physical interaction	N	Mean Rank	Sum of Ranks
Totalattitude	Yes	57	34.10	1943.50
	No	33	65.20	2151.50
	Total	90		

Table 4.15: Mann-Whitney U test for the difference between level of contact and attitudes

	Total attitude
Mann-Whitney U	290.500
Wilcoxon W	1943.500
Z	-5.444
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: Physical interaction

Table 4.11, Table 4.16 and Table 4.17 shows that there is a significant difference between education level and attitudes toward PWDs, $H(2)$ = 14.361, p < .05. From descriptive statistics, participants with other qualifications (secondary school qualification and primary school qualification) are more likely to have negative attitudes toward PWDs (Median $_{\text{others}}$ = 101.00) than participants with undergraduate and postgraduate degree (Median $_{\text{undergraduate}}$ = 78.50, Median $_{\text{postgraduate}}$ = 69.00).

Table 4.16: Mean rank of attitudes of participants with different education levels

	Edulvl	N	Mean Rank
Total attitude	Undergraduate	32	43.06
	Postgraduate	27	33.13
	Others	31	58.79
	Total	90	

Table 4.17: Kruskal-Wallis test for the difference between education level and attitudes

	Totalattitude
Chi-Square	14.361
df	2
Asymp. Sig.	.001

a. Kruskal Wallis Test
b. Grouping Variable: Edulvl

Table 4.12, Table 4.18 and Table 4.19 shows that there is a significant difference between age and attitudes toward PWDs, $H(2) = 17.977$, $p < .001$. From the descriptive statistics, participants with the age of 56 and above have more negative attitudes toward PWDs (Median $_{56 \text{ and above}} = 130.00$) than participants with 18 to 35 years old and 36 to 55 years old (Median $_{18 \text{ to } 35} = 82.00$, Median $_{36 \text{ to } 55} = 69.00$).

Table 4.18: Mean rank of attitudes of participants with different age groups

	Age group	N	Mean Rank
Total attitude	18 to35	39	43.50
	36 to55	27	32.57
	56 and above	24	63.29
	Total	90	

Table 4.19: Kruskal-Wallis test for the difference between age and attitudes

	Totalattitude
Chi-Square	17.977
df	2
Asymp. Sig.	.000

a. Kruskal Wallis Test
b. Grouping Variable: Agegroup

Table 4.13, Table 4.20 and Table 4.21 demonstrates that there is not significant difference between gender and attitudes toward PWDs, $U = 946.0$, $p > .05$, $r = .057$. The effect size is small ($r = .057$) and it suggested that nearly 97% (Fritz, Morris & Richler, 2012) of male and female express the similar attitudes toward PWDs. Similarly, we can know that both male and female tend to have similar and negative attitudes toward PWDs from median scores (Median $_{male} = 83.00$, Median $_{female} = 79.00$).

Table 4.20: Mean rank of attitudes of male and female

	Gender	N	Mean Rank	Sum of Ranks
Total attitude	Male	44	47.00	2068.00
	Female	46	44.07	2027.00
	Total	90		

Table 4.21: Mann-Whitney U test for the difference between gender and attitudes

	Totalattitude
Mann-Whitney U	946.000
Wilcoxon W	2027.000
Z	-.533
Asymp. Sig. (2-tailed)	.594

a. Grouping Variable: Gender

5.0 Discussion and Conclusion

5.1 Attitudes of Malaysians living in Johor Bahru toward People with Disabilities

Findings shows that participants living in Johor Bahru tend to have slightly negative attitudes toward PWDs (see Table 4.5). It is because Malaysia is a developing country and Malaysians may lack of knowledge and awareness about disabilities. For instance, limited school facilities and a small number of qualified special education teachers are offered (Nasir & Efendi, 2016). Hence, Malaysians may accidentally express negative attitudes toward PWDs. Likewise, limited chances are offered to CWDs and PWDs when enrol to schools (Liang, 2016, April 20). A private school unintentionally rejects the enrolment of a child because he or she has psychological deficits (International Business Publications, 2007).

5.2 Difference between Demographic Factors and Attitudes toward People with Disabilities

Findings shows that there is a significant difference between demographic factors (level of contact, education level and age, except gender) and attitudes toward PWDs (see Table 4.15, Table 4.17, Table 4.19, Table 4.21). This result is consistent with previous studies (Amsel & Fichten, 1988; Yuker, 1994; Watanabe, 2003; Krahé & Altwasser, 2006; Akhidenor, 2007; Awoyera, 2011; Burkhardt & Haney, 2012; Agyemang & Delle, 2013; Thaver, Lim & Liau, 2014; Wilson & Scior, 2015; Randle & Reis, 2016).

Individuals with physical contact or physical interaction feel less stress and more likely to communicate with PWDs, as compared to individuals with no contact. Furthermore, people with undergraduate and postgraduate degree tend to feel more comfortable with PWDs and think that PWDs are friendly, compared with people with primary school and secondary qualifications. Individuals with 56 years old and above have more negative attitudes toward PWDs than individuals with the age of 18 to 35 and 36 to 55 (Agyemang & Delle, 2013; Thaver, Lim & Liau, 2014; Wilson & Scior, 2015; Randle & Reis, 2016).

In this study, insignificant difference between gender and attitudes toward PWDs is found and it is inconsistent with previous studies (Miller, 2010; Vilchinsky, Werner & Findler, 2010; Barr & Bracchitta, 2012; Cavusoglu *et al.*, 2014; Randle & Reis, 2016; Volosnikova & Efimova, 2016). Previous studies found that female are more likely to express positive attitudes toward PWDs, as compared to male. However, this study found that male and female participants have similar and negative attitudes toward PWDs.

The main explanation to evaluate the similar and negative attitudes of male and female toward PWDs is the characteristics of participants. The findings show that only 63.3 % of participants have physical interaction with PWDs (see Table 4.3). Female and male have negative and similar attitudes may due to most of them have no physical interaction with PWDs. Studies suggested that level of contact or physical interaction is one of the most influential factors in affecting the attitudes of individuals toward PWDs (Williams, 1947; Amsel & Fichten, 1988; Watanabe, 2003; Krahé & Altwasser, 2006; Wilson & Scior, 2015; Armstrong *et al.*, 2016).

Furthermore, all of the participants were the residents in Johor Bahru, Malaysia. They may have similar belief and attitudes about disabilities regardless of their gender. Chang (2010) suggested that people live in same geographical location tend to have same belief system and attitudes. Benet-Martínez and Oishi (2008) found that individuals present similar attitudes toward PWDs if they live in same geographical location.

5.3 Implications of Practice

The purposes of this study are to determine the attitudes of Malaysians living in Johor Bahru toward the PWDs, to examine the difference between demographic factors (level of contact, education level, age and gender) and attitudes toward PWDs and to examine the relationship between self-

esteem and attitudes toward PWDs. The results of this study based on the participants who age 18 years old and above and live in Johor Bahru.

Explanations are elaborated in discussions to justify the results of this study but there are some implications which draw researcher's attention. Thus, by taking generalization into consideration, the following paragraphs briefly discuss the results of this study and elaborate its practical implications.

Firstly, this study found that participants with no physical interaction are more likely to express negative attitudes toward PWDs. This implied that Special Education Division of Malaysia and Special Education Centres should provide opportunities to the new workers to physically interact with PWDs. Thus, the new workers might have more confidence and value themselves positively in taking care and interact with PWDs. Furthermore, Special Education Centre should encourage parents of PWDs to interact their children. This behaviour could promote the positive attitudes toward PWDs, and PWDs might feel the caring and love from the parents. Thus, PWDs might less present problematic or disruptive behaviour and people might less likely to think that PWDs were naughty and rebellion.

This study noted that participants with primary school qualification and secondary school qualification and with the age of 56 and above tend to have negative attitudes toward PWD. Additionally, participants living in Johor Bahru have slightly negative attitudes toward PWDs. These results implied that Social Welfare Department Malaysia (JKMM) should employ employees in the rehabilitation services of PWDs**,** especially individuals with primary school and secondary school qualifications and older adults (56 years old and above). By doing so, individuals could physically interact with PWDs and had more knowledge about disabilities. Furthermore, they might have more confidence when solving any problems which intervened with PWDs. Thus, this would gradually foster positive attitudes of individuals toward PWDs.

This study found that participants living in Johor Bahru have slightly negative attitudes toward PWDs. It was important for MQA (Malaysia Qualifications Agency), Ministry of Education (MOE) and education institutions (universities and colleges) to foster the attitudes of participants toward PWDs. MOE and education institutions could include some field trips in the course syllabus which visits the special education centre. In addition, the visitations need to be provided to all courses of university students.

MQA aims to develop practical community-minded skills of students in the General Education Subjects (MPU) U4 which includes the module of Co-Curriculum or Community Service (Ministry of Higher Education, 2013). In other words, after register this module, all of the students need to attend outside-the-classroom activity (Ministry of Higher Education, 2013). By having this chance, lecturers should encourage students to provide community services in special education centres. Thus, participating field trips and outside-the-classroom activity provided opportunity to the undergraduate and postgraduate students to physically interact with PWDs.

5.4 Limitations of the Study

It is crucial to discuss the limitations which may have affected the results of the current study. Several issues are found that may have impacted the results of this study. Descriptive research design in this study is not confidence as experimental design. It is because the attitudes of participants toward PWDs are based on their opinions from MAS and they have not expressed their attitudes in experiment or real life settings.

Another issue is the nature of instrument. MAS scores do not reflect the behaviour and intentions of individuals toward PWDs in real life. Studies found that there is no relationship between attitudinal instruments and actual behaviour of individuals toward PWDs (Wicker, 1969; Wilgosh & Skaret, 1987). Although researcher suggests that Malaysians living in Johor Bahru have more negative attitudes towards PWDs, there is no evidence to show that they will express these attitudes during the physical interaction. Furthermore, MAS only provides a scenario which a person sits in the wheelchair. Participants who have less knowledge about disability may think that disability is limited to physical aspects. Similarly, participants may generalize physical disability to all types of disabilities.

This study did not employ social desirability scale to determine whether the answer of participants in questionnaire is related to favourable fashion. In other words, participants may rate themselves more positive for desirability factors. Furthermore, this study did not inquire the types of disability the participants know and which type of disability they interacted before.

Although level of contact of participants was asked, demographic questions failed to inquire the level of contact more detailed in frequency and context (e.g. how many times they interact with PWDs, do they live with PWDs and how long). Different extent of contact directly influences the attitudes toward PWDs. There are 18 studies suggested that extent or level of contact dramatically influences the attitudes toward PWDs (Watson, 1947; Yuker, 1994; Wilson & Scior, 2015; Lee, 2016).

Sample of Johoreans may influence the results of this study as well. It is because the sample size is small and only 90 participants living in Johor Bahru were recruited. Thus, it is hard to generalize the attitudes of Malaysians living in Johor Bahru to most of the Malaysians, although nonparametric test can make inference from certain sample size.

5.5 Recommendations

Further studies need to be conducted to determine the attitudes of Malaysians toward PWDs because present study is insufficient to determine the attitudes accurately. From the insufficiency of this study, there are some recommendations can be provided by researcher.

Firstly, diversity of sample need to be considered. Samples need to be recruited from different areas or states of Malaysia. It is because people from diverse areas can have specific attitudes toward PWDs. By having different attitudes from participants, study can determine the attitudes of Malaysians toward PWDs more precisely. In addition, future studies need to recruit PWDs as their participants because PWDs can have their own perspective about the attitudes of people without disabilities toward them. By knowing the distinction in attitudes between PWDs and people without disabilities, it can change their attitudes to the similar way through education. This distinction further promotes more positive attitudes toward PWDs.

Secondly, future studies need to examine level of contact in detail. Studies found that level of contact is one of the most influential factors that affect the attitudes of individuals toward PWDs (Watson, 1947; Yuker, 1994; Wilson & Scior, 2015; Lee, 2016). Although this study found that there is a significant difference between level of contact and attitudes toward PWDs, it is important to define the level of contact deeply. It is because the context where individuals without disabilities contact with PWDs can elicit different attitudes by receiving status they have in that context. For instance, individual without disabilities does not provide job descriptions to PWDs in detail in workplace. In this situation, both of them do not receive equal status. Thus, it can elicit negative attitudes toward each other. This idea is supported by Allport's intergroup contact hypothesis, which proposes unequal status which individual without disabilities and PWDs receive in the context directly influences their attitudes toward each other (Allport, 1954). Thus, future studies should include the type of contact, such as where the contact takes place and how frequent they interact with PWDs.

Thirdly, future studies need to determine which demographic factors (gender, level of contact, education level or age) contribute more to the attitudes toward PWDs. By knowing the most influential factor, it can foster the positive attitudes of people without disabilities toward PWDs.

Fourthly, although this study found that participants living in Johor Bahru have slightly negative attitudes toward PWDs, there are three participants have extremely negative attitudes toward PWDs. They score almost the maximum score of MAS. The extreme scores should be paid more attention by government, residents and school. Government should organize more campaigns, such as having interactive activities between individuals without disabilities and PWDs, to enhance the knowledge of individuals about PWDs. Furthermore, residents or individuals should gradually interact with PWDs and having more knowledge about disabilities through reading, rather than stereotype or discriminate PWDs. Therefore, concept of disabilities should be fostered in school since students are young.

5.6 Conclusion

In this study, findings show that participants living in Johor Bahru have slightly negative attitudes toward PWDs. They have slightly negative attitudes in affect, slightly negative attitudes in cognition and slightly negative attitudes in behaviour as well. Although positive attitudes toward PWDs, such as employers praise PWDs as hardworking and able to solve job-related problem (Kamaruzaman *et al.,* 2011; Yusof, Ali & Salleh, 2015) and laws and regulations, are provided, negative attitudes of Malaysians toward PWDs still exist.

Male and female participants present the similar attitudes toward PWDs. Thus, there is no difference found between gender and attitudes toward PWDs. However, significant results are found between independent variable (level of contact, education level and age) and dependent variable (attitudes toward PWDs). Participants living in Johor Bahru have physical interaction with PWDs tend to present more positive attitudes, compared with participants with no physical interaction.

Participants living in Johor Bahru with undergraduate and postgraduate degree have more positive attitudes toward PWDs than participants with other qualifications (secondary school and primary school qualifications). Respondent with 18 to 35 years old and with 36 to 55 years old are more likely to have and to express positive attitudes towards PWDs.

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