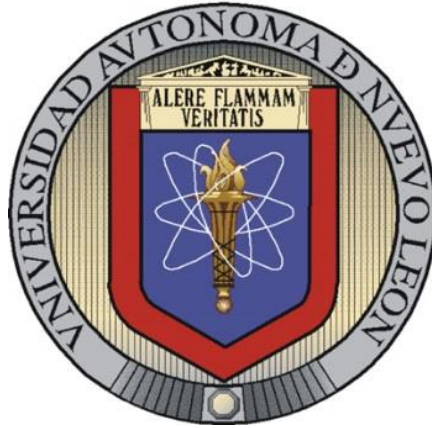# UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN
FACULTAD DE TRABAJO SOCIAL Y DESARROLLO HUMANO

GEOGRAPHY OF DISABILITY. AN ANALYSIS BASED ON THE SOCIOECONOMIC LEVELS OF TWO METROLOPITAN AREAS: MONTERREY, NUEVO LEON AND DALLAS, TEXAS

PRESENTA

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CHAPTER 1

INTRODUCTION

Introduction and significance of the study

The issue of disability is multifaceted and challenged by a variety of factors rooted in concrete geographies and cultures. It is also a field of complex knowledge-building rooted with varying cultural, political, and social understandings of its subject matter. Studies based on disability have by far, focused on a diverse set of terms and thematic foundations, broadening its conceptual meaning through diverse perspectives. A "personal tragedy" (Oliver, 1998) or a failure of the socio-environmental relationships (Barton, 1998), was the scientific debate enclosing the two radical models on disability for the past several decades. However, these perspectives could not completely explain the spectrum of disability prevalence internationally and brought to the discussion scene the axiomatic question of Tichkovski (2002) "Which way to disability?"

In the present time, debate on disability revolves around the broader discussion of social justice and equality. This human rights paradigm combines components of the previously established medical and social models aimed at individual flourishing, the self- empowerment, the enhanced capacity building, and the social recognition of the excluded and stigmatized "other" (Stein, 2007).

Despite the shift in the scientific thinking, the change in political and common understandings, legislations and social attitudes, disability remains to be a vital social issue. Even four decades after the beginning of the disability movement in the USA and the UK [late 1960s and the beginning of the 1970s (Fleisher & Zames, 2001)], and two decades after the enactment of the first in the history of Disability Act (Americans with

Disability Act, 1990), scientific debates and political actions are still discussing the lack of sufficient amount of efforts capable of changing national and international disability rights and policies (Barnes&Sheldon, 2010; Grech, 2011). Moreover, statistics on disability indicate that 650 million people or approximately 10-15% of the world's population live with disability, and 80% of them are centered in low socioeconomic states (UN, 2006, WDR, 2011). Scholars recognize the continued absence of disability studies beyond Western contexts, despite the well-known evidence that the majority of people with disability live in developing countries (Barnes & Sheldon, 2010).

The multidimensional nature of disability suggests the construction of complex interactions between different elements that emerge and overpass the symbolic, social, structural and cultural dimensions of the emerging relationships between people with disabilities and their environments. (Chouinard, Hall & Wilton, 2010). Therefore, a need for a deeper and broader understanding of disability regarding different geo-places, cultures, and environments is fundamental for its holistic understanding and practices of intervention. Despite the latter fact, the spatial and geographic representation of disability is still lacking in sufficient evidence-based knowledge. Additionally, scholars argue the importance of the" internationalization" of research on disability and the need for greater interest on different geo- political, social, and cultural contexts, where disability has not been sufficiently explored (Kitchin, 2000; Grech, 2010; Goodley, 2011). Also, disability needs to be discussed comparatively so that a universal understanding of its mosaic nature could be constructively developed. In relation to the latter, the Washington Group on Disability (2001) reported on the importance of the unification of the methodological

measurement of disability; needed as a vital tool for further research practices and understood as a concern of the international community.

Therefore, in order to contribute to the emerging need for a wider and flexible understanding of disability as a social matter, the comparative analysis of the factors shaping the living experiences of people with disability (McEwan and Butler, 2007) becomes of particular interest. This enables the construction of a multifactorial comparative model for disability research which will challenge the social, spatial, and cultural spread of the phenomenon.

The present study will pursue a theoretical construction of disability for practical implications in particular geo-contexts. By comparing two countries such as Mexico and the USA, understanding of disability is aimed to be critically widened through a discussion of the problem from two different perspectives: *northern-centered knowledge* from a country with a leading disability policy and interventional practice (USA) versus *southern-centered knowledge* from a country with underdeveloped disability policies and interventions (Mexico). As a final goal, this study aims to determine the differences and the similarities between both national disability profiles, as well as to contribute to social work research, practice, and knowledge building. Following this, the present study starts with a national and cross-national discussion on disability including credible statistical data and current disability trends. Additionally, sets of factors related to disability are used to portray the disparities in disabilities in a greater depth.

Relevance to Social Work

The strength of social work knowledge building relies on diversity of methods used, strategies of interventions, and theoretical pluralism. Throughout its development, social work has included in its constructive knowledge framework different theoretical perspectives and methods, which have also been used in other scientific fields such as sociology and psychology. Therefore, we could say that social work is a discipline that is positioned on the collaborative efforts of multidisciplinary ideas and methods with the goals of achievement of social justice and equality of the oppressed (Payne, 1993; Trevillion, 2000).

Social workers are key players when addressing social problems such as inaccessibility, exclusion, and insufficient service provision of social goods and services. They can assist diverse vulnerable groups of people (such as people with disabilities, children, elderly, and so forth.) through a vast set of services such as outreach, counseling, empowerment, social education, and advocacy to name a few. Given these wide range of professional interests and competencies, social work research regarding the understanding of disability in a deeper social perspective is relevant to the profession. Crossing the lines of welfare policies and service provision, social workers become the agents of political change needed for the effective implementation of different projects and programs. Moreover, their role as key gatekeepers has been recognized since the early years of the civil rights disability movement. Scholars like Oliver and Sapey (2006) discuss the growing importance of the social work profession for the advocacy of independent living and for bridging a constructive dialogue between individuals with disabilities, the state, and civil society organizations.

Additionally, social work research is of crucial importance for the critical understanding of the phenomena of disability. As demonstrated in the literature review, studies in the area of disability lack unified methodological designs that allow comparative estimation of disability cross-nationally. Moreover, research evaluation of the problem is also a deficit when assessing the effectiveness of different disability programs and services. By conducting social work research using an empirically based knowledge-framework, social workers can better navigate the public attention towards the provision of services to the most disadvantaged social groups.

Summary

Disability is a matter of political, economic, social, cultural, and epistemological debates. In the short history of disability studies, its ideological and conceptual understandings have passed through different metamorphoses beginning with medical model, social model to the human rights disability framework. However, the scientific attention still needs evidence and knowledge to better explain disability as a global matter. Therefore, the current study is an attempt to understanding disability patterns by focusing the scientific attention on similar and dissimilar trends observed in Mexico and the USA. The current state of literature and the evolving discussions and suggestions around disability will be examined in Chapter 2.

CHAPTER 2

REVIEW OF LITERATURE

Review methods

To support the present research with scholar validity and credibility, a review of empirical and non-empirical literature was used. Major sources for academic materials included articles from peer reviewed journals, books, international and national institutional reports, and web information from civil organizations engaged with the issue. Identified database sources maintained by the University of Texas at Arlington and Universidad Autónoma de Nuevo León included literature in both the Spanish and English languages from the following: Academic Search Complete, CINAHL plus with full text, Erric, Medline, MedicLatina, Proquest Dissertations and Thesis Database, Psychinfo, and Social Work Abstracts. Keywords included during the review process were: *disability, geography, poverty, social/socio-economic determinants, Mexico, the USA, and comparative study*. Along with the original search, additional terms like *human rights, development, and policy* were also included. The process of literature review continued throughout the period of the establishment of the research proposal. Moreover, search engines as Google and Google Scholar were used for additional sources of literature and anecdotal information.

Initially, the literature provided a general insight of the problem, its pace of development, and the evolving cultural and social disparities surrounding disability. Further, a comparative reading of context-specific matters was given. Similarities and differences between both geo-contexts: Mexico and the USA were discussed. This helped the understanding of disability to be developed not only as a global matter with

international relevance but also as a local problem with national relevance. The use of critical rationality helped to identify gaps in the literature, and further, to formulate the research questions and the objectives of the study. Moreover, the review of literature helped the selection of parsimonious theories that best explained the nature of the problem of disability. The final goal of the review was to build a logical body of arguments that addresses the importance of the study of disability nationally as well as cross-nationally. Also, it outlined some of the methodological domains and items that were later used to operationalize the variables of the study.

<div align="center">Disability and Social Development</div>

Disability is a catalyst for the promotion of social development and achievement of social justice. Disability equally affects the quality of life of people living in both economically rich and poor countries. Despite the fact that disability is considered a problem of the developing world, where the majority of people with disability live, barriers to disability inclusion are still observed in the majority of the developed countries. A host of studies and reports will be cited to amplify the latter.

The World Report on Disability (WDR, 2011) finds gaps in essential areas for the inclusion and the development of people with disabilities such as education and occupation. The report indicates similar statistical trends of disadvantages faced by people with disabilities in both low-income and high-income countries. An example is the reported educational completion among males and females. The overall trends showed higher completion rates of people with no disabilities compared to those with disabilities. The report also discusses disability by gender, where females with disability have lower rates of education than males with disabilities (WRD, 2011). For example, the

education completion rate among men was higher for people with no disabilities (7.03 years) than for men with disabilities (5.96 years). This rate for men however, was still higher than the educational completion rate among women with disabilities (6.26 years) and without disabilities (4.98 years). Additionally, a study by Okkolin**,** Lehtomäki and Bhalalusesa (2010) found that gender disparities are vital among students with disability at all educational levels. In particular, disability is seen as a factor that multiplies the marginalized social role of girls and women in society and their vulnerability to violence and exploitation (Harris & Enfield, 2003; Okkolin**,** *et. al*., 2010). Trends in statistics and research studies for Mexico and the USA show similar findings and will be discussed in the sections that follow.

<div align="center">Disability and Development in the USA</div>

According to the official U.S. statistics, the percentage of people with disabilities (PWD) over 25 years with a high school degree is 28% versus 12% for those with no disabilities (Brault, 2012). Additionally, the number of people with bachelor´s degree or higher is 13% versus 31% for people with no disabilities (Brault, 2012). This statistical 'gap' in the educational development of people with disabilities indicates a barrier for their professional and labor development. For example, a report of the World Bank on equality and development in 2006 alarmed for growing trends of unemployment and discrimination against PWD who lack educational skills. Other studies suggest that people who are disabled are less likely to get the qualifications they need to access employment and feel unprepared to meet the demands of the market (Nuun, Johnson, Monro, Bikerstaffe & Kelsey, 2007; Hartnett, 2011). Also, they may feel discriminated because of the lack of well-established safety nets (Weber, 2009), and may remain in the

margins of social productivity and development due to partial labor market participation and citizenship rights (Barnes & Mercer, 2005; Phillips, 2011).

A recent study by Hartnett et al. (2011) on the perceptions of employment ability of people with disability in the Job Accommodation Network (JAN) program, which is a leading advocate for workplace accommodations and disability employment issues, revealed that only 17.9% of the accommodations for PWD had been made (N=285). Additionally, national statistics indicate that in 2010, the employment-population ratio for persons with disability was 18.6 %, which was four times lower than the employment ratio for people with no disability (63.5 %). Moreover, the unemployment rate of persons with disability was 14.8 % in 2010, which was higher than the rate for those with no disability (i.e. 9.4 %) (US Bureau of Labor Statistics, 2010). The data indicates that workers with disability were more likely than those with no disability to work part time because their hours had been cut back or because they were unable to find a full-time job (US Bureau of Labor Statistics, 2010). Additionally, Hernandez (2010) states that workers with disability are mainly employed in the service sector, despite the considerable occupational diversity among the disability workforce.

Some examples of disparities among people with disabilities can be observed in the practice of labor relations between them as employees and their employers. Despite the positive attitude towards the employment ability of people with disabilities, literature also discuss the existing gaps between the business sector and workers with disability (Hernandez, Keys & Balcazar, 2004). For example, Schur, *et.al.,* (2009) found that there was a relationship between company culture and attitudes towards people with disability. The scholars compared treatment between two types of company attitudes – one with fair

and respectful to the behavioral needs of PWD, and the other considered as unfair. Schur and colleagues (2009) found that PWD perceive as unfair the dissimilar opportunities given for participation in job and department decisions, as compared to their non-disabled co-workers. Drawing on the existing literature, Fevre *et.al*., (2013) found four possible explanations for ill-treatment of PWD at the work place. Those were: 1) negative affect raises perceptions of ill-treatment; 2) ill-treatment leads to health effects; 3) ill-treatment results from stigma or discrimination; ,and 4) ill-treatment is a consequence of workplace social relations (Fevre *et al*., 2013). Although many of the factors that shape the future of the workforce can be identified and their impact predicted, labour markets discrimination against PWD may be affected by unforeseen trends in the local policy development and the societal attitudes towards PWD (Bruyère, Erickson, & VanLooy, 2004).

Positive outcomes of the ADA employment efforts have been also reported. For example, a study of Hernandez and Macdonald (2010) compared three different labor sectors (healthcare, retail, and hospitality) with workers with disabilities and found no difference in the overall performance of people with disabilities compared to those without disabilities. Additionally, official data from the Job Accommodation Network (JAN) program reported low costs for job accommodations and positive employers' attitudes towards PWD (JAN, 2010).

Despite such positive practices and attitudes enabling the disability workforce, studies still report the gaps in the policy implementation of ADA (Hernandez, 2010; Hartnett, et al., 2010; Frank & Bellini, 2005). For instance, an interesting finding of the study by Hartnett et al, (2010) reported on people with disabilities not using JAN

(21.4%) or being hesitant whether to participate in the program (42.1%). Others, discuss the challenges of the lack of well-established safety nets enabling the access to social and health services (Weber, 2009) and the practices of discrimination oppressing the citizenship rights of individuals with disabilities (Barnes & Mercer, 2005; Phillips, 2011).

As discussed, the development of disability is a process strictly related or formed through education and employment capabilities. Thus,   converting personal knowledge into workforce capacity is a key moving force for social inclusion efforts. However, participation of PWD through self-development and independence has been a challenge. (ADA, 1990; Fleisher & Zames, 2001). Literature provide ample examples of barriers towards the process of independent housing conditions.The study by Turner et al. (2005) examined the barriers to independence and measured   housing discrimination against people with disability in Chicago. Turner et al. (2005) indicated frequent denial of requests for reasonable modification and reasonable accommodation of PWD. For example, one of every six housing providers that indicated available for use units, refused to allow reasonable unit modification needed by wheelchair users (Turner et al.

, 2005, p.55). Moreover, 26 percent of the housing inquiries made by the participants who were deaf were unable to obtain a unit even from the rental housing providers (Turner, et al., 2005, p.54). When taking race into consideration, a comparison of the level of housing discrimination experienced by African American and Hispanic renters indicated even higher discrimination rates (Turner, et al., 2005).

Given the context of the previous studies, it becomes evident that disability is a complex problem shaped by different areas of human development such as education, employment, housing stability, social environment, business attitudes, policies, just to

name a few. Despite the many challenges faced by people with disability in the U.S., of chief importance in the current ADA policies is the employability of people with disabilities, and the progress made towards their inclusion in the American workforce (ADA, 2010). It is convenient then, to consider that the understanding of disability in the U.S. is a matter of employable abilities catalyzing the self-sustaining development and the (in)dependence between the individual and the state (Phillips (2011). Further discussion on the meaning of disability in the U.S will be presented in the "Welfare paradox" section. The study will continue with a general overview of the trends in disability matters in Mexico.

<div align="center">Disability and development in Mexico</div>

Despite the fact that both USA and Mexico are countries with large populations, the number of people living with disabilities in both countries differ significantly (table 1). The number of people with disabilities in the U.S. is approximately four times greater than the number of people with disabilities in Mexico. Literature explains such a discrepancy due to disproportional measures and different conceptual understandings of disability in both states (Mont, 2007; Palmer & Harley, 2011).

Table 1. Disability population in the USA and Mexico

Country	Total population	Population with disability
USA	308,745,538	54 million
		19% of the civilian population
Mexico	112,322,757	5 739 270
		5.1% of the civilian

population

Source: US Census Bureau, 2010; INEGI, 2010**.**

Similar to the U.S., people with disabilities in Mexico experience a variety of social and economic hurdles. According to the Mexican survey on discrimination [Encuesta Nacional de Discriminación (ENADIS), CONAPRED, 2011], people with disability lack access to education, employment and health services. Opportunities for people with disabilities in Mexico also differ by gender. The proportion of working men (43.9%) was two times higher than the proportion of working women with disabilities (18.1%) (CONAPRED, 2011). Additionally, a study by Martinez and Acevedo (2004) on female workforce in Mexico, discussed the relationship between employment and place of residence. The study reported greater possibilities for job placement for women residing in urban than in rural areas. The study found that factors such as level of education, marital status, number of children, and socioeconomic status were chief factors affecting the female labor participation and remuneration in Mexico (Martínez & Acevedo, 2004).Importantly, discrimination of people with disabilities in Mexico has been related to cultural attitudes and levels of tolerance and solidarity in the society (Székely, 2006) and has been discussed as a consequence of disadvantaged socioeconomic environments (Mitra, Posarac, & Vick, 2011).

Literature generally explores the vicious and reciprocal effects between disability and poverty (Lasting & Strauser, 2007; Groce, Kett, Lang & Trani, 2011; McConkey, 2012; Trani & Loeb, 2012). On one hand, poverty is considered to be a "selective" factor likely to contribute to higher disability rates (Jenkins & Rigg, 2003). Studies argue the enhanced vulnerability to chronic illness and impairments among people living in low

socioeconomic environments (Mitra, 2013; Yeo & Moore, 2003). At the same time,

however, presence of any kind of disability may lead a person into poverty (Batavia,

2001; Gannon & Nolan, 2006; Rosano, Mancini & Solipaca, 2009). Evidence shows that

conditions of disability are highly correlated with low levels of social and human

development (Gannon & Nolan, 2006; Landry, Dyck & Raman, 2007; Székely, 2007).

Therefore, people with of disability who lack access to social services, educational, and

labor opportunities are discussed as more likely to be poor, marginalized, or socially

excluded (Parodi & Sciulli, 2008; Grech, 2009; Parnes et al., 2009).

One of the current characteristics of the population in Mexico is its concentration

in urban areas. The national urban system is represented by 56 metropolitan areas where

half of the Mexican population is centered (INEGI, 2010, Garza, 2007). Paradoxically,

the population growth of the metropolitan cities correlates with a parallel increase of

economic and social inequalities (Clichevski, 2000, Garza, 2007)., Improved

infrastructure, greater job opportunities and labor competitiveness in urban areas are also

characterized with zones of unequal progress among sectors, territories and people,

greater expenses, and enhanced rates of informal labor practices (Mascareñas, 1994;

Olazabal, 1994 Galafassi, 2002; Garza, 2007, Székely, 2007). Emerging facts from the

National Development Plan of Mexico (NDP) 2007-2012 support the observed disparity

trends. For example higher costs of living and a parallel impoverishment of people living

in low income neighborhoods in economically developed metropolitan areas were among

the discussed controversies. More disturbingly, poverty was described as the "living

condition" for many of the vulnerable groups in the society (NDP, 2007-2012).

Additionally, results from the National Discrimination Survey in Mexico (2010) inform

that along with elderly, indigenous people, and women, people with disabilities are most likely to experience unemployment and societal exclusion (CONAPRED,2011). People with disabilities who have lower socioeconomic status are therefore living a double social disadvantage. Firstly, they reside in restricted social environments; and secondly - they undergo acts of social discrimination based on their physical, mental or social attributes. Likewise, within the 4.6 million metropolitan city of Monterrey, 87 000 are the people living in poverty, whereas half of them (nearly 46 000) are people with some type of disability, who are additionally unemployed (85%), with no or with low level of education (60%), and no social coverage (64%) (Gonzalez, Makowski, Rosas & Manzini, 2008; CONEVAL; 2010).

While poverty in Mexico is an embedded environmental problem, disability is assumed as a health matter. Disability census statistics from 2000 and 2010 reported greater disability prevalence due to disease and natal problems (INEGI, 2000; 2010). Consequently, the policies addressing disability in Mexico "followed" the statistical significance of the reported numbers. Thus, among the first released Mexican programs for people with disability were the *Program for comprehensive care of people with disabilities (Atención integral a la salud de las personas cos discapacidad 2007-2012)* and *Hearing Care program of newborn children* (*Tamiz Auditivo Neonatal* 2007-2012). The programs aimed to prevent disability prevalence through diagnosis, treatment, and rehabilitation (National Program for People with Disabilities in Mexico, 2009). Surprisingly, the rationale for these programs did not address the social side of the problem of disability, as it was already acknowledged by the Mexican Disability Act in

2005. As a result, inaccessible public places, barriers to education, poor social service provision, and low labor force participation rates remained unaddressed topics.

Disability rights. The right of employment

Disability as an issue of human rights is a recently formed perspective for social and scientific analysis. Firstly, the conceptual and practical understanding of disability in the past has been developed as personal 'tragedy', disease, and abnormal functional problem of the body (Oliver, 1998). The evolution of disability concept shifted in theoretical, social, and political interpretation after the implementation of the disability social model (Barnes, 1998). Accordingly, circumstances that disadvantage and convert people into disabled individuals are not only the existing negative attitudes and cultural assumptions, but the political, social, and economic barriers embedded in all spheres of public life. Those socially created barriers cause differences in the weight of participation of the people in a society, facilitating and giving priorities to those with no physical or mental impairments (Alben & Hurts, 2004). Hence, disability after all is the result of social stigmatization and social exclusion caused by the discriminating society (Barnes, 1998; Fleischer& Zames, 2001). Therefore, within the social context disabled people are living in an unjust and unequal environment indicating a need for social change that will ensure their equality and fairness (Quinn, Degener, Bruce, Burke, Castellino, Kenna, et al., 2002).

Understanding of disability as a matter of accessibility, inclusion and social privileges for everyone, including those living with impairments, brings to the conceptual discussion the axiomatic question raised by Sen (1999): ¨Equality of what? ¨. To answer this, the scientific debate needed to focus on the definition of just and equitable base

when weighting diversity (Toboso, 2010). It also needed to focus on recognizing the intrinsic need for the implementation of a universal system of protection for all (Quinn & Degener, 2002). Therefore, as a major base for achieving dignity and fairness in life, scholars and disability activists started to defend the idea of the right based approach of equality and justice through the guaranted by law opportunities for social and individual development(Albert & Hurts, 2004).

Key source and guiding horizon for the fundamental rights and freedom is the internationally recognized Universal Bill of Human Rights. Article 1 of the bill states that "all human beings are born free and equal in dignity and rights, they are endowed with reason and conscience and should act towards one another in a spirit of brotherhood " (UN, 2000). The universal idea of the human rights ensures fair and equitable application, and ignores any form of differentiation or discrimination among people. It represents human dignity, mutual respect, legal and social equality under the framework of the normative universality, exploring the efficacy of bilateral and multilateral national and international actions (Donelly, 2003). The Bill of Rights became the universal base for differentiation and reaffirmation of the rights of the vulnerable groups of people. As such, the Convention of Disability Rights (CDR) (2006) was the declaration continuum that set out greater clarity of the obligations on States to promote, protect and ensure the rights of persons with disabilities.

The ideological agenda of the CDR content covers the inherent disability horizon for social integration of people with disability, while keeping the individual autonomy, and having the freedom to make their own choices. Moreover, the convention invites national and international communities to permit and enable people with disability to

become part of the fruitful society and be active elements of the competitive productive systems of the states. Furthermore, competitiveness underlines the importance and role of the labor participation of people who symbolize the engines of the social production machine. Therefore, the universal right of employment underlines the change in perceiving people with disability as possible contributors to the national economy rather than simple consumers of social goods (Bruyére & Murrey, 2009).

In addition, the International Labor Organization (ILO) along with other independently working organizations for labor inclusion of PWD launched the concept of 'decent work' (Perry, 2007). Within the *obligation-duty-need* formula of the ILO decent work concept, legislation, policies, and actions guarante PWDjobs suited according to their interests, abilities, and skills(Bruyére & Murrey, 2009). A natural juxtaposition within the rights based approach of the ILO concept discovers the relation between the formal actor providing freedom of opportunities (state), and the actors with specific capabilities for socially valued achievements and attained functioning (people with disability).Such a *symbiotic* relationship between the State and the person with disability determines their mutual productivity and well-functioning one (Sen, 1999, Albert & Hurts, 2004; Toboso, 2010).

Despite the existing international guidelines enabling the spread of disability rights, there are still countries postponing the ratification of the universal bill of disability rights; e.g. USA. If USA were to ratify, the dominant unilaterally governed legislation of the USA would be the cautious and timely needed analysis of the international treaties (Moravscik, 2001). According to Muggeridge (2008) state participation in international norms overpasses the legal intentions for justice through universal rights, In addition,

Moravscik (2001) adds that the stable American democracy, the conservative nation regarding non-domestic suggestions for development, the pluralistic and decentralized party system, the heavy and timely senate decision-making, as well as being one of the superpower status of the USA in the world affairs explains the USA 'Exceptionalism' in human rights policy ratifications.

However, while the USA disability policy position on the Universal Bill of rights is an ongoing debate within the Congress agenda, the domestic policy position on disability is well established within the content of the Americans with Disability Act. ADA is the first legislative act designed specifically for people with disabilities in the world, where 'the idea of replacing state paternalism with equality, and substituting social change for individual adaptation to existing norms and practices' (Wehman, 1993) took place in the American social policy agenda before other nations.. ADA is a result of the historical evolution of the disability civil rights movement in the US, officially signed on 26 July 1990 (including changes made by the ADA Amendments Act of 2008, which became effective on January 1, 2009). The act addresses matters of all aspects of life of PWD enabling them to achieve equal access through employment regulations, public accommodations, telecommunications, public transportation, and insurance issues (ADA, 2008).

The civil rights movement in America started in 1970s and advocated for rights for independent living of PWD (Switzer, 2003). The enactment of ADAcan be discussed as direct responses to the demands of the so called 'therapeutic' American culture (Piar, 2008):

"Briefly defined, it is a culture in which the central question is the fulfillment of the individual rather than the individual's compliance with collective goals or moral authority outside the self. In the therapeutic culture, the self is the moral order, and the development or happiness of the self is among the highest goals of society," (p. 650).

Culture influences both law and society in Piar´s view. It follows the common understanding of disability and shaping of the social policy design and political behavior towards disability as a matter of individual fulfillment (Piar, 2008). However, the value change of helping disabled people in constructing individual livings and happiness (Switzer, 2003) is opposed to the collective bargain of the disability movement for collective civil rights (Riox, 2001). Moreover, the American welfare state is complexly addressing the overcrossing boundaries of the therapeutic culture, moral rules, and the legal collective bargains for socially just safety nets (Pokempner & Roberts, 2001; Mandel & Symeonov, 2006; Weber, 2007). Therefore, one of the further challenges of the present analysis is the understanding of process of promoting subjective fulfillment through collective social rights within the welfare state policies' mechanisms for social participation and equality of rights.

As far as the Mexican disability policy, the development of political and legal bases guaranteeing the rights of people with disability has been experienced with a different pace. Mexico ratifies the Convention of Disability Rights in 2007[1] (http://treaties.un.org). This governmental act converted Mexicans with disability into citizens with human rights and subjects with international importance (Roblezo, 2006). Moreover, Mexico agreed to follow the established international norms in building

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[1] December 17th, 2007

accessible environments, providing opportunities for personal development, and further inclusion of people with disability in the society e.g. educational and labor participation, health coverage, mobility, etc.

The first disability act was enacted in 2005 (*Ley General de Personas con Discapacidad*). Designed to establish legal guarantees for integration and participation of people with disabilities, the act still fails to frame the focus of the problem of disability as a question of human rights (Nikolova, 2011).

The first disability act in Mexico was a focus for a variety of critics. It failed the to implement effective programs and projects. The programs that derived from the act were focused on prenatal prevention of disability and integral health attention of people with disability rather than provision of services that would enhance the social inclusion and participation of the program population (i.e. *Programa de Acción Específico: Atención Integral a la Salud de las Personas con Discapacidad; Tamiz Auditivo Neonatal*[2]).

During the short history of disability legislation and policy in Mexico, a second disability act is enacted in May, 2011 (*Ley de inclusión de personas con discapacidad*). The focus of this act is centered on enhancing the inclusion efforts and the enhanced access to social space and social goods of people with disability. This act differs to the previous in being more specific regarding the actions needed for inclusion - accessible transportation, environment, housing, employment, guarantee of equal rights aiming to decrease the level of experienced discrimination.

This is an important step in the history of disability in Mexico because the debate is already focused on access, human rights, and the ways they can be achieved. Disability

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[2] Consejo Nacional para las Personas con Discapacidad, Mexico, 2009

is already not a question of assistance and help but rather a matter of opportunity for self-achievement. However, the short temporality of the validity of the act restricts the analysis in making any general conclusions or evaluations of its. Additionally, the policy horizon is enriched with a new disability program that aims for integration and development of people with disability regarding the priorities outlined in the law (*ProgramaNacional de Desarrollo de Personas con Discapacidad*). Even though the program was set in 2009, its objectives relate to the priorities of the new disability act giving additional strength to the service framework of the program implementation.

The challenge that Mexican disability policy confront is the fact that debates are primarily given on a legislative level. As Antunez Farruga and Balcazar de la Cruz (2008) state, the major concern that rests in the how to extend and implement the national disability act on a federal level by creating accessible environments and providing greater opportunities for social development of people with disabilities.

Considering the characteristics of development of disability policy and framework of rights in both contexts, the discussion leads to the axiomatic analysis of the welfare state and the provision of social goods for PWD.

<center>Welfare Paradox</center>

The State is restricting its citizens with human rights commitments (Pitcher, 2002). Therefore, its principal role is of a provider and protector of social goods for the construction and maintenance of a just and equitable society (Riox & Carbet, 2003). Within the welfare state, the rights framework that includes social, economic, political, and cultural rights guarantee the needed supply of conditions and opportunities for sustainable living (USAID, 1998a). However, studies show that a welfare state type of

policy has different social impacts and outcomes depending on the cultural and political ideologies involved in its core-building base (Esping-Anderson, 1999; Mendel&Syneonov, 2006).

In market-orientated liberal welfare states (e.g. the USA and Mexico), both the disadvantaged and the advantaged groups are expected to work continuously, on a full time basis so they can contribute to the working economy regardless of the conditions that may not always meet the desired labor environment for many (Mendel&Syneonov, 2006: 1942). This incongruity in expectations supports the "welfare paradox" that can be the barrier to quality of life and achievement of sustainable living. A 'welfare paradox' (Mendel&Symeonov, 2006) arises with the mismatch between state expectations and unmet needs and rights of disadvantaged groups of people, while a third player determines the rules- i.e. the market.

The *laissez-faire* of the market principledoes not allow paternalistic actions or any kind of interventions of the state during the recruitment and the selection of the personnel (Molina, 2002). This is why labor market participation is one of the biggest challenges of current legislations when enrolling people with disabilities in productive activities according to their capacities (Parker, 2005). Furthermore, labor market participation naturally derives the confusion of the level of social protection provided to citizens with disabilities in the liberal state, where the philosophy of free market will opposes the essence of the state responsibility actions for citizens' well-being. Within the "paradox" scenario, disability becomes the merit for just political decision-making of the state for equal distribution of the social goods (Erkulwater, 2006; Riox, 2001; Elmeskov&Pichelman, 1993).

T he provision of social goods and social well-being is related to different economic and non-economic objectives like minimum wages, minimum standards of income maintenance, and equal social bases, based on moral principles and values (Reisman, 1977). This is how the welfare state becomes a helping moral tool that provides and sets conditions for the citizens. Citizens can then, be enrolled in the cycle of public production, and assist in the development of the state. However, Riox (2001) states that the established welfare standards in democratic states simultaneously limit the well-being scope largely due to the state´s role of judicious balance between the competing interests of the monetarist policies and the social interest for reduced demand deficit.

Regarding the National American Disability Policy, the balancing position of the state is in a complex situation because of its disparate nature (Erkulwater, 2006). On one hand, the efforts to build safety net systems compatible to the ideas of the inclusive rights approach need to address people with disability as self-capable to ensure their social security position according to their contribution to the national payroll system. Thus, the state interventions are required to guarantee the employment rights and to facilitate the labor participation of the disabled people through training employment programs, accommodation assistance, and tax deductions (WDR, 2011; Erkulwater, 2006).On the other hand, disability, within the social security policy, relates to assistance to well-being practices (assistance means, health or age base assistance), undermining the core principle of equality, based on prior payroll contributions to the Social Security trust funds. Thus, the understanding of disability as a condition that need assistance, accentuating   individual shortcoming and incapacity, becomes a concern. This idea

refutes with the state's understanding of disability as the capacity to build and maintain own living while exercising human rights for a sustainable living (Erkulwater, 2006; Wonderlich, Rice&Amado, 2002).The resulting political act for this disability understanding is incorporated under the federal Social Security Disability Act (SSA), where "disability" means the "inability to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to last for a continuous period of not less than 12 months or result in death.". The two working programs derived from the SSA are the Disability Insurance (DI) program and the Social Supplement Income (SSI), providing support to disabled individuals who are unable to work, and/or are low income individuals/families (http://www.ssa.gov/disability/).

The design of these programs aims to ensure the effectiveness of the state protection policies on guaranteed resources for living maintenance, rather than supporting peoples' labor and social participation. Recent statistical data show that people with disability living in poverty have increased for the last years. Poverty rate for people with disability aged 18-64 increased from 25% (3.7 million people) to 27.9% (4.2 million people); whereas for people without disability the official data indicates lower increase: in 2009 there are 21.% (21 million people), while in 2010 there are 12.5% (22 million people) (DeNavas-Walt, Proctor,Smith,2011). Moreover, the average labor participation rate of civilian non-institutional disabled population is 21.8% (Bureau of Labor Statistics,2010), whereas the number of people receiving benefits from the DI program are 9.7 million (Congressional Budget Office, 2010). This fact officially recognizes and converts people with disability as needing support, receivers, and beneficiaries of goods

because of their inability to contribute to the production system (Barnes, 2003). Further, this understanding causes misconstruction in the scientific communities of how disability (social inactivity and exclusion) and impairment (physical or mental inability) overlap in practice (Holmes, 2007).

The welfare state in each country relates to its own regulating mechanisms, own labor market, and institutions. Therefore, when discussing the Mexican welfare state as part of the comparative idea of disability problem, performance in the Mexican social protection system focus on two problems that requires attention: informality of labor participation and poverty. As previously discussed, disability policy and programs have a very short history, which makes it difficult to proceed to particular program evaluation insights or policy criticism. However, the paradox in the Mexican welfare can be discussed as a controversy of ideology and practice as seen already in the legislative building process. Moreover, the incongruity in the Mexican context is seen as the inability of the state to provide assistance (though this could lead to dependence but still indicates certain state responsibility towards the problem) or independence (through equal opportunities for accessible social participation).

The labor activity of the population with disability is in constant quandry. For the most part, labor market activities among people with disability remain unoccupied or underpaid which makes their daily living standard difficult and leaves them out of the social protection system of the state. According to the analysis of the current disability policy and services made in the National Development program for Disability (Programa Nacional para el Desarollo de las Personas con Discapacidad (PRONADIS), only 25% of the population with disability is occupied (versus 43% of the population without

disability of active working age), the majority of the working people are men (36.4%

versus. 12. 6% working women). The fact that one in every 3 interviewed persons with

disability is working on their own and 6.4% of the people are working without any

expected formal remuneration is disturning (CONAPRED, 2009). These results are part

of the national tendency for informal labor in the state, where the percentage of people

who are economically active, but not working is 41.6% (INEGI: Encuesta Nacional de

Ocupación y Empleo, 2012).The described reality of informal labor activity among the

majority of people with disability is significant for the gravity of the level of informality

among the working people with disability. This in turn, directly affects their possibility

for participation and contribution to the protection of safety net budget and further

assistance by the state. Institutions and programs providing medical attention and

rehabilitation also provide most social assistance to people with disability, rather than

financial assistance or increasing opportunities for social inclusion as stated in the

Mexican Disability Act (CONAPRED, 2009).

Another disturbing fact for the population with disability in Mexico is the abundant

poverty levels that describes their living. The official data from the Mexican census states

that 54.1% of the people with disability have no income, while only approximately 20%

of the working ones receive income equal to one minimal state salary (CONAPRED,

2009). The deficiency in the level of income relate to a high level of poverty among

people with disability (Department for International Development, 2000). A well

described poverty-disability relationship derives from such circumstances where

consequences are significant for the double vulnerability of people with disability living

in poverty contexts such as less education, labor opportunity, less access to social

services, negative effects on human health and development. (Gannon and Nolan, 2006; Landy, Duck and Raman, 2007).This vicious nexus between poverty and disability is a great challenge for the Mexican welfare state. It therefore, requires coordinated efforts regarding the multidimensional characteristics of both phenomena. However, Mexican social policy is still lacking in adequate political attention to the problem, as there is no considering of the gravity of the interrelated nexus effect (CONAPRED, 2009).

Social Geography

Social geography as a key element of this study facilitates the analysis of the socio-spatial location of people with disabilities among urban areas in relation to their socio-economic status, health condition, and management of the impaired body in particular geo-spaces. As defined in the literature, social geography is the geography of welfare, showing the morphology of disadvantaged social contexts in a deeper empirical insight (Cameron, 2006). Therefore, as part of the present research, the geographical component is aimed to illustrate the social realities in both geo-cultures by providing greater description of the performance of disability.

The comparative analysis of two different geographies - Mexico and the USA vis-à-vis the spatiality of disability focuses the discussion on barriers and bounding livelihood. This, according to Allen (2004), reflects the 'embodied' character of the living environment and shows in an objective way, the socio-spatial level of exclusion and inclusion. Therefore, living social environments are considered as the major factors for people's exclusion or disappearing of the public space. For instance, when the latter are inaccessible for people with disability they do not t allow their inclusion in public spaces. However, environments are not the only factors that embody the experiences of

people with disability. Disability in itself is an embedding factor that makes it difficult to the body-mind to adjust to the disadvantaged spaces. Therefore, Allen (2004) considers disability and socio-spatial exclusion as an embodied nexus, rather than a casual consequence of the living spaces. As an example, the existence of social class can be discussed, in which social geography explains the higher number of people with disability living in poverty (Allen, 2004). Their spatial exclusion from the marketplace is what makes them poor rather than the embedded consequence of the social exclusion. The lack of access is what disables them first rather than the social discrimination towards disability.

Furthermore, Mohan (2002) reports similar conclusion but on a wider base. By reporting results from a comparative analysis on social polarization, segregation, and exclusion between developed and not developed countries, the author explains the higher rates of health problems occurring in peripheral or developing nations. Examining the access to basic needs such as, housing, food, communication, health access, the ramification of exclusion to crime participation, and lack of social cohesion, the author concludes that social exclusion leads to social excision and explains the problems that confront people in marginalized environments. Therefore, greater social polarization is related to greater exclusion that withdraws from the participatory arena of the society.

Social geography in disability studies gives a deeper insight of the problem of disability performance in different societies. On one hand, it is clear that similar social trends for vulnerable groups of people are observed in developed and underdeveloped societies as social inequalities are part of the reality of each state. However, the analysis that aim to determine the level of social accessibility in periphery and non-periphery

societies when measuring the degrees of social inclusion of people with disability still remain.

<div align="center">Cross-National Comparison</div>

The present study attempts to study the phenomenon of disability in two different national contexts. This cross-national parallel of analysis and observation is aimed to sharpen the focus on disability internationally by discussing common trends and differences in disability patterns. Moreover, this designed cross-national analysis allows for wider cultural perspectives on the problem to be adopted by identifying possible gaps in the knowledge and opening useful avenues for future research.

The challenge of the present analysis exists in harmonizing the lines of comparison of two different data sets. As already established in the literature, comparative cross-national studies have been aligned in several ways: theoretical, methodological, statistical (data specific), epistemological, technical, and evaluative (Hantrais & Mangen, 1996). Following the lines of the suggested method of comparability, the research has established common pathways for theoretical, and epistemological discussion in the first three chapters of the document where disability was developed as a common problem for both geographies regarding similar trends in inequalities such as discrimination (based on gender in Mexico, and housing inequality in the USA) and low labor participation. Moreover, disability as a model established by the WHO (2001) is epistemologically challenged as a model of active representation of disability phenomenon explaining and including the elements involved in the process of social integration (Chapter 3).

The structure of the developed analysis of the study is based on comparing similarities in problem formulation, including the ones based on particular contextual differences. Thus, the parallel observation of the problem draws a picture where disability has been established as a national problem in both countries, underpinned by specific legal acts, planned in national policies, and designed in national programs whose total effect reflects the state of disability integration (Table 2).

Table 2. Comparative policy development

Country	Legal act	Welfare paradox	Programs	Policy Implementation/ Integration
Mexico	LPCD(Ratified Convention of disability rights)	Undeveloped legal requirements for disability policy and practice	Employment programs- part of the strategy of the National Disability Program	Undeveloped national programs and services
USA	ADA(Not ratified Convention of disability rights)	State assistantship vs. inclusion through participation	JAN	Low percentage of program service coverage, i.e. services regarding people with disability active participation rather than service beneficiary

The process of comparison of the problem is planned to expand in methodological and evaluative level of analysis, which will be the focus of the study discussion in the subsequent chapters. As a major approach for comparative research, the current study will use the so-called 'safari' method (Hantrais & Mangen, 1996).

The 'safari' method is used to look at well-defined issues in two or more countries […]. The approach usually combines surveys, secondary analysis of national data, and also personal observations, and an interpretation of the findings in relation to their wider social context. (Hantrais&Mangen, 1996:4)

The established pathways used in the 'safari' method describe the considered research framework of the study. The following methodological and evaluative comparison of disability in both particular geographies will be based on secondary analysis of national data context that will take in account the range of factors allowing lowest possible levels of local data disaggregation.

Objectives and research questions

The purpose of this study aims to *Determine the social and spatial performance of disability within the cities of Monterrey and Dallas from a comparative prospective,*, considering the following specific objectives:

1. To determine the social spectrum of people with disabilities living in different socioeconomic areas of the cities.

2. To evaluate how social participation is associated with the social status of households with individuals with disability.

Considering the existing cultural, legislative, political, and socioeconomic differences between the two states, the present study aims to assess the spectrum of

factors that impact the prevalence of disability in both social environments. A general question arises: *How the access to social goods and participation in societal production is being performed in different geographic contexts?* The answer to this question will describe the social meaning of being disabled, and will explain disability as a matter of (dis)accessibility.

As discussed in the review, justice and equality for people with disability can be achieved through access to services and goods allowing for greater opportunities for self-participation. The analysis of the general question would give an insight on the state of concordance between the legislator's decision, the will of the policymaker, and the understanding of disability in practice. What is allowed by law, what is provided through services, and what is the state of self-participation of people with disabilities in both contexts would be possible for discussion and comparison based on the given structural similarities and differences.

The research interests are also focused on determining the role and the impact of the socio-economic environment for the performance of disability. So far, the literature discusses the nexus of poverty and disability as an important concern when analyzing disability in different socio-disadvantaged contexts. However, the literature lacks an empirical analysis on the problem of welfare dependence of disadvantaged people in well-off environments. A second question that aims to be answered is: *How is disability distributed in different socioeconomic areas?* The review of the literature indicated different disadvantaged effects of the disparity between unequal socio-economic geocontexts and the social development of people who live in such environments. Axiomatically, the question that consequently arise is: *Are there any common tendencies*

in disability performances in economically scarce areas in rich and poor countries? The answer to these questions would explain the logic of disability distribution cross-nationally and would help expand the understanding of the phenomena within its spatial dimensions.

Summary

Disability studies have reached their peak: disability is already a matter of human, civil, and social rights. This universal acknowledgement of the problem has homogenized the interest of the international scholarly society into issues of inclusion and free exercise of rights. At present, disability is part of the 'right' to be a human. Therefore, people with disabilities are no longer invisible for the community.

As it was already anticipated, disability interventions aim to help individuals with disabilities to become full members of the society. Today, people with disabilities have the right to work and study, and therefore, have the right to actively participate, and to be integrated in the community. However, constrains such as job accommodations, market preferences, employment discrimination, and weak integration of policies often lead individuals with disability to impoverishment and exclusion.

Finally, the review in chapter 2 raised the following questions: *Are there similar trends in disability practices between culturally, socially, and economically different countries*? And *Is disability solely a question of social access?* The discussion of the following chapter will challenge these questions.

CHAPTER 3

THEORETICAL FRAMEWORK

The framework of the present study guides the research interest on the problem of

bi-national practices of disability from a structural perspective. It is based on the trends

of social accessibility, the space "occupied" by people with disabilities, and their social

and roles. The group of people with disability holds the connotation of being oppressed

(Oliver, 1998) or considered a minority (Bricout, 2004), and shaped by social,

environmental and personal bio-psychological factors. Their assembled impact determine

the living conditions of people with disabilities as less advantaged or vulnerable. This is

also the consequence of the conceptual understanding of disability framed within the

International Classification of Functioning, Disability, and Health (ICF) of WHO (2001).

Personal and environmental factors can be described as vectored variables that determine

the range of disability continuum in terms of enabled and disabled activities of

participation in social life (National Institute on Disability and Rehabilitation Research

http://www.accessiblesociety.org/topics/demographics-identity/newparadigm.htm).

Participation of individuals with disability is widely discussed as a matter of human and

civil rights developed and shaped by diverse political and cultural environments

(Fleischner&Zames, 2001). In addition, disability is considered a context-specific

problem addressed by the intersection of different social dimensions such as "body-mind-

society-space" (Chouinard, Hall & Wilton, 2010). The environments of persons with

disability can be symbolically described as endogenous and exogenous interconnected

"circles" formed by a vectored disability continuum that initiate its trajectory from the

person (starting vector point), and further continues delineating his surrounding

environments (shown in Figure 1):

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Figure 1. Model
of person with
disability within
environment
and space

*Vector
continuum*

*Starting
vector
point*

Person with disability

Family

Social environment

Institutions

Society

Space-Place
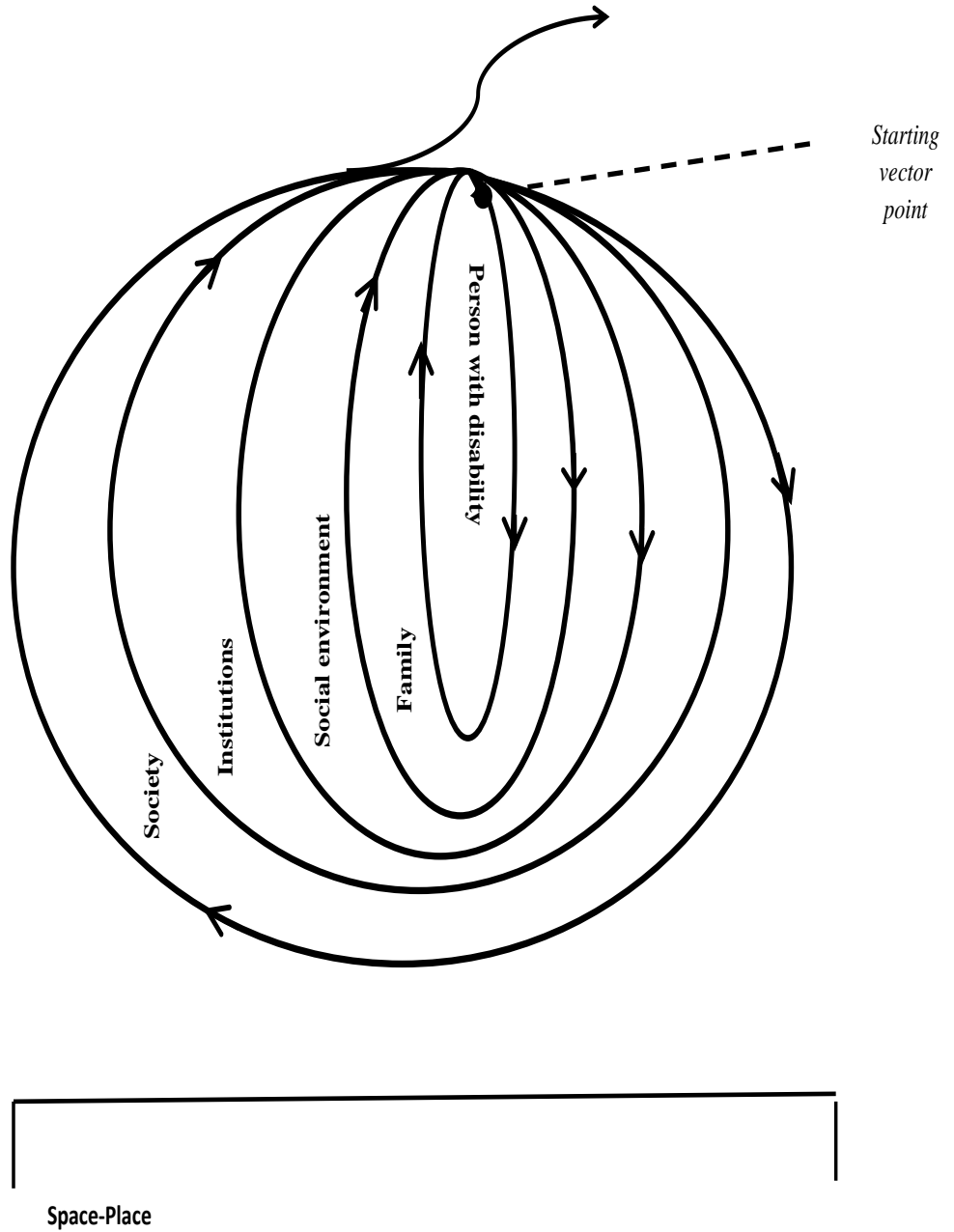
The engine of the factor-vector point is personal and contextual characteristics that have the function to enable or to disable diverse *person – environment* relationships. Therefore, the vector of the model, regardless of the perspective of disability analysis (in terms of either. medical, social, human rights, and so forth.), would indicate the degree of social access that a person with disability has achieved(such as family, community, and society). A final delineated relationship that the vector establishes with the society is an indicator for total social inclusion. This is shown with the continuing graduation of the vectored semi-eclipses, indicating the advances of social inclusion a person with disability (PWD) can achieve: from family to social environment, from social environment to institutional access, or from accessed institutions to inclusive society. This in words of Rawal (2008) describes the so-called "inclusion-exclusion dichotomy", for whom inclusion applies to every sphere of human relations where exclusion is absent (Rawal, 2008). Following that, a person with disability can be included in one social semi-eclipse, but excluded from another and vice versa (Figure 1).

An ultimate goal of the proposed model would describe a person who is fluently transacting from one semi-sphere to another within an unlimited space (intra-inclusion). Additionally, Rawal states that it would be a biased understanding if exclusion/inclusion is treated and understood in a simple opposition. It is imperative that the issue be discussed and debated by identifying the variations amongst the social sub-categories within the caste and ethnic population as well as between members belonging to them (Rawal, 2008, p.177). Therefore, the model vector point is an indicator for inter-inclusion and reflecting the possibility for further inclusions in wider social spaces such as, different societies and cultural groups.

The inclusion/exclusion nexus in disability matters raises the importance of disability as a question of access and use of resources (Meltzer, Muir & Dinning, 2010). The 'access-use' schema has been tested in technological studies with people with disability where accessibility through technology maximized the choice and the opportunities for use of different resources and as a consequence, decreased the barriers to different functional impairments of disability (van der Geest, 2006).Therefore, a key strategy in the practical and theoretical discussion on accessibility includes the usability of resources as effective, appropriate, targeted, and accessible features for social inclusion. For example, a study assessing the usability and accessibility of the National Disability Standards in Australia reported on moderate effects of the use of disability national standards among the needed population. The report states that usability relates not only to access, but also to assistance/training, cultural factors, structural factors and knowing how to implement the National Standards for different service types and in the context of different support needs (Meltzer, Muir & Dinning, 2010, p.78).

Lastly, usability and access nexus is a function of the applied in the practice amended to "individual needs and interests" (p.106). It is the "effectiveness, efficiency, and satisfaction with which a specified set of users can achieve a specified set of tasks in a particular environment" (ISO 924). Disability then becomes a matter of a *usable accessibility* which degree of *social impairment* is the equivalent of the degree to which human rights such as the right to education, work, information, mobility, among others have been exercised.

Another important element used in the model is the use of the concept of space. Authors like Leach (2002) distinguish the conceptual meaning of *space* and *place*. *Space*

refers to the attributing elements of the subjective livelihood of people, while *place* is

understood as the environmental surroundings of the geo-cultural habitat of people.

However, the subjective component of "space" can go beyond its personalization. Leach

(2002) points out the meaning of the subjective performance and the usability of space to

be an indicator for disability development. Therefore, the interpretation of the livelihood

of people with disability within the social model of disability should be re-evaluated by

considering three different dimensional bases: subjective living (personally demarked),

social choice (shaped by the social structure), and place positioning (determined by the

accessed resources in the living space).

The suggested upper modifications combine the importance of the medical and

social models of disability, allowing on one side, the person with disability to be in the

focus of the social structure, while at the same time factors such as social (family and

group environment), political (institutions), and socio-cultural (designed within the

characteristics of a particular space) dimensions to determine the degree of activity of the

person (Barnes, 1998; Kasnitz & Shuttleworth, 2001; Phillips, 2011; Piar, 2008).

The understanding of disability as a *person-environment* relationship permits to

frame the phenomena of disability into various embodied environments, i.e. social

physical, cultural and legal. However, the participative role of the person with disability

within this relationship is not explicitly defined. Is the person with disability a static

receiver of benefits or the person is a co-participator in his daily solutions? Where is the

figure of the person with disability in the social model schema of disability? To bring

light to these questions, the theoretical discussion of this paper will discuss the

"embodied lifestyle categories shaped by the interplay of choice and chance" (Thiboduax, 2005).

According to the WHO (2001) model, disability is an obstacle for persons with health disparities to fully participate in social life. Oliver (1998) argues that social participation of PWD is dependent on the level of (not) facilitated social environments. Therefore, the key element in the discussion on disability is the notion of the active person who is able to participate in social events and is able to contribute to the common system of social production. Specifically, the IFC message challenges the possibilities for individuals of becoming dysfunctional participators in the vital dynamo of life, if (not) included actively in the society.

Participation is highly discussed in recent years as a concept of citizenship (Hortulanus, Machielse&Meeuwesen, 2006). The exercise of the civil rights of PWD such as accessed education, health and social services, accessed transportation facilities, and being competitive players in social and cultural life events is what constructs the equality of opportunities for people with disability. The latter construct overlaps the general principles of the Disability Human Rights Convention (2006) for independence through freedom of one´s own choice, inclusion through participation, and equality through non-discrimination guaranteed in the framework of Article 5 of the document:

1. States Parties recognize that all persons are equal before and under the law and are entitled without any discrimination to the equal protection and equal benefit of the law.

2. States Parties shall prohibit all discrimination on the basis of disability and guarantee to persons with disabilities equal and effective legal protection against discrimination on all grounds.

(UN, 2006)

The non-discriminated and protected-by-law citizen is expected to contribute to his own livelihood. Therefore, the crucial moment in understanding disability becomes the adulthood of people with disability and their labor market participation or the interwoven between their social isolation and social participation (Hortulanus, Machielse & Meeuwesen, 2006). Further, the problem of disconnected social participation of people with disability is discussed as a function of interconnectedness between poverty and social vulnerability. Scholars like Lang (2011) and Mira (2012) state that people living in the contexts of socio-economic scarcity are less likely to participate in social activities due to their underdeveloped social capital abilities and skills.

Today's understanding of poverty is not related and measured on the basis of monetary merits. Poverty has a deeper social sense rooted in unaccomplished human rights, undeveloped capabilities, and lack of opportunities (Sen, 2000). Moreover, poverty incorporates three essential dimensions: the economic axes, the geo-cultural contextual characteristics, and the axis of social rights (CONEVAL; 2009). This wide understanding of poverty describes it as a multidimensional phenomenon comprised of elements of social inequalities that generates differences and restricts the opportunities of people to use the available social goods for their daily needs (CONEVAL, 2011; Sen, 2000).

Limited social conditions places people in unequal social *space-environments* in which the development of their own choices for personal accomplishment and social performances also becomes restricted (Sen, 2000, Lang, 2011). As a result, "difficult to achieve" becomes the utopia of equality, justice, and democratic alternatives in solidarity-based contexts when social realities vary in development. Addressing the concerns raised in the previous chapters of this study, the discussion of disability as a global social matter will be further framed as imbalanced practices of limited opportunities and emerging disadvantages. The two selected theories that will focus on the theoretical explanation of the problem are: the capability approach of Amartya Sen (1999) and Pierre Bourdieu´s (1990) sociological approach of understanding social practices. The use of the theories will be partial, combining different elements so that a comparative disability perspective on both inter-subjective and structural levels can be explored.

<div align="center">Sen and Bourdieu: combination of ideas</div>

The theoretical discussion involves the juxtaposed use of the following concepts presented systematically in Table 3:

Table 3. Conceptual box

Sen (1999)	Bourdieu (1990)
Freedom of choice	
Opportunities	Fields of practice
Social disadvantage	
Diagnosis of injustice	Power imbalance

The attempt to use the ideas of a sociologist (Bourdieu) and an economist (Sen) has been challenging. If Sen is focused on the evaluation of the given opportunities covering deeper person-centered perspective of the problem, Bourdieu challenges the field with the so called "subjective realities", embodied and inherently observed in the social attitudes and behaviors, and deeply reflected in the structure and dynamics of social practices and legitimate structures.

To begin, a discussion of subjectively embodied realities on a comparative structural level seems erroneous and impossible. The idea for a deeper understanding of disability by using Bourdieu´s *theory of practice* contradicts the initial macro-level intention for comparative disability analysis. Therefore, the axiomatic question "*How the theory is thought to be used*?" requires a sophisticated explanation.

One of the core elements of Bourdieu's theory is the notion of "habitus". He defines it as:

 "… something non-natural, a set of acquired characteristics which are the product of social conditions, and which, for that reason may be totally or partially common to people who have been the product of similar social conditions" (Bourdieu, 2002, p.29). This notion of Bourdieu permits the reader to perceive the characteristics of a group of people living in similar conditions as common and *intra-comparable*. Moreover, the sociologist state that the habitus of a "group of persons occupying a similar or a neighboring position in social space – is in a sense very systematic […], a kind of affinity of style […] like the works of the same painter […]" (p.28). Bourdieu finds this identity of the "style" of living in different social spheres such as culture and wealth, which people use as merits when defining their place and role in the society (DiGiorgio,

2009).Additionally, habitus is best understood in relation to the notion of the "field". Bourdieu adds:

> In analytic terms, a field may be defined as a network, or a configuration, of objective relations between positions. These positions are objectively defined, in their existence and in the determinations they impose upon their occupants, agents or institutions, by their present and potential situation (*situs*) in the structure of the distribution of species of power (or capital) whose possession commands access to the specific profits that are at stake in the field, as well as by their objective relations to other positions (domination, subordination, homology, etc).

(Bourdieu &Wacquant, 1992, p.97)

The point of departure for the analysis of the field and the habitus of Bourdieu consists in the way people understand and represent their inner world, their roles and social positions. Moreover, social relations are shaped by symbolic powers, which confer advantages to people, institutions or states. The question is how we can think and analyze these "understandings" and the impact of the symbolic power, which they entail. Field and habitus enter the stage as one possible answer.

Fields follow certain regularities that are not explicit but their "rules of the game" determine "who gets in, and who gets out" (Bourdieu &Wacquant, 1992, p.101). Such practices involve the notion of the power imbalance and the emergence of social problems such as inequality and injustice. An example from the practice is the rule for market participation determined by the unequal distribution of economic capital (wealth, income, property), rather than by the personal merits of the labor occupants (Angus,

Kontos, Dyck, McKeever& Poland, 2005, p. 165). The latter places the players on the field on different social levels, organized in hierarchical positions and relations.

Within the area of disability, the *field* or the "social context", where the phenomena is observed, is predisposed by structural inequalities that shape the level of disability inclusion in the society (Angus et al., 2005). Moreover, fields are not autonomous. Developments in one field influence those in other fields. For example, within the labor field, market rules are juxtaposed with the employers' qualifications (Nunn et al., 2007); in the field of social insurance, the right to demand for social protection influences the practices of legislation making (Weber, 2009); in the field of policy, the *poverty-disability nexus* impacts the development of people in terms of access to social services; education; work opportunities; social security coverage, and malnutrition. (Oliver, 1998; Gannon & Nolan, 2006; Landy, Duck & Raman, 2007; Székely, 2007).

Bourdieu's concepts of the *theory of practice* reinforce the use of social classifications such as class, legitimism, ethnicity, etc. (Bowman, 2010). They are part of the "field analysis" which often begins with a graphic "mapping" of positions. The latter is the result of the lived experiences of particular groups marked with the so-called "field effects" (Bourdieu &Wacquant, 1992). They can be statistically detected "in the points of their decline" or when they have already marked the society with their effects (Bourdieu &Wacquant, 1992, p.100).

Additionally, it is important to understand what counts as advantage when "mapping" field positions. Bourdieu's understanding for map placement of people in a field is determined by the capital, which they dispose. Thus, socially advantaged are

those who incorporate greater social capital in the field of their practices, while the disadvantaged are described as people with less generated social capital.

Sen (1999) also discussed the question of inequality as a particular hallmark of his *capability approach*. Developed as an extend to the economic analysis of poverty, the approach makes a significant shift from the measure of poverty in terms of self-properties, to the measure of inequality based on ¨ what people are able to be and to do¨ (Bowman, 2010). Additionally, ¨*desired well being*¨becomes major moving engine in Sen's theoretical perspective. It is the result of a self-conduced way of living based on personal achievements such as employment, education, and other available recourses that can make it reachable (Rosano, Mancini, Solipaca, 2009).

At most rudimentary level, the capability approach is comprised by two elements: functioning and capability. If functioning's are the valued by person things of being and doing, capabilities, on the other hand, are the combinations of functioning's allowing the person to have the life in a desirable way (Sen, 1999). Moreover, they are kinds of opportunity freedoms or possibilities that people really value and are feasible for them to achieve (Boiwman, 2010; Toboso, 2011). If exemplified, functioning would allow the person to walk, while capacities would ensure person´s mobility within different geoplaces.

Interestingly, Sen's approach combines opposing structural ideas due to the incomplete balance between functions and capacities, i.e. a person can be functional but not capable; society can be diverse but unequally represented (Toboso, 2011). Erroneously, though, the capability approach has been focused on partial effect of the limited human capacity. Thus for example, a person who is low vision or blind is seen as

a person who has disrupted functionality with regards to the capability of seeing.

However, the person can walk (for example), and thus, he/she can acquire for a capability

of mobility. The latter distinction of the approach is what describes it as approach of

¨human-being evaluation¨ (Alkire, Quizilbash&Comin, 2008). Because people have not

one but a set of capabilities (Alkire*et al*., 2008), the likelihood for greater human

development of people lacking in one capacity does not restrict them from being active

human agents. Therefore, Sen considers that social disadvantages are manageable and

their impact effect correlates with the concept of freedom, defined as the "real

opportunity to make choices¨. This is the core message of Sen´s theory of justice, where

free made choices are the ones that set and promote the well being of people (Toboso,

2011, p. 110).

       Despite the fact that capability approach is designed as a self-reliance theory for

achievement of individual well being (Bowman, 2010), a person her/himself value it but

cannot enjoy it alone (Alkire*et al*., 2008, p.41). Moreover, Alkire*et al*. (2008) states that

when a group contributes to individual´s capacity, the description of person´s experience

in collective terms becomes more accurate than one´s own description (as it was initially

set by Sen):

       "By appearing to ascribe intrinsic importance to collective capabilities this

approach forfeits the ability to give a more nuanced and differentiated account of how

any given social structure (family, group, tradition), at any given point in time, affects

diverse members of it." (p.40)

       Collective capabilities contribute to the enhancement of the well-being of the

group by strengthening the self-dependent rather than the vulnerably-dependent

capacities of the individuals. Therefore, the notion of ¨human agency¨ understood as ¨capacity to act and bring about change¨ (Dréze&Sen, 2002) would draw the development of a person as a capacity for a social change. Overall, the capacity to participate in awareness for a change, intentionally, with a freedom of act is what leads to a desirable change (Bartnett, 1983, cited by Caroselli& Barrett, 1998).

The most explicit message within Sen´s theory is the understanding of freedom as accessed opportunities and built capacities. Key element for such an understanding is the human agent or the actor who is managing the process of social decision-making. Moreover, an important interrogation emerges out of this theoretical discussion ¨ What is the nature of the actor's choice? ¨ Is the actor actually a rational decision-maker ¨trying to maximize the gains and minimize the loses as they consistently support their primary values, having all the times and resources desired¨? Or rather the actor is guided by a ¨bounded rationality¨ admitting ¨ errors in the judgment based on limited knowledge, mistakes in thinking, and not having enough time or funding to collect all the information that might be helpful¨ for a decision-making? (Hoefer, 2012, p. 68-69).

In fact, the nature of the choice of the agent cannot be fully rational because of the impossibility of all human beings to dispose privately with all desired and available resources. Additionally, within the structure of every society, resources are distributed (equally or unequally) between different members of the social group. Therefore, the nature of the choice of every social actor is always predetermined by conditions such as resource availability, established social justices, and their usability. Despite the predetermined obstacles, human agents are always aiming to obtain the most accurate and satisfactory for them option for a choice within the limited reality in which they perform

(Hoefer, 2012). Therefore, the *choice* in Sen´s theory can be only understood as a summary of what person can/can not do in a bounded reality of opportunities.

Additionally, Sen's choice contains the personal axis representing human's decision of whether to perform in certain way or not in order to obtain a desirable social good. Also, Sen's choice is comprised by the axis of the imposed structural realities demarked by contextual norms and understandings. The latter can be exemplified in the following schema (Figure 2):

Figure 2. Theory of Sen
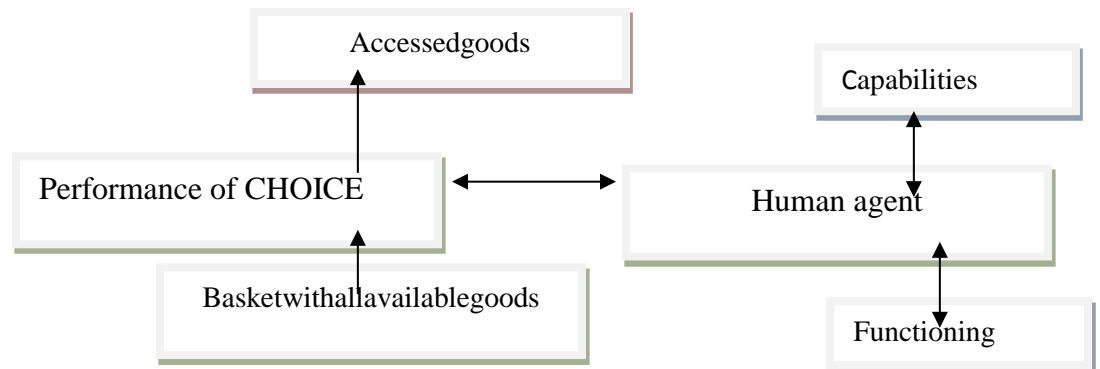
Bounded rationality- - Limited resource environment

As illustrated, within restricted resource environments, the usability of the available basket with goods shapes the direction of the choice a human agent is able to make. Additionally, the performance of the choice is considered to be the interaction between human functions and capabilities. As a result, the choice of the human agent in a bounded rationality becomes the *accessed good* measured in terms of accessed education, work, social services, etc. Because two elements of the model- e.g. environment and human capabilities are the variables that influence in a significant way the direction of the performed choice, greater attention on resource development and capability-building is

expected to be made when analyzing the nexus relationship between *disability and environment*.

Further, the freedom to perform a *lifestyle* or acquire for a greater *well-being* of people with disabilities are chief elements of the established disability model (Referring to the model of IFC, WHO, 2001) and essential factors catalyzing the inclusion of one person/ group in the society (Sen, 1999, Bourdieu, 1990). Therefore, the freedom of participation is the pre-requisite that allow the equalization of stratified groups of people: e.g. poor, people with disability, minority, etc., to perform in a way that would enable their inclusion. Importantly, for Sen and Bourdieu, human capacity is the transformative agent of unjust social realities. Bourdieu calls it ¨creativeness to act¨ (Bourdie, 2002), while Sen´s describes it as "opportunity for choice" (Toboso, 2010). Where is the place of the "transformative agent" in the disability framework of the ICF (2001)? The person with disability is missing in that model. He is represented by his disability, but not with his capacity to interplay with choices and chances in his environment.

For that reason, the social model of disability recalls for a structural and thematic modification of its interrelated elements. To address the latter, an attempt for a re-modification of the existing model (i.e. WHO, 2001) is further described (Figure 3).

Figure 3. Disability framework

Inclusion
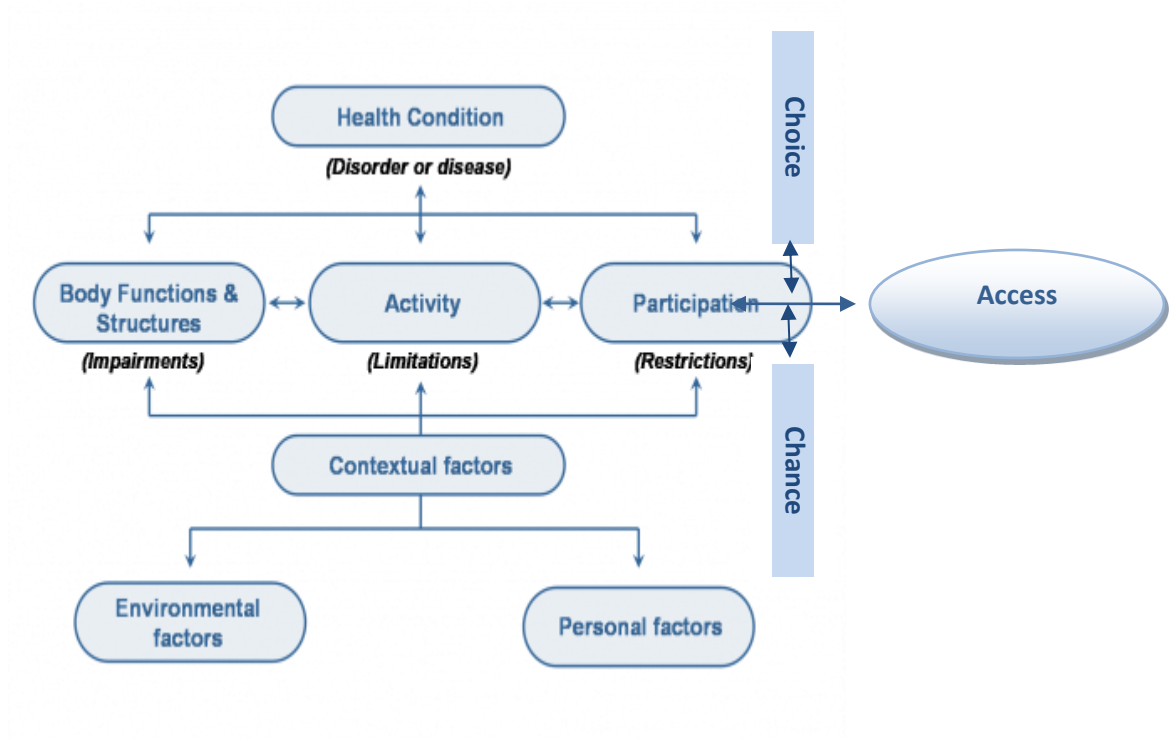
Inclusion

Legend: Choice- freedom of opportunities / Chance- freedom to perform

The suggested disability framework is a simple re-adjustment to the advanced

scholarly thinking from the last two decades of scientific work (briefly reflected in the

previous two chapters). It overlays the dialectic development of disability thinking,

incorporating basic factors such as health conditions and contextual factors with the

advances of democratic social development i.e. activity and participation (WHO, 2001). On the other hand, the schema calls for a re-thinking of the meaning of disability as a matter of access leading to greater social inclusion. The current social model describes the problem of disability as lack of inclusion and participation. However, the person with disability, as a rational actor, capable to participate in his own daily decision- makings is not reflected in the model. Lastly, interlinks between problem-factors and expected solutions are also not established in the current model.

The notion of access is of utter important to disability studies. "*Access*" is a concept shaped by two elements - choice and chance. The *choice* is the product of the capabilities developed in a limited resource environment. It describes the decision of a person with disability weather to access or not diverse social environments. Furthermore, *chance* is understood as the available for the person with disability set of opportunities that enhance his/her personal potential to actively participate in social activities. The "chance" is essential disability component because it addresses directly the state of social development of a country. Considering the latter, the notion of "access"becomes the filter for social inclusion of disability agents based on the chances they are given. Therefore, in disability studies, more accurate is the conceptualization of people with disability as "dis-accessed people" or "people with unachieved access to social inclusion", rather than the use of the terms "people with disabilities", and "people with special needs" or capabilities. Because the current definition on disability does not reflect the problem of dis-accessibility, a deeper epistemological insight is needed to further   challenge the scientific, political and social interpretation of the problem.

Firstly, Hugo Zemelman (1987) opens the discussion of the problem of the knowledge of disability with an emphasis on the thematic understanding of what is considered as a social reality. He states:

"Ontological reality is not alien to the man, but is part of the human experience, and we must be able to recognize the space where man has been undertaken to produce knowledge, to realize what happens, when the knowledge itself explains, predicts and establishes some kind of creative transcendence between the present and the reality" (p. 13).

The author explains that reality is not only given, but it is socially constructed, and time consuming.

Secondly, it is important to discuss the fact that "disability" has different ontological understandings because the historical development of the problem has gone through varying model transformations. Additionally, there is no specific discipline that studies the phenomenon. The problem has been approached through different methodologies, which led to the construction of the complex idea of the problem of disability.

Within this particular study, disability (as explained already above) is considered a matter of unachieved access to social inclusion. Guided by the philosophical understanding of the disability pragmatism, this paper emphasizes the scientific and political utility of ideas on disability, the way they have been developed and implemented within different societies and cultures, regarding factors such as individual freedoms, diversity, and equality. Moreover, through critical analysis of current disability practices, the study aims to reach enhanced sensitivity and awareness of the stage of social

inclusion and to promote greater opportunities for cultivation of more inclusive and kinder forms of disability associations used in scientific analysis (Danford, 2006). Further, the study continues with a deeper insight on the pragmatic structural understanding of disability as a global social matter.

Theoretical Operationalization

In addition to the theory discussed in chapter 2, knowledge might exist in different forms of abstraction – from 'pure' abstract knowledge to knowledge directly applicable in empirical forms. Concepts of Sen and Bourdieu such as "power imbalance," "injustice", "opportunities", and "fields of practice" are explicitly abstract. To avoid future misunderstanding and incoherence, the idea of Agerfalk (2004) for operationalization of abstract knowledge into concrete forms applicable in practice was explored. He states:

"Of course, they need not be explicated initially, even though it is preferable since the externalization of knowledge into written formulations requires precision and hence the very externalization process becomes an important part of internal grounding of both the concept and its operationalization. Thus, the formulation and externalization of a concept and its operationalization implies internal grounding and external theoretical grounding. The operationalized concept can then be applied in practice whereupon consequences arise."

(Abstract from a conference paper, Agerfalk, 2004)

In an attempt to address the gap in the process of operationalization of the current research theory, a systematic

operationalization of the abstract and the tangible knowledge used in this study was developed (see table 4). Based on the framework

for social indicators suggested by Rodríguez (2000), relationships between theory, dimensions and indicators, corresponding variable

groups and items were further illustrated (table 4).

Table 4. Theoretical operationalization

Author/ Concept	Theoretical construction	Dimensions	Indicators	Index	Variables	Data type	Item	Data base
Sen/ Diagnosis of injustice	Poverty/ Socio-economic well-being	Socio-economics	Income disparities	Income sources	Income/ Financial benefits	Quantitative	Level of HH income	
Sen/Opportunities	School enrollment	Social characteristic	Social participation	Access to capability resources	Level of education	Quantitative	Level of social participation	US Census 2000
	Labor participation				Level of job placement			
Bourdieu/ fields of practice	Social coverage	Social policy	Insurance	Access to social coverage	Insurance	Quantitative	Level of social coverage	Mexican Census 2010
Bourdieu/ power imbalance	Symbolic capital of social representation	Discrimination	Demographics	Demographic profile	Age, gender, race, disability	Quantitative	Level of social representation	

Additionally, a method of constructing proxy (dummy) variables is an attempt to measure the level of social representation through a measurement of the discrimination of people with disability based on age, gender, ethnicity, or race. This methodological decision will reduce the complexity of the statistical model while challenging relationships between levels of discrimination and levels of accessibility.

Summary

People with disability are the central "theme" in diverse policy debates and state legislations.   Their rights and duties as citizens, along with their decisions and choices of life, and their participation in activities for social inclusion should be highly considered in political discussions on disability. Therefore, chapter 3 attempts to recall the scientific community for a larger debate and re-thinking of the existing disability model developed by the WHO in 2001.

The theoretical framework of this paper has used the ideas of Sen (1999) and Bourdieu (1990) to discuss the understanding of disability as a matter of chances and choices. It was anticipated that choices were miss-performed in the general schema of the ICF (2001) model. Interestingly, while beliefs, attitudes, and perceptions that build choices are not addressed in current national and international disability surveys, chances are underpinned broadly and narrowly in policy interventions and legislative acts. Measures of chances are social indicators that make the analysis of social accessibility tangible. The methodology of their measurement is discussed in the chapter that follows.

CHAPTER 4

RESEARCH METHODOLOGY

Chapter four presents a description of the methodology used for this study. The research questions serve to compare and analyze demographics, spatial socioeconomic representations, correlations and relationships of factors impacting the social access of people with disabilities who reside in the metropolitan areas of Dallas and Monterrey. The study aims to construct and analyze disability assessment sets for both geo-contexts. In particular, it aims to examine the socioeconomic and cross-cultural characteristics of households in both metropolitan areas. Chapter four provides an exposition of the research design. Furthermore, it presents the lucidity for comparison, procedures, and methods of data analysis, as well as discussing the study population and concepts of comparability. Additionally, the chapter considers limitations of cross-national studies using secondary data sources, with special emphasis on the data sources from which the study draws.

Research Design

The study is non-experimental, secondary data research investigating the relative opportunities for social inclusion of people with disability within their "vectored environments" (see p.36, Fig1. model of persons with disability within an environment and space). The study has descriptive, exploratory, and analytical aims organized in two levels of analysis: (1) spatial analysis, which seeks to explain patterns of disability, and

(2) statistical analysis which allows cross-national comparative calculations of associations and relationships between variables of access to social goods.

Considering the cross-cultural width of the study, its macro-comparative perspective, and use of national statistical data, the study advances the compatibility of quantitative-based standards for cross-national research. According to Lynn (2003), comparative quantitative approaches constitute a new way of thinking about methods that approach social phenomena as being best understood through enhanced systematic methodological frameworks. Comparative research efforts involve effective decision-making that address variations in the way the data have been carried out in different countries. Challenging enough, Lynn (2003) considers that comparative studies yield the tested practices whose outcomes further establish the quality of standards for cross-national research. In this vein, combining the rationale and the structure of the secondary census data considered to be used for evaluation of the patterns of disability in Dallas and Monterrey, the present study will contribute to the establishment of methodological guidelines for disability research standards in cross-national environments.

There are several strengths and limitations to this non-experimental secondary survey research design. Overall, the design provides flexibility in implementing diverse set of descriptive and exploratory variables. Moreover, the comparable structure of the methodological framework provides the opportunity for generalizable knowledge based on a range of similarities and differences within the disability realm. However, comparison on specific indicators across countries imposes strong data requirements (Gotteschal & Smeeding, 1997). This is how comparisons with country-specific

idiosyncrasies such as Mexico and the USA can affect the levels of disability

representation in the data. One major limitation of the study is the differences between

measurable survey elements and the challenges around matching similar elements for

equivalency. These differences are such that clear inferences from the data cannot

always be made.

Further, there is a necessary complexity to the research design due to the use of

different secondary data sources. This complexity requires setting a plan of

comparability of the concepts, and further, a need for a clear identification of the unit of

research analysis.

Significance

The study uses different sources of secondary data from Mexico and the USA.

The prime motive for the secondary data choice was grounded in the major domains of

research interest- in particular, the intersection of variables of disability and living

standards. This use of secondary sources assumes that the data chosen for the analysis

"has been appropriately measured, validated, defined and selected" (Johnson et al.,,

2009, p.1063). Moreover, the measurement of comparable variables in Mexico and the

USA addresses the importance of the conceptual interpolation of the meaning and

understanding of the used definitions and indicators.

As acknowledged already, models of disability determine the range of

measurement of disability conception. The discrepancies in disability numbers within

countries have been explained in terms of medically or socially rooted consequences. In

particular, differences in disability prevalence in rich and poor countries have been

explained as impairment in low income countries, as opposed to disability as a functioning measure in high/middle income countries (Palmer & Harley, 2011). This measurement comparison reflects the simple differentiation of disability as a medical or social problem. However, disability is in its nature inclusive of both perspectives, and therefore neither of them should be exclusive but instead include both in a relative spatial perspective that would reflect the "multiplicity of landscapes in which disabled persons operate" (Gaines, 2004).

As mentioned earlier in the first chapter, differences between Mexico and the USA influence the patterns of disability with respect to social and spatial representations. However, despite the numerical discrepancy in disability statistics due to competing metrics, significant efforts for unified measurement in national disability scales have been made in both countries. For example, both countries have used a set of questions that allowed identifying the majority of people with difficulties in basic living functioning, independent living, and social integration (Madans, Loeb, & Altman, 2010). Such measurement guidelines have been suggested by the Washington Group so that comparable international disability profiles could be further developed (Palmer & Harley, 2011).

In addition, a comparable set of variables within both national surveys have put together information on indicators of social access such as education, employment, social security coverage and housing services and conditions. The latter underpins the access to opportunities mandated by the UN Disability Rights Convention (Madans, Loeb &Altman, 2010). These indicators are included in the methodological construction of both surveys as key mechanisms for trend analysis of participation of people with

disability in social life. The latter is also a part of the methodological intersection of indicators measuring living status and unequal environments of disadvantaged group of people [Center for Disease and Control (CDC), 2011]. Therefore, the analysis of disability and socioeconomic inequality as a nexus, and as a part of the contextual discrepancies between Mexico and the USA becomes crucial for the present study.

Data sets and study variables

The analysis will be based on disability data from two national census collections. The interest of the research has focused on disability data collected for the second time in the national census histories of Mexico and United States (Mexico - Census 2010; the U.S. – Census 2000). One important point worth noting though, is the fact that the availability of disability data on tract levels from the last census collection (2010) is not yet available[3] (www.census.gov). This was the chief reason for the use of the data from the U.S. Census 2000. Another reason was the lack of alternative data source on disability. The U.S. Census Bureau reported on existing non-comparability of disability data between the census data and the short census form from the American Community Survey (ACS) because questions on disability did not coincide with recent models of disability (http://www.census.gov/people/disability/methodology/acs.htm).

Variables from each survey have been selected and combined into separate categories forming the following research domains (see Table 5).

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[3] Disability data on tract level will be available in 2013 with the 5-year estimates of the ACS (http://www.census.gov/people/disability/methodology/acs.htm)

Table 5. Research domains

	Demographics	Accessibility	Monetary set	Household
Disability social representation	Gender; age; race/ethnicity;	Health and social coverage; employment rate; school enrolment;	Income; Additional financial support	Household living conditions
Disability spatial representation	Disability type	Service/social goods "ghettoes"	Socioeconomic clusters	Household urban topology

Rather than socially or medically-based problems, disability is perhaps most usefully seen as a geographic composition of social and spatial elements. An interpolation between social and spatial representation of demographics and indicators for social accessibility will give a detailed picture on how groups of people with disability with particular characteristics reside in the metropolitan area; whether in homogenous or heterogeneous (clustered) socioeconomic areas. Special emphasis will be given to relationships between economic variables and variables of social access as catalysts for patterns of disability developed in different socioeconomic living areas.

Persons with disability are considered part of a household (HH) unit with certain living conditions. Therefore, households containing people with disability become the unit for further research analysis. Their location within the metropolitan cities will

differentiate levels of disparity, segregation, and marginalization. A brief review of two studies will be used to illustrate how social and spatial inaccessibility patterns relate to urban development, segregation, and marginality.

The first study begins with a discussion on the extent of residential segregation that people with psychiatric disabilities who receive Medicaid (MA) experience in Philadelphia. Metraux *et al*. (2007) investigated how effective delivery of mental health services in "psychiatric ghettoes" is related to patterns of urban accessibility and living localities. Based on geographic comparison of two groups, people with psychiatric disability receiving MA and an identically sized control group of residents receiving MA living in Philadelphia were compared. The authors emphasize the ecological correlates and their relationships with the dynamics of health, social inclusion, and access to social services.

Matreaux, *et al*. (2007) found that there is a medium level of residential segregation of people with psychiatric disability within the observed area. However, the authors point that "the absence of high levels of segregation on census-tract level cannot rule out the presence of concentrations of persons with psychiatric disabilities in smaller areas, such as on particular blocks or in clusters of proximate community residences." (Matreaux et al. 2007, p.253). In other words, the authors take into consideration, the possible existence of greater segregation of people with disability on a subgroup level, and in smaller communities where the risk for "ghettoization" is higher (Matreaux, *et al*., 2007).

The most important contribution of the study by Matreaux and colleagues lies in the differentiation of urban segregation of people with psychiatric disabilities based on

their age and race. Another major finding of this study is the clear relationship between residence patterns and poverty. The magnitude of the association between them was highly explored through socioeconomic vulnerability and decreased access to a range of housing options. Following the logic of the study, it is reasonable to suppose that social access and inclusion might be directly predetermined by the socioeconomic living context. Such influence has been well explored in reports of the World Bank in the last couple of years (i.e. World Bank reports on poverty). Additionally, assessment and implication for further policy decisions are being developed by scholars and experts in order to enhance conditions of equity, justice, and human dignity among people with disability (Braithwaite & Mont, 2009).

Similar insight into the influence of economic environment on the patterns of social accessibility in urban areas is provided by the study of Pena (2005). Using the concept of marginality defined by The National Council of Population in Mexico (CONAPO) as "a social problem associated with the lack of opportunities and access by the population to services such as education, health, and income" (Pena, 2005, p.289), the study differentiates two types of marginality – inter-urban (between different units of analysis) and intra-urban (between the same unit of analysis) marginality. Grounding his arguments in neoclassical and geographic approaches to explain marginality as a social and spatial problem, Pena reasoned that access to goods and public services is a function of people's income. He further suggests that regions with higher productivity would have higher access to urban services.

In designing his study, Pena (2005) assumes that the ideology of marginalization is deeply related to the public and social policies of the state. He argues that democratic

policies should be able to provide equitable, efficient, and environmentally sustainable management of social service provision. The major finding of the Pena study suggests that marginalization is due to governmental failure of the law and market failure of the monopolized industries. Even the positive economic effects of investments of neighboring U.S. in Mexican industries did not sort out the social inequality of the region. For example, service provisions of water and electricity were differing not only between units with different socioeconomic levels by favoring the higher socioeconomic groups, but also between units with the same socioeconomic level. Therefore, this study suggests evidence of the complex relationship of context, service provision, and service management, and the inability for unified generalization of two neighboring realities such as Mexico and the U.S. In developing countries such as Mexico, the author suggests a *Nota Bene* for public social policies pointing to the difficulties in ensuring "benefits of free trade trickle down to the population with the most pressing needs" (Pena, 2005, p.299).

<center>Study variables</center>

The major variables in this study are reflective of the accessed social services and goods of people with disability within different socioeconomic environments. The dependent variable in the analysis is *disability,* understood as an outcome variable that lies at the intersection of unachieved social access, environment and functional impairment. The independent variables related to demographics include social (contextual) factors, variables for service accessibility, household type, and living conditions.

Survey Concepts

As a comparative cross-cultural research using secondary data sources, the current study must ensure that applied instruments are equivalent in what they measure. Therefore, the selection of variables from both data sets has to establish the parameters for content accuracy in order to predict the criterion of interest, i.e. to establish the concurrent validity or the "ideal" comparative referent examined in the collected data (de la Osa, Ezpeleta, Domenech, Navarro & Losilla 1997).

> Concurrent validity or the degree of agreement between an instrument and other, simultaneous external measures is one of the important aspects when determining usefulness. […] In turn, the comparison of a given characteristic based on different diagnostic instruments may provide data about the usefulness of certain epistemological entities. (de la Osa, et al., 1997, p.37)

In doing so, emphasis on equalizing referral criteria was given first on disability. Data on disability was gathered using Census Long-Form containing six questions related to type of disability (INEGI, 2010; U.S Census Bureau, 2000) (see table 6). In particular, the U.S. Census Bureau provides disability statistics on population size, prevalence rates, employment rates, and poverty rates, while INEGI provides statistics on prevalence and disability types-only.

Table 6: Census disability measurement

Census Questions on Disability Endorsed by the Washington Group 2010	*Census 2000 disability measurement*
1. Do you have difficulty seeing, even if wearing glasses? a. No - no difficulty b. Yes – some difficulty c. Yes – a lot of difficulty	Does this person have any of the following long-lasting conditions: a. Blindness, deafness, or a severe vision or hearing impairment? Yes No

d. Cannot do at all

2. Do you have difficulty hearing, even if using a hearing aid?
a. No- no difficulty
b. Yes – some difficulty
c. Yes – a lot of difficulty
d. Cannot do at all

3. Do you have difficulty walking or climbing steps?
a. No- no difficulty
b. Yes – some difficulty
c. Yes – a lot of difficulty
d. Cannot do at all

4. Do you have difficulty remembering or concentrating?
a. No – no difficulty
b. Yes – some difficulty
c. Yes – a lot of difficulty
d. Cannot do at all

5. Do you have difficulty (with self-care such as) washing all over or dressing?
a. No – no difficulty
b. Yes – some difficulty
c. Yes – a lot of difficulty
d. Cannot do at all

6. Using your usual (customary) language, do you have difficulty communicating, for example understanding or being understood?
a. No – no difficulty
b. Yes – some difficulty
c. Yes – a lot of diff iculty
d. Cannot do at all

Source:http://www.cdc.gov/nchs/data/washington_group/WG_Short_Measure_on_Disability.pdf

b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?
Yes No

Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:
a. Learning, remembering, or concentrating?
Yes No
b. Dressing, bathing, or getting around inside the home?
c. (Answer if this person is 16 YEARS OLD OR OVER.) Going outside the home alone to shop or visit a doctor's office?
d. (Answer if this person is 16 YEARS OLD OR OVER.) Working at a job or business?

Source: http://www.disabilitystatistics.org/sources-DS.cfm

As mentioned previously, disability measurement for 2010 (Mexico) was endorsed by the Washington Group. Questions in this set distinguish disability by type and level of impairment. As compared with the 2000 measurement (the U.S.), disability is also measured by disability types corresponding to the 2010 questionnaire set, which include , physical, sensor, or mental conditions; self-care disability; or state of independence in daily living activities. However, the questionnaire contains information

on disability by employment and mobility that is absent in the 2010 (the U.S.) questionnaire. Those disability types have been removed in the subsequent Community surveys because they are said to be misleading the official US data (Stern & Brault, 2005; US Census, 2013). For the purposes of the present study, the variables of employment disability and mobility have been included in the descriptive part of the analysis. In the regression models, employment disability was considered as an important indicator of unemployment among PWD and was included in that part of the analysis. Census variables were categorical in nature. The main advantage of using categorical variables is that they can be directly entered as predictor or predicted variables in regression models. Variables were not additionally recoded because no additional categorical differentiation, apart from the original census categorization, would have favored the research hypothesis. For example, variables indicating minority status such as gender, race, and ethnicity were measured in both census collections. The independent variables were: education level, health and social coverage, employment, housing services and household conditions. Differences in the conceptual categorization were observed in variables of household characteristics and conditions. Mexican household data information was collected regarding access to sewer services, materials for home construction, and also information on the use of technological and internet devices, which are considered as indicators for living standards. In contrast, US household data indicators are house ownership, rent services, and the ownership of a car. These differences could not be equalized because they gave particular social and cultural descriptions of the local household standards.

Another core study variable is income. Income is considered important and a crucial generator of human capital that enables the access to different resource-opportunities (Kuklys, 2004; Berg & Ostry, 2011). Importantly, labor participation (i.e. employment and unemployment) will be a proxy variable for income on the premise that although PWD may derive some income from private insurance or government supports (largely SSI or SSDI in the U.S.), employment will be a critical differentiating factor for income 'status' in both countries . Both data sets contain information for the population participating in labor activities. The proxy variables will be used to compare the accessed goods and resources of the households with individuals with disabilities.

Socially disadvantaged areas will be considered those places with accumulated negative outcomes from the analyzed inequality variables. Bearing in mind the multidimensionality of poverty (CONEVAL, 2011), analysis of HHs with people with disability will not be limited to the financial ground of the social environment, but rather will consider education level, race, gender, HH characteristics, and age as part of the elements affecting the inequality picture (Chapter 1).

An important distinction that needs attention in this section is the differentiation of the measurement of inequality. Because disability is discussed as a variable dependent on socioeconomic environments, the comparative operationalization of economic inequality (especially poverty) for Mexico and the U.S is crucial to understanding the context in which disability intersects with access to social goods. Firstly, social inequalities in this study refer to contexts of relative poverty, i.e. contexts of deprivation that is relative to the standards of living of other members of the society. Inequality is understood as an uneven distribution of income, goods, and opportunities.

In particular, economic inequality of people is explained as: 1) "working poor" or people with minimal earnings 2) unemployment, and 3) deficit in human capital such as education, health, law training and skills, etc. (Karger & Stoesz, 2010). Secondly, Mexico and USA have different conceptual and ideological understandings of socioeconomic inequalities. The table below (Table 7) illustrates the major differences:

Table 7. Poverty measure: a comparative perspective

Poverty measure	
Mexico	USA
Poverty is income and non-income based	Poverty is income based
Based on unmet human rights	Based on the right for socioeconomic independence
Indicators: minimum food basket, education, social and health insurance, living conditions, use of public services (CONEVAL, 2011)	Indicator: measure of need according to size of family and age of the members (poverty thresholds) (US Census Bureau, 2010)

Thirdly, a comparative study by Bane and Zenteno (2005) on poverty between Mexico and the U.S. discuss the differences in poverty measurement as dependent on race and ethnicity. Moreover, the authors state that while poverty in the U.S. is determined by the characteristics of people living in the HH and vary dramatically by HH composition, poverty in Mexico is determined by the characteristics of the living places and *does not* depend on the number of household members (Bane & Zenteno, 2005).Despite the differences in poverty measurement, income inequalities are what

determine the pace of social development in each state (Bane & Zenteno, 2005).

Therefore, for both Mexican and the U.S. contexts, economic inequalities will be

categorized as a range of income differences between different urban localities.

Indicators of multidimensionality of poverty such as index of marginalization and

poverty will be used to capture the contextual discrepancies between the countries.

Further, decisions on data mining, as well as the development of homogeneity, and

meaningful nuggets of information, will provide sound rationale for the study's

analytical plan for comparing data between census units.

Target Population

Both census collections contain nationally representative samples with large

numbers of participants from both metropolitan areas. The metropolitan area of

Monterrey includes 9 municipalities with nearly 4 million people, whereas the Dallas–

Fort Worth–Arlington consolidated metropolitan area includes 12 counties with over 6

million people[4] (INEGI, 2004; Brault, 2012).

In general the target population includes:

1. Persons with disability.

2. Residents of the metropolitan areas.

These general inclusion criteria draw the overall profile of the researched subject. It

allows the addition of all number of participants from the census surveys. This step is

considered to be the first attempt for homogenized decision-making, based on clustering

of the subject participants. Within the census surveys, variables of disability and

inequality have been measured, and further visualized for face data validity.

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[4] A number of 6,371,773 residents (U.S census, 2010)

Unit of analysis

The household is used as the unit of social, demographic, and economic analysis of the current study. Household selection included:

1. Households with people with disability located in the two metropolitan areas.
2. Households with persons with disability as a part of a minority group.

Limiting the target population to a metropolitan level permits greater focus and representation of the results allowing greater generalizability and decrease in the risk of bias and measurement error.

Homogenization

A clustering strategy was used to organize the census into consistent and homogenous groups (Table.8). In doing so, socioeconomic contexts were divided into two income categories: low and high. The latter decision was taken so that the relative comparativeness of income zones corresponding to each socioeconomic state can be further calculated. Further detailed discussion on the income categorization will be made in chapter 5.

Table 8. Homogenization

	Accessibility Indicators	Race	Age	Ethnicity
Income categories (low/high)	Disability Concentration			

In this study, two types of comparisons will be discussed. First, inter-state comparativeness of all disability groups will discuss the similarities and the differences in the demographic trends in disability. Second, intra-state comparison will look for relationships and associations between the study variables so that deeper understanding of the local patterns of disability could be further explored. Lastly, both types of comparison will bolster the study discussion with enhanced knowledge in disparities in disability factor interactions.

Limitations

The major limitation of the data management plan is the use of different census data sets. On the positive side, data combination and comparability widened the horizon for data triangulation and external validity of the analysis. However, there are challenges occasioned by barriers in cross-cultural comparisons which are mostly sensitive to policies, strategies, and personal experiences of the respondents. This supposition is strongly supported by Palmer and Harley (2011), who observe that even in the case of common survey design and research objectives, the analysis of international comparative data will always have a certain level of expected non-relevance of interpretation and conclusion of the results, due to the cultural heterogeneity of the participants' responses. In other words, those data are best interpreted in the local context.

Accessibility approach to disability

In an attempt to understand the effect of the latter factors on social accessibility of individuals with disability, a hypothetical model of accessibility is suggested. Core assumptions for the proposed model construct are:

A. Greater social accessibility is observed in less economically disadvantaged areas.

B. Less social access is observed in socioeconomic disadvantaged areas.

C. Social accessibility increases with the increase in the socioeconomic status of the households with individual(s) with disability.

D. Social accessibility decreases with the decrease in the socioeconomic status of the households with individual(s) with disability.

The proxy variables describing the concept of social accessibility of people with disability on a household level (HH) are welfare, (geo) context, and demographics (Figure 4). Their conceptualized definition is as follows:

- Proxy for "Welfare" includes variables of socio-economic (dis)advantage e.g. income, poverty, financial benefits from welfare programs, etc.

- Proxy for "(Geo) context" includes variables describing the social environment and the living conditions of the households, e.g. house ownership, having/not having basic house facilities, etc.

- Proxy for "Personal characteristics" includes variables regarding socio-demographic characteristics such as: health status, age, gender, race, and family characteristics.

Figure 4. Model design
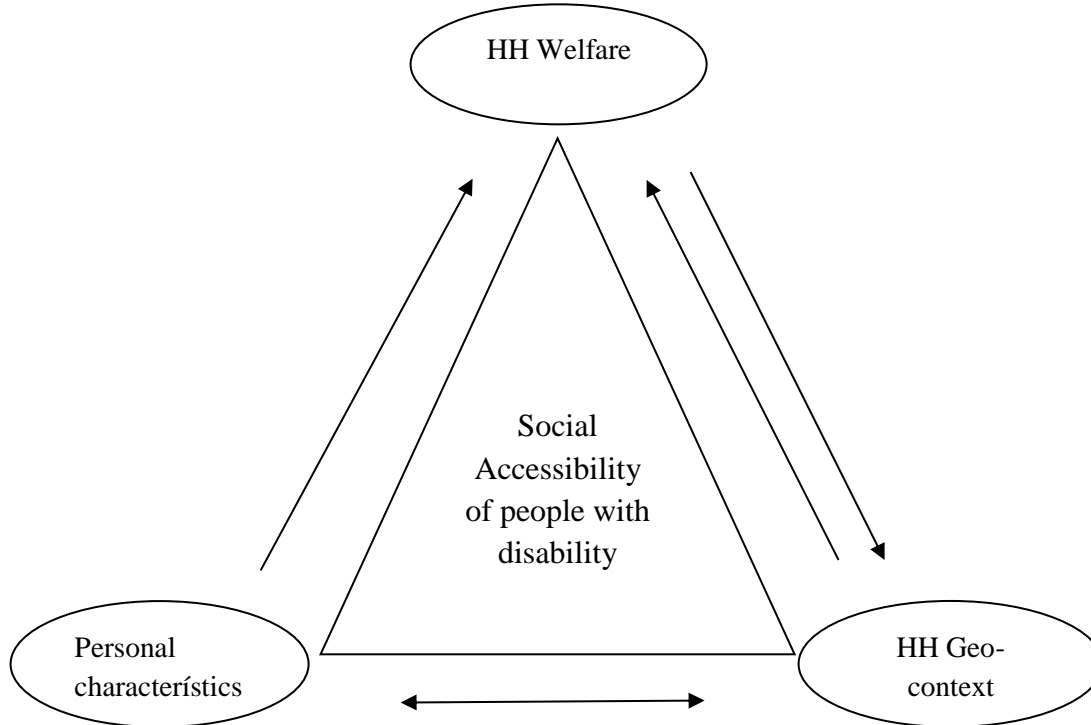
Disability analysis permits a discussion on a household level (Kuklys, 2004). As

previously discussed in the literature review, two variable domains - "personal

characteristics" and "geo-context" are influencing welfare standards of HHs with PWD

(Schteingart & Sáenz, 1991; Kyklys, 2004; Rosano et al, 2009, WDR, 2010). In

addition, the "welfare" group of variables also has an equivalent impact on the living

conditions (i.e. HH geocontext), and a subsequent indirect impact on the personal

characteristics of PWD (Tibodaux, 2005; Lusting & Strauser, 2007; Ozawa & Yeo,

2008) (see figure 4). Lastly, all three domain elements contribute to the overall level of

performed accessibility measured by indicators of disability prevalence, service

coverage, level of education / school enrollment, and labor participation, just to name a

few (U.S. Census, 2000; Mont, 2007; INEGI, 2010).

Rates of "low-high" accessibility indicates the levels of social access in the model. Accordingly, high level of accessibility will be observed when there is high levels of social participation in educational, leisure and labor activities, and access to health, and housing services, and public facilities. In contrast, low accessibility will be indicated by the low levels of participation and access measured by the listed indicators (Albert & Hurst, 2004; Barnes & Mercer, 2005; WRD, 2010)

The hypothesized model of accessibility of the present study can therefore, be discussed as a function of social, spatial (environmental), individual, and monetary factors. Assuming that f is modulated by the particular place, the accessibility set (Ah) enabling the social inclusion of PWD is identified as:

$$((M_h)\ (X_h)\ /\ p_h = f\ (A_h)$$

Where M_h, is the vector of the monetary determinants of the household; X_h is the vector of the characteristics of the household; and p_h is the vector of the characteristics of the place where households with persons with disabilities are located.

Subsequently, at an individual level, the equation can be formulated as follows:

$$X_i\ (D_i) = f\ (A_i/p_i)$$

Given the formula, disability condition (Di) of a person is explained as an in-place (local) vector of accessibility. At the household level, the simultaneous use of various measures of disability access such as education and employment can provide indicators of the relative level of household development (i.e., low, medium, or high). Thus, in areas with greater educational attainment and job participation of individuals with

disability, the development of HHs with PWD will be higher, compared to areas of people with disability with lower educational attainment and lower job participation. This in turn, has important implications for the access to social goods.

Methods of Data Analysis

A two-phase geostatistical analysis was used for the proposed data analysis plan: (1) descriptive, and (2) analytical. The first phase involved research decisions regarding the comparative adjustment of the data. This phase provided the analysis with demographic characteristics of the households in both metropolitan areas. Hot spot analysis facilitated the identification of locations with high concentration of disability occurrence. Thereafter, the analysis identified clusters of economically disadvantaged and marginalized areas in the cities.

In the second phase, spatial analysis integrated a regression framework of spatial dependence. The analysis permitted the identification of spatial trends in disability prevalence related to social and economic inequalities. Specifically, the effect of the socioeconomic dependence on household characteristics and conditions, education, employment, and health coverage were tested with expected positive relationship between the degree of household income and the level of household well-being. In other words, low HH income will be associated with lower levels of education, poor living conditions, lack of health coverage, and so forth. Separate regression models evaluated the gender, race, and ethnic disparities of disability prediction.

Two software programs were used in the process of data analysis: (1) GeoDa v.13.0 was used for computation and analysis of the geostatistical data, and (2) ArcGIS v.10.1 was used to create maps and analysis of the created map information.

<div align="center">Research Hypothesis and Rationale</div>

Considering the literature review and the theoretical framework presented earlier, the following are the central hypothesis explored in the study:

- Hypothesis 1. Households with people with disability will have higher concentration in low income environments and less access to social services compared to those living in high income environments.

Rationale for Hypothesis 1: (1) Low household income is less favorable for people with disability because of the limited set of buyable resources that would positively influence the living and the healthcare standards of the HH members. (2) As observed in societies with greater social disadvantages, income inequality and poverty describe the reality of the majority of people living with disability. Therefore, despite the economic force of the USA and assuming that there are county areas within metropolitan Dallas where people live with less available income resources than people in non-disabled condition, disability prevalence and patterns should show similar trends. (3) Finally, low HH income negatively shapes the living conditions of individuals with disability and amplifies the severity for disability prevalence.

The hypothesis includes households with people with disability in both metropolitan areas, noting that households in disadvantaged economic conditions are at a greater social risk. Therefore, these disadvantaged households require more social attention and

service provision. The idea of the nested disability and poverty structure has been explicitly supported by the 2010 WHO world report on disability and by earlier reports of the Department for International Development (2000).

- Hypothesis 2. Social inaccessibility and disability prevalence will be higher among women and minorities.

Rationale for Hypothesis 2. (1) It is anticipated that people with disability implicitly experience attitudes of discrimination. However, certain social groups such as women and minorities are highly vulnerable to social mind-sets and behavior. A reason for the hypothesis assumption is that sometimes non-disabled people develop negative attitudes towards women and minorities on the basis of socially and culturally implicit underestimation of their abilities, and the view that they are less valuable than the rest of the society. (2). As a consequence, these pre-developed attitudes and understandings of minorities and women worsen the severity of the already existing barriers for individuals with disability. It is expected that due to their double disadvantage, minorities and women with disability have lower success in accessing social services, job participation, educational attainment, etc., compared to men or individuals who are not part of any minority social groups.

Although, the focus of the present study is neither gender, nor minority populations, it cannot be denied that both elements are critical factors in addressing disparities related to disability discussed in the empirical studies. The impact of these elements on disability will be discussed in chapter five.

Summary

Based on the extant empirical evidence and literature on cross-national and comparative studies of disability, inequality and accessibility are deemed insufficient to frame a comparative study of disability in the U.S. and Mexico. The research design, study variables, conceptual framework, and data comparability are therefore, constructed in such a way that it addresses possible research bias and confounds. In order to make the research framework more robust, the comparison was designed to conduct a parallel study of disability trends. The hypotheses of the study inform the expected relationships of the arguments anticipated in the problem framework and the theoretical discussion. Finally, informed by a model of accessibility articulated previously, the study explored disability as a complex problem, described in terms of both interrelated and dependent geo-contexts, local disparities, and local welfare standards.

CHAPTER 5

RESULTS

This chapter reveals the results from a geospatial statistical analysis of the

census data from two context-specific regions: Dallas and Monterrey, and provides

critical discussion of the respective outcomes. The chapter is divided into a number of

sections and sub-sections that correspond with the sections in the proposed plan for

study analysis in chapter 4. As this study has followed a predominantly interpretative

approach to discuss disability matters, the initial statistical analysis provides descriptive

information on the concentration and characteristics of the households with disability in

both metropolitan areas. The descriptive statistics then, form a useful platform to launch

the spatial interference that helps to explain the study hypothesis.

Methodological note

One of the initial important methodological decisions relates to the selection of

concrete geographical areas containing data on a tract level. While the analysis included

all census tract areas considered as a part of the urban metropolis of Monterrey, the

decision regarding U.S. census tract level areas demanded additional analyses. Because

the Dallas metroplex includes 12 counties, the researcher decided to select the biggest

and the most populated one – the Dallas county (2,218,899 residents) (Weinstein &

Clower, 2004). This decision aimed to enhance the parsimony and the

representativeness of the sample data.

Specifics regarding the Mexican data set

There were two distinct solutions used to correct the coordinate systems of INEGI

shapefiles and .CSV files.

INEGI[5] shapefiles

The process of analysis started with the following problems:

1) The INEGI shape files were projected, but the coordinate system used was not

defined.

2) As specified in the ESRI discussion forum

(http://forums.esri.com/Thread.asp?c=93&f=984&t=273181), INEGI does not

use a standard projection system built into ArcGIS projection library.

INEGI .CSV File

A second problem that occurred was related to the Latitude (Y) and Longitude (X)

fields in the CVS tables. They were indeed latitude and longitude degrees using the

geographically referenced NAD 83 system, but the punctuation were left off.The listed

issues did not allow the visualization of the outcomes using the Arc GIS 10.1 software

program, therefore the following decisions were made to solute the problems:

1) An adapted PRJ file was created and used as a reference using the projection

information provided here

(http://forums.esri.com/Thread.asp?c=93&f=984&t=274713).

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[5] Instituto Nacional de Estadistica y Geografia (INEGI), Mexico

2) The he latitude values were multiplied by .0001 and the longitude values by -.0001 (to specify west of the prime meridian). Then, when displaying XS data within ArcGIS, NAD 83 was specified as the geographic coordinate system.

3) The INEGI shapefile was adapted to metropolitan municipalities-only: Apodaca, Cadereyta Jiménez, Carmen, García, San Pedro Garza García, General Escobedo, Guadalupe, Juárez, Monterrey, Salinas Victoria, San Nicolás de los Garza, Santa Catarina, and Santiago (Conapo, 2010).

4) Along with Census data, DBF files were merged to the shapefile. An Excel file with data on the Index of Urban Marginalization (IUM) at the census tract level downloaded from the National Population of Mexico (Consejo Nacional de Población (CONAPO) was also added. Lastly, tract areas with non-habitants (i.e. rivers, mountains, industrial zones, etc.) were excluded from the metropolitan shapefile.

<div align="center">Specifics regarding the U. S. data set</div>

The changes made within the American data set were:

1) Inclusion of an additional ID field to the Dallas county shapefile (tract level) so that further joints with the CVS data files could be successfully done.

2) Variables from different CVS tables were renamed (see variable list in Appendix 1) to identify the variables by their categories and to avoid further confusion in the common data table.

Descriptive statistics

This section of the analysis sought to gather data on the demographics of the research population so as to understand factors such as disability disparities, disability prevalence, and characteristics of the context-specific trends. The results are displayed in the table below.

Disability concentration in Texas and Nuevo Leon

Consistent with the discrepancy in disability numbers between both states (see table 1, pg.14), the density gap between people with disability residing in both metropolitan areas showed to be significant as well (see table 9).

Table 9. Number of people with disability in Nuevo Leon and Texas

	Nuevo Leon	Texas
Total number of people in the state	4 653 458	18 761 465
PWD	185 427	3 605 542
Percentage of PWD	4%	19.2%

The numbers demonstrated that Texas is four times more populated and with 19% higher rates of people with disability than Nuevo Leon. Particularly, the percentage of people with disability in both states is similar to the national disability trends (see chapter 2). Compared to the national average of 19% in the US, the percentage of PWD in Texas is 19.2% whereas for Nuevo Leon, PWD is estimated to be 4% compared to the national trend of 5.1% in Mexico.

Disability, gender and age

Table 10 shows the comparison of disability distribution by gender. The results demonstrated that for both geographic areas, there were only small differences of disability prevalence by gender. In both geographic areas, men showed to have slightly more prevalence of disability than women. However, there were age-specific gender differences among PWD.

Table 10. Disability and gender

	Monterrey MA, N.L.		DFW MA, Texas	
	Total	Percentage	Total	Percentage
Men	93 599	50.5%	1815503	50.3%
Women	91 828	49.5%	179 0039	49.7%

Seniors over 65 years in both metropolitan areas showed to have higher prevalence of disability among both males and females. However, for Dallas County, this group had higher prevalence than the one in Monterrey (table 11). Likewise, the largest group of people with disability among men and women in Monterrey is of people between 16-64 years. Of concern is the fact that disability reiterate the working age group of PWD in Monterrey, as compared to Dallas County, where disability appears to prevail among elderly populations (table 11).

Table 11. Disability, age, and gender

	Men			Women		
Age	Over 65	16-64	Below 15	Over 65	16-64	Below 15
Monterrey MMA, N.L.	18.8%	26.14%	5%	22.2%	23.6%	3%
DFW MMA, Texas	43.2%	19.2%	6.5%	45.9%	17.8%	4.1%

Disability, race and ethnicity

Additionally, there are differences in the prevalence of disability among different racial

and ethnic groups (figure 5).

Figure 5. Disability and race, Dallas County
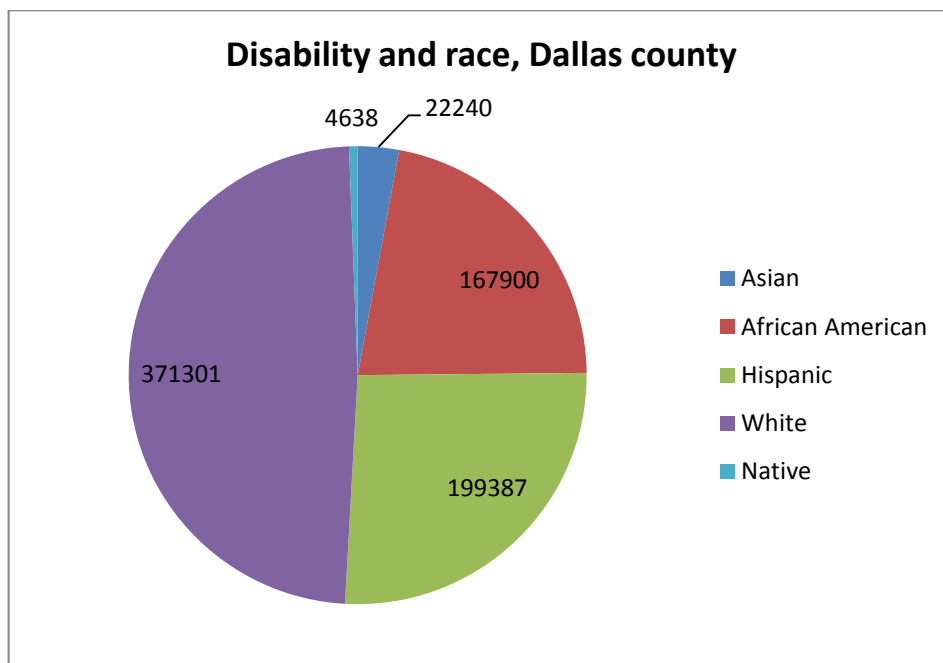
Figure 5 shows the number of people with disabilities in each racial category in Dallas

County. As illustrated in the figure, Whites were more likely to have disability among

all racial/ethnic groups. Among the minority groups however, the rate of disability was

higher among the Hispanic and African American groups. Further, ethnic differences in terms of disability in Dallas County can also be observed by their geographic location (see Map 1).

Map 1. Race and Disability map, Dallas County

Race and Disability, Dallas county

Legend
2,700
AVD01
BVD01
HSVD01
NVD01
WVD01

0   3.5   7   14 Miles
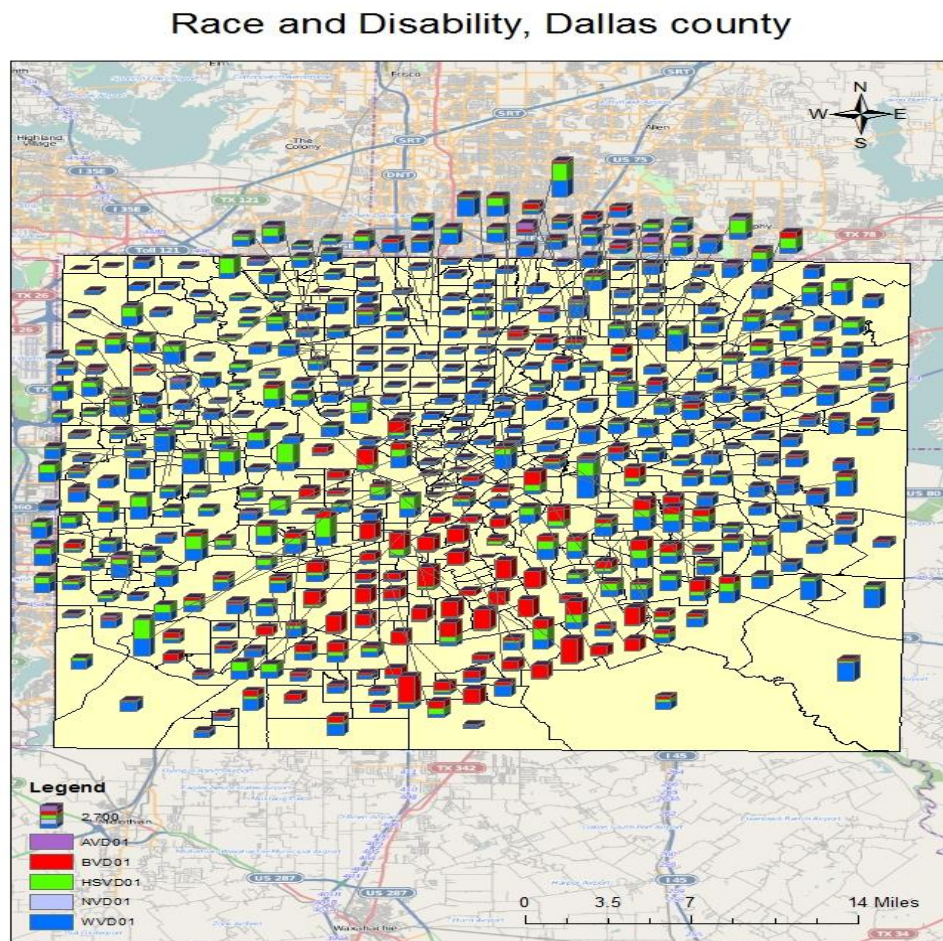
As shown in the map above, PWD who identified themselves as White covered a large geographic span in the county. However, the rest of the racial groups were not significantly represented in the county areas. Spatial patterns of population concentration (clusters) were observed among African Americans and Hispanics (map

1). Likewise, in the metropolitan area of Monterrey, indigenous people showed a high

concentration in the border sides of the city indicating a pattern of spatial

marginalization (Map 2).

Map 2. Ethnic concentration in Monterrey MA
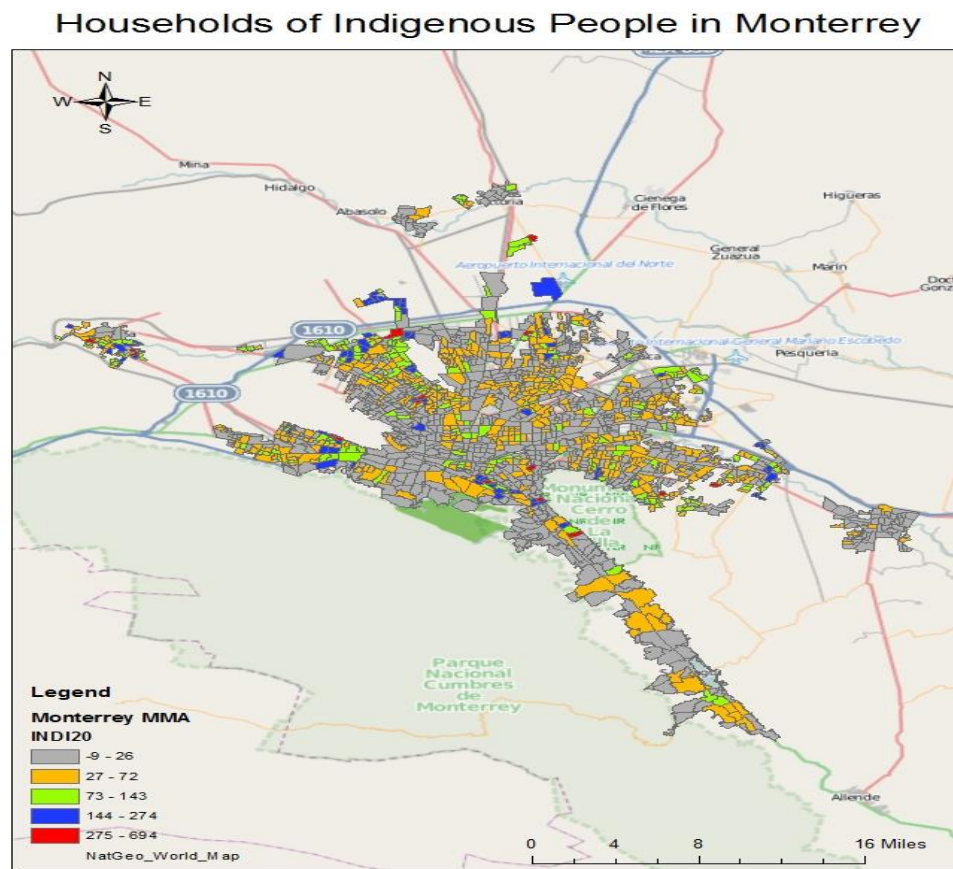
Compared to Dallas county, where the minority groups are more than one, the ethnic

pattern in Monterrey is represented only by an Indigenous group of people, who

represent a small part (124 households (N=2312)) of the total number of the

households in the metropolitan area.

Disability, Poverty, and Marginalization

The two important indicators, poverty and index of marginalization, have been used in the analysis as possible proxy predictors of disability in both geographic areas. In specific, poverty (as described in Chapter 4) is the index used by the US Census Bureau to determine if a family or an individual lives below the minimum level of well-being required by the state. According to the data released by the US Census Bureau, in 2000, the median household income in Texas was $39,842 compared to the national average of $42,148. Additionally, for the period between 1999 to 2001, the average poverty rate in the state was 15.2% (US Census Bureau, 2000). The analysis showed that more than half of the householders with a disability in Dallas county (n= 20,051) lived below the poverty line as compared to 36,824 householders with no disability. Moreover, map 1 and map 3 overlay an interesting pattern of clustered areas of people with disability in the county and households with disability members who live below the poverty line. The visualization of the data clearly indicates that minority group areas are the areas with a greater concentration of households with PWD living below poverty.

Likewise, in Monterrey, the level of deprivation was measured by the index of urban marginalization. Data from the National Population Council (Conapo) for 2010 was added to the metropolitan data set so that the index could be further used as a predictor of the outcome variable of the study. Depending on the degree of marginalization of the urban municipalities, the index was classified as Very Low, Low, Medium, High and Very High. The variable composition of the index includes factors such as education, household conditions, access to health care, and child mortality rates (Conapo, 2010). Thus, areas with people with high values of the index indicate

marginalized populations with low/no education, limited access to health services, high

child mortality rates, and poor household conditions.

Map 3. Disability and Poverty in Dallas County
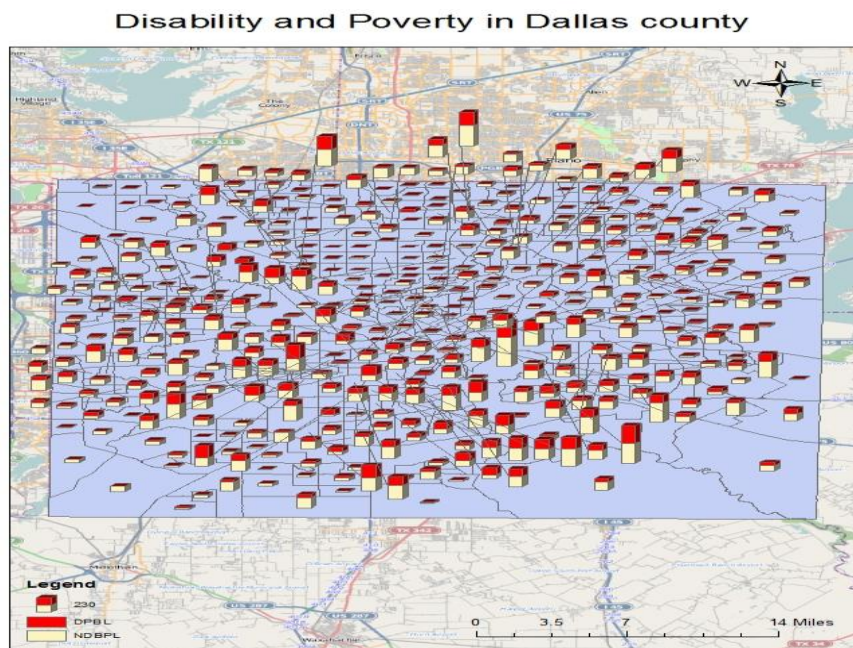
The geographical illustration of the index of urban marginalization (IUM) in Monterrey

showed patterns of concentration of people living in greater disadvantage (high values

of the index), primarily in the border part of the metropolis. Additionally, "islands" of

urban marginalization were also observed within some central and semi-central areas of

the city (Map 4).

Map 4. Index of Urban Marginalization

Index of Urban Marginalization
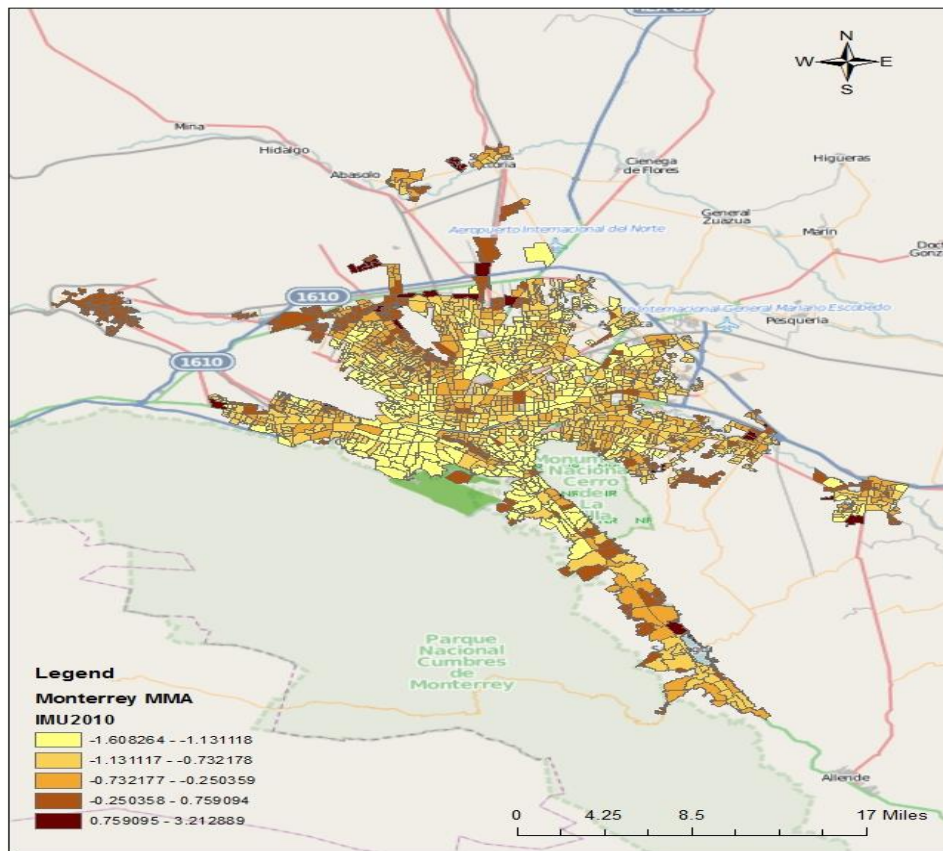
Disability type

A comparison of disability by type in both areas is summarized in the following table:

Table 12. Type of disability

Monterrey (state data)	Dallas county (5-65 years and over)

Type of limitation	Number of people	Type of limitation	Number of people
Difficulty seeing	41 179	Sensory disability	12 985
Difficulty hearing	14 912		
Difficulty walking	79 660	Physical disability	3 766
Difficulty remembering	6 679	Go outside home disability (16-65 yeas and over)	97 304
Self-care difficulty	9 619	Self-care disability	708 566
Difficulty communicating	13 678	Employment disability (16-64 years)	4 090
Mental disability	17 747	Mental disability	565 404

Disability prevalence by type of limitation differed between both metropolitan areas. For Monterrey and the state of Nuevo Leon, the highest disability prevalence was observed among people who had difficulties seeing and walking. For the Dallas county area, disability was primarily a matter of self-care and limitations related to a mental health condition.

Education, employment, household characteristics and health coverage

Table 13 summarizes and compares the numbers of demographic variables: education, household characteristics, employment and health coverage.

Table 13. Education, household characteristics, employment and health coverage

Variable	Monterrey	Dallas county
Education		
Illiterate population (over 15years)	80 949	
Female: with disability- not enrolled in school		213 798
Male: with disability- not enrolled in school		59 853
Household characteristics		
Households with no social goods*	2 859	
Households with more than 2.5 people/bedroom	208 413	
House owner with no vehicle		14 073
House renter with no vehicle		51 175
Employment		
Female: with employment disability: not employed		32 580
Male: with employment disability: not employed		35 108
Female: with disability: unemployed		64 508
Male with disability: unemployed		55 763
Total unemployed	80 156	
Health coverage		
No health coverage	901 029	

* Source: Conapo (2010): Electricity, water, household utilities, car, telephone, TV, computer, internet.

Aligned with the hypothesis 1 of the study, the variables set out the assumption that social goods and services such as low/no education, employment, and health coverage along with poor household assets contribute to the increased prevalence of disability in both geographic areas. The synchronization of the variables for both data sets was based on a relative rather than an absolute operational match. Importantly, variables accounting for health coverage data for Dallas County were not available on the tract level. A substantial difference was the use of different variables of household characteristics. For Monterrey, two variables indicating poor living conditions were selected (Conapo, 2010), while for Dallas county, house ownership and vehicle disposition were the corresponding variables from the American data set (see Chapter 2, Turner, Herbig, Kaye, Fenderson, & Levy, 2005).

Spatial analysis

The analysis continued with identification of statistical landmarks of spatial autocorrelations and spatial relationships in both urban areas. This second phase of the analysis was subdivided into 3 sub-stages: 1) Identification of spatial autocorrelation patterns (Global and local Moran's I) (GeoDa); 2) Testing Spatial lag and Spatial Error regression models to eliminate spatial dependencies (GeoDa), and 3) Geographically Weighted Regression (GWR) method used to illustrate the causal effects of the factor variables on the prevalence of disability in both areas (ArcGIS).

Spatial autocorrelation Spatial dependence exists when the value associated with one location is dependent on those of other locations, i.e. resulting from spatial interaction effects (Chun & Griffith, 2013). Because the study inferences are based on

the assumptions of independence, the presence of spatial autocorrelation is likely to bias any resultant inferences. The two possible spatial effects were between the error terms of the dependent variable (1) or between the values of the dependent variable (2), i.e. dependent variable at one point in space might be related to its values at different locations in the are

(1) Spatial error effect
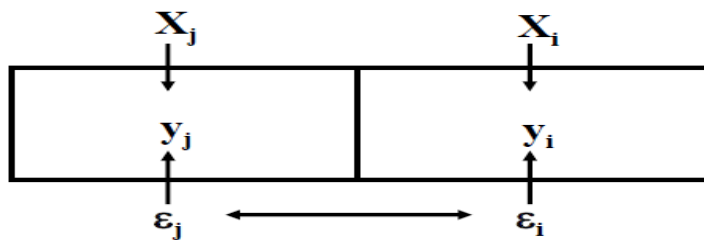
(2) Spatial lag effect
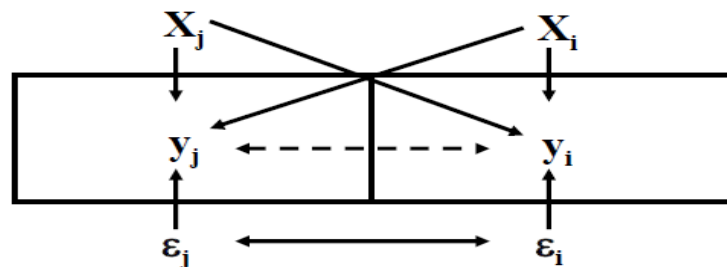
 Moran's I statistical test of spatial autocorrelation (dependence) was used to examine dependencies within the sample observation for both geographic areas. Index value range is from -1 to 1, where -1 means negative autocorrelation ("islands" of correlated outcomes in a place), value of 0 – no autocorrelation, and values of 1 meaning positive autocorrelation (clustering trends/patterns of spatial dependencies). Furthermore, Moran's scatterplot and hot spot maps illustrated the existing relationships between the spatial data variables employed in the analysis.

Disability clustering

The results of the spatial autocorrelation analysis rejected the null hypothesis for no spatial clustering of disability values associated with the geographic features in both study areas. P-values were small and significant, even after randomization of the values (after carrying out 9999 permutations). Moreover, the absolute value of the Z score was large enough to fall outside of the desired confidence level (see below figures 6 and 7).Global and Local (LISA) Moran's index were used for a thorough understanding of the spatial association and processes in both geographic areas.

Figure 6. Global Moran's I for disability in Monterrey
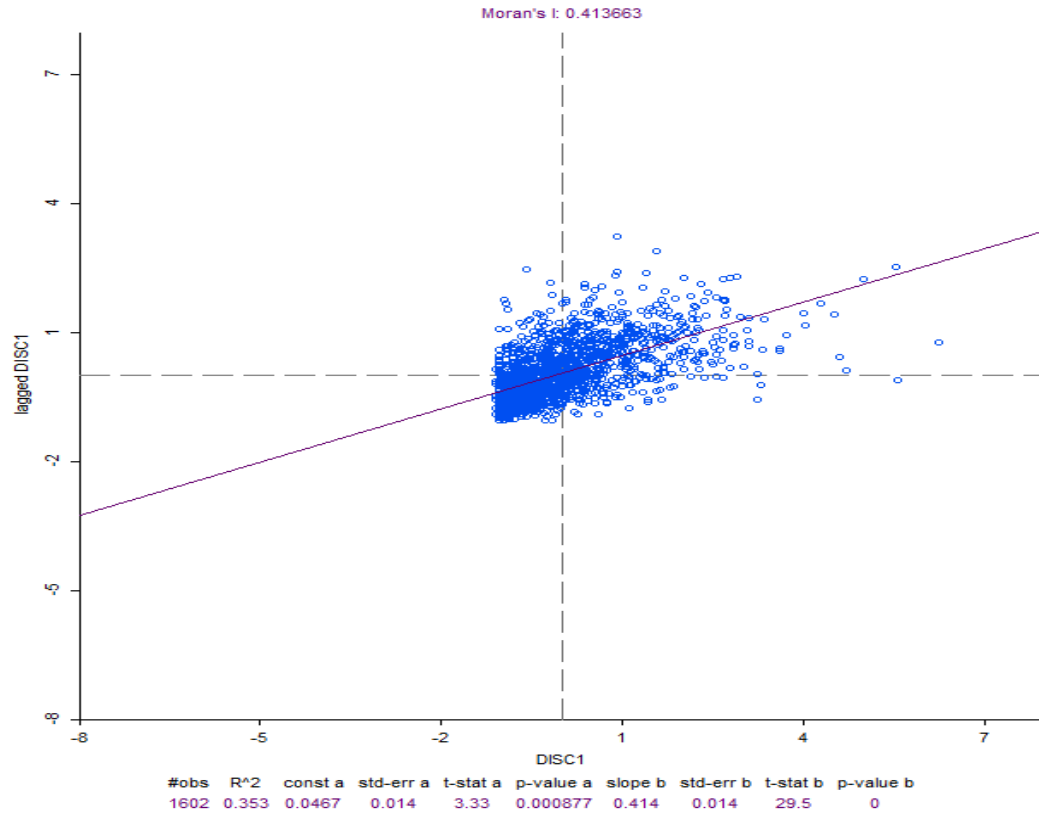
Figure 7. Randomization (1)
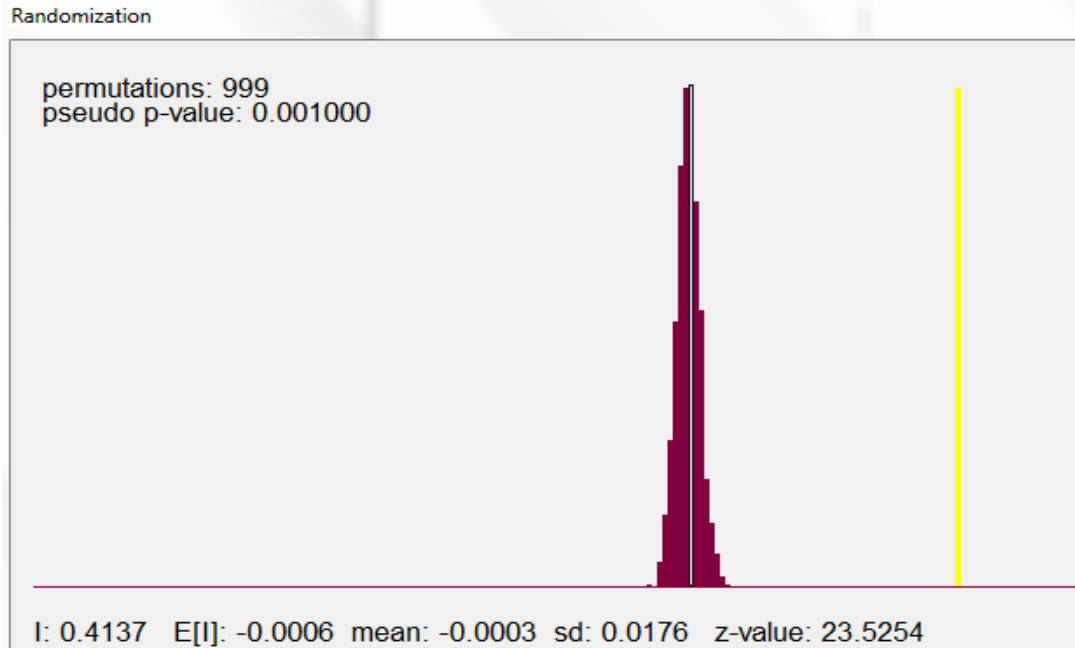
Global Moran's I provided the overall pattern of the spatial association based on simultaneous measurements from many locations, while LISA provided an indication of the extent of significant spatial clustering (existence of pockets or "hot spots") of similar values around that observation (Auselin, 2005).

Map 5. Local Moran's I of disability prevalence in Monterrey
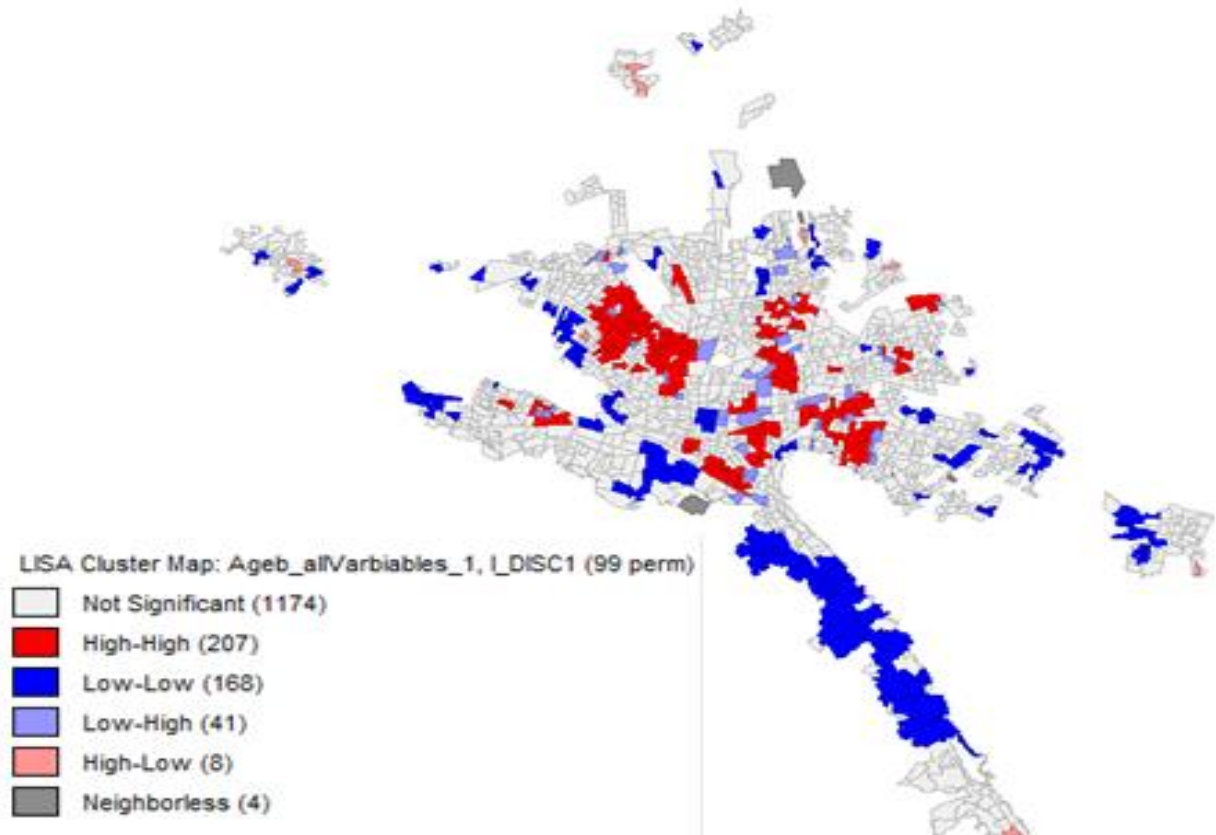
The result showed positive autocorrelation (Moran's I = 0.41, *p*-value: 0.001) and

indicated areas with high disability clusters in inner urban zones of the Monterrey

metroplex (see Map 5). Likewise, results from the spatial autocorrelation test for

disability in Dallas county indicated positive spatial patterns (Moran's I = 0.368, *p*-

value: 0.001) and disability clusters located in the southern part of the county (figures 8

and 9, Map 6).

Figure 8. Global Moran's I for disability prevalence in Dallas County
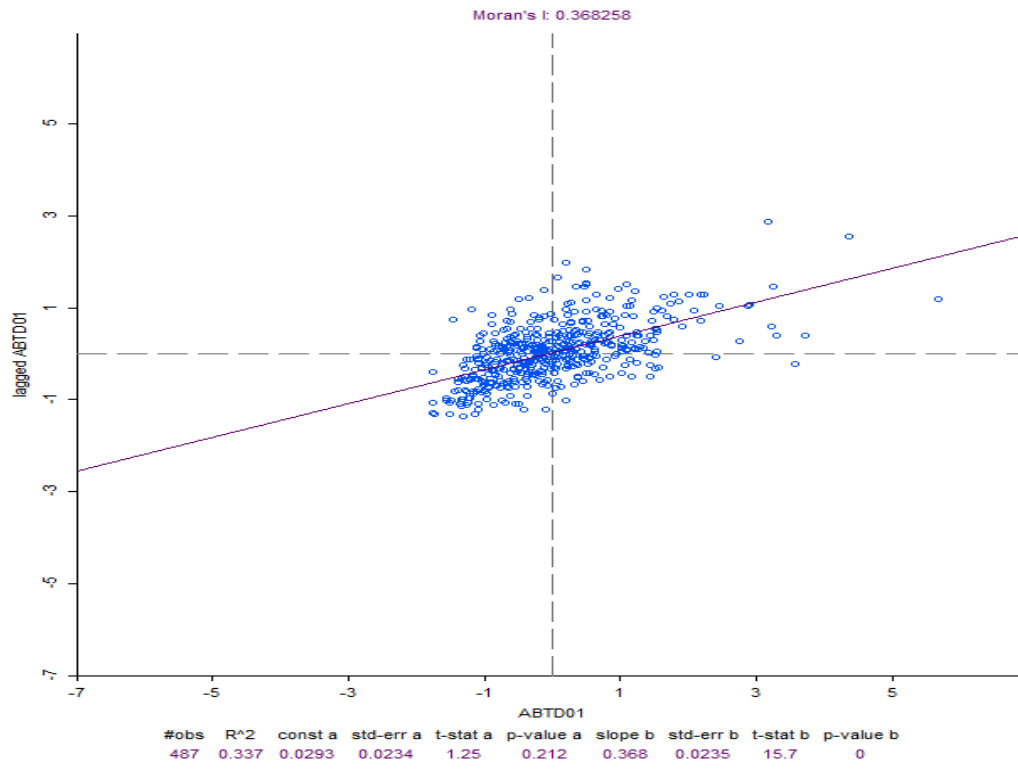
Figure 9. Randomization (2)
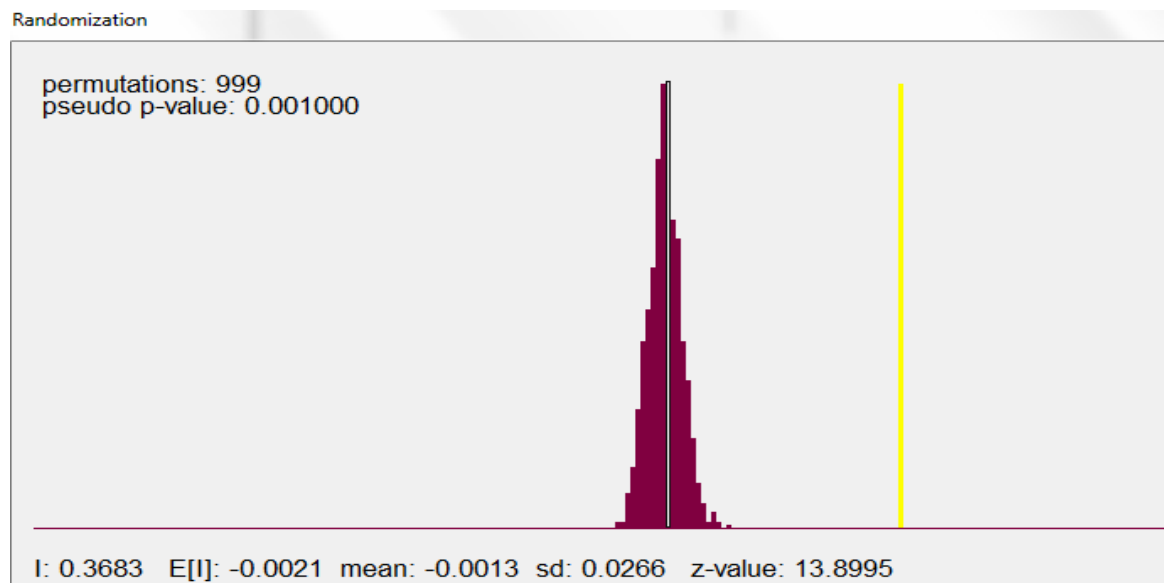
Interestingly, the hot-spot analysis indicated similar spatial patterns observed in both geographic areas. Higher clustering of disability concentration was observed within central and semi-central metropolis zones. Additionally, greater patterns of disability clustering were observed in Monterrey than Dallas County as indicated by the Global Moran's I (0.41 vs. 0.36).

Map 6. Local Moran's I of disability prevalence in Dallas County

LISA Cluster Map: DALLAS, I_ABTD01 (99 perm)

☐	Not Significant (350)
■ (red)	High-High (51)
■ (blue)	Low-Low (66)
■ (light blue)	Low-High (11)
■ (pink)	High-Low (9)
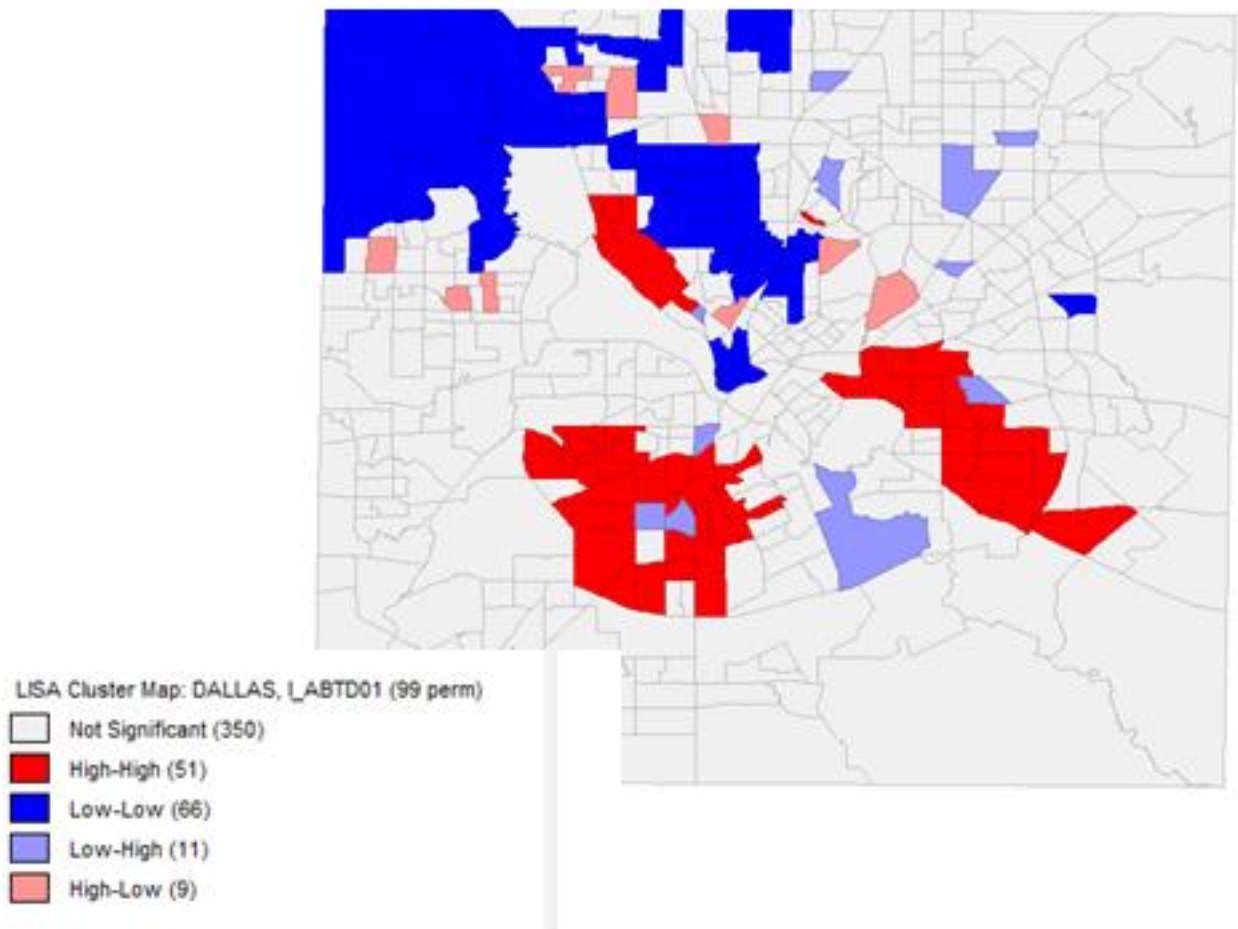
Spatial patterns of poverty and urban marginalization

The outputs of the spatial autocorrelation test of IUM and poverty in both urban areas indicated positive autocorrelations, i.e. clusters of areas with people living below the line of poverty (Dallas County: Moran's I= 0.469; *p*-value: 0.001) and being marginalized (Monterrey: Moran's I: 0.52, *p*-value: 0.001) (see figures 10 and 11).

Figure 10. Global Moran's I of IUM, Monterrey

#obs	R^2	const a	std-err a	t-stat a	p-value a	slope b	std-err b	t-stat b	p-value b
1602	0.447	-0.0135	0.0145	-0.93	0.353	0.521	0.0145	35.9	0
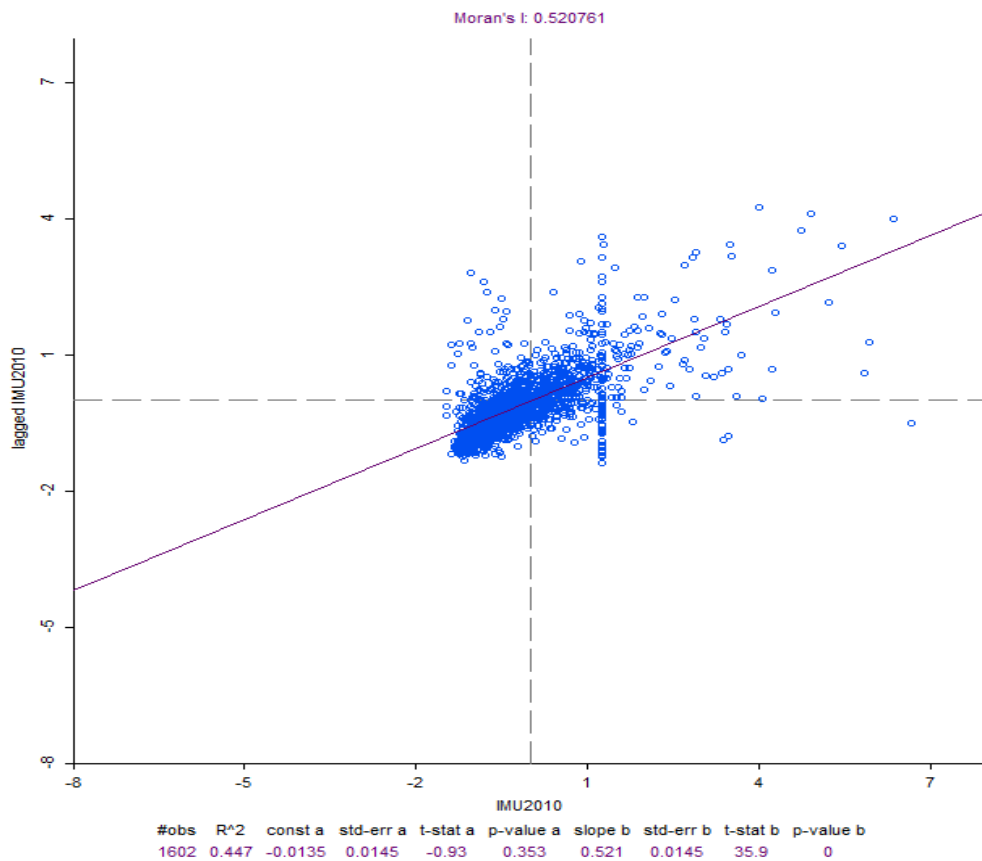
Figure 11. Randomization (3)
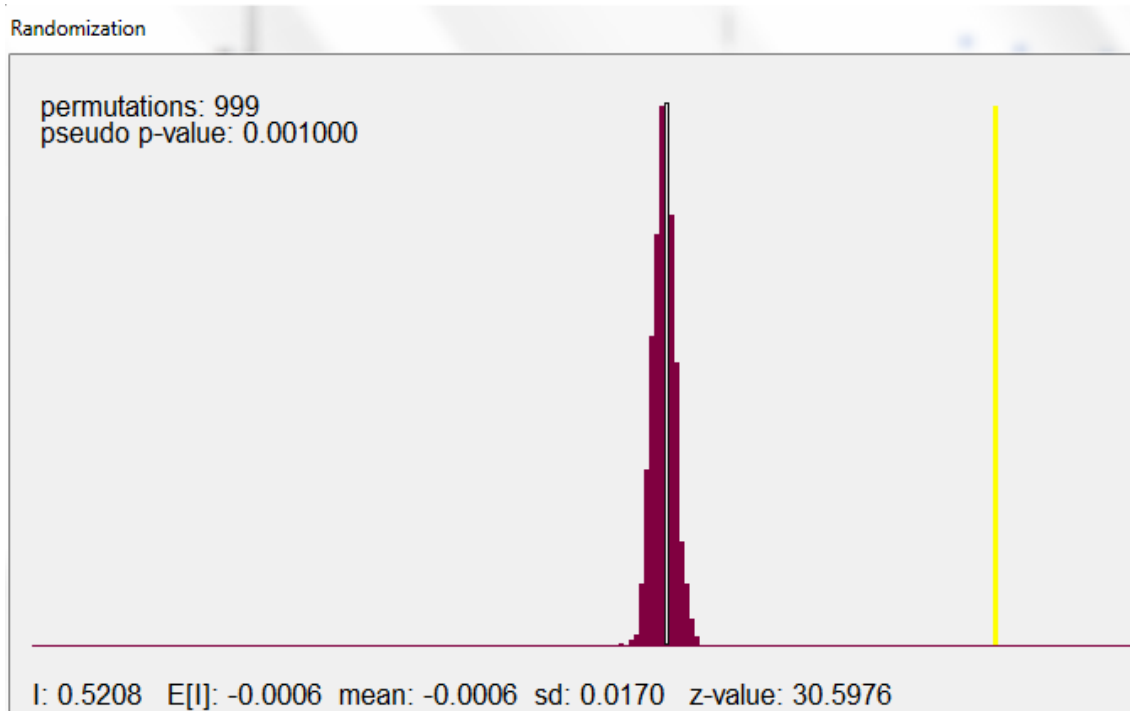
Note: The straight line in the Moran's I scatter plot is due to data misspecification (IMU was indicated in tract areas with low probability of living in the area habitants).

The results of LISA for IUM showed high concentration of areas with high IUM values. As observed in the LISA cluster map (see below Map 7), 148 track areas were identified as hot-spots of high marginalization, primarily located in border areas of the Monterrey's metropolitan area.

Map 7. Local Moran's I of IUM in Monterrey

LISA Cluster Map: Ageb_allVarbiables_1, I_IMU2010 (99 perm)

- Not Significant (1123)
- High-High (148)
- Low-Low (286)
- Low-High (23)
- High-Low (18)
- Neighborless (4)
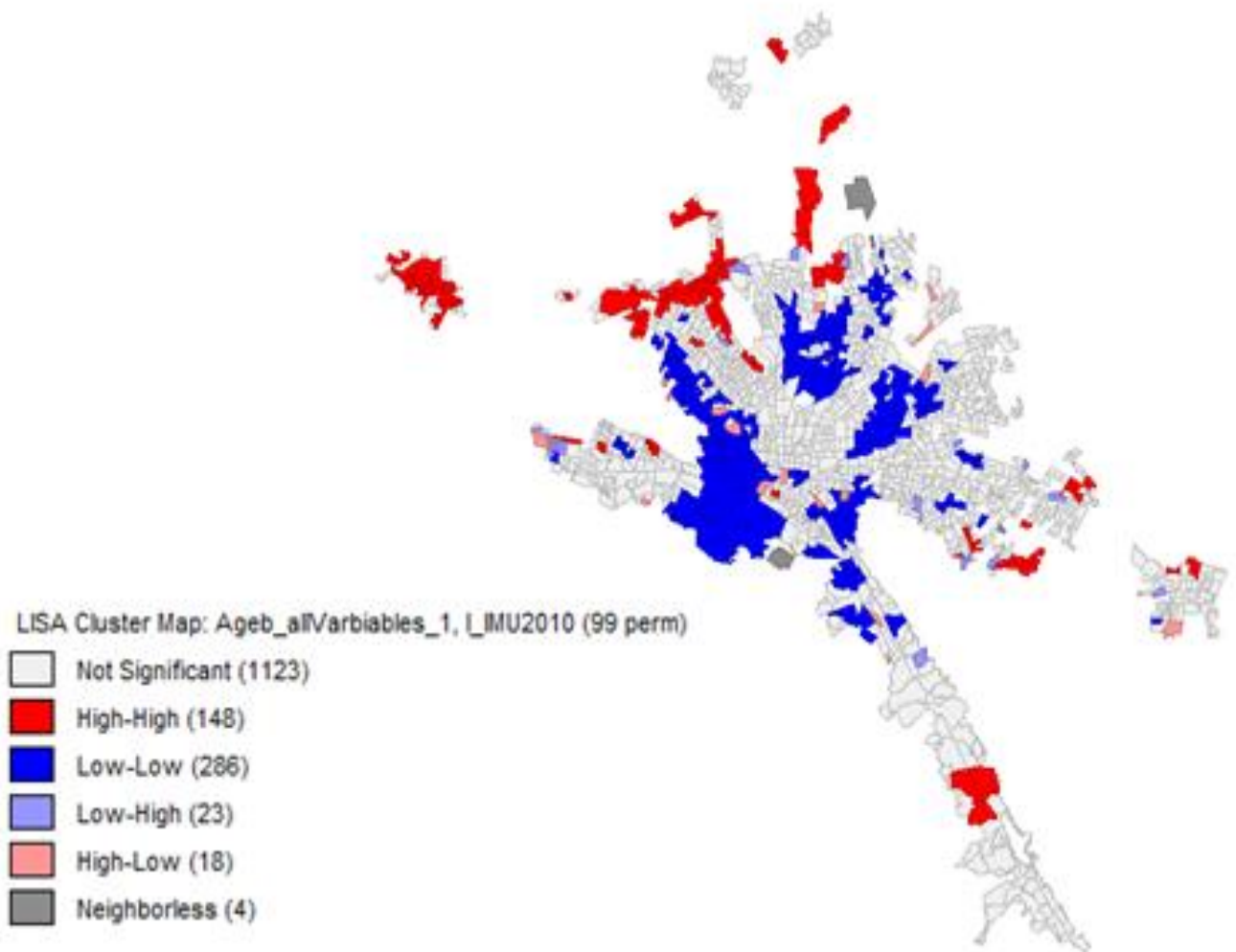
Similar to the disability spatial patterns discussed in the previous section, poverty indicator in Dallas County showed lower clustering trends as compared to the IUM in Monterrey.

Figure 12. Global Moran's I of poverty and disability, Dallas County

#obs	R^2	const a	std-err a	t-stat a	p-value a	slope b	std-err b	t-stat b	p-value b
487	0.463	0.00609	0.023	0.265	0.791	0.47	0.023	20.4	0
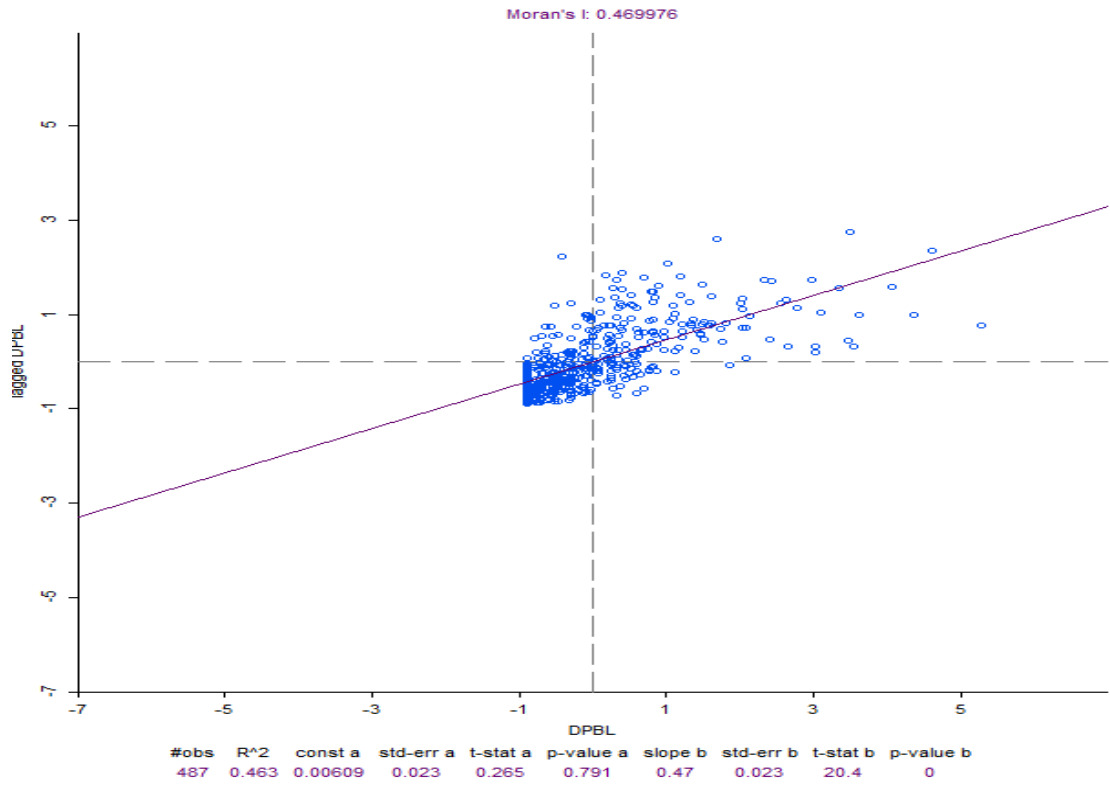
Figure 13. Randomization (4)

Randomization

permutations: 999
pseudo p-value: 0.001000

I: 0.4700   E[I]: −0.0021   mean: −0.0010   sd: 0.0258   z-value: 18.2651
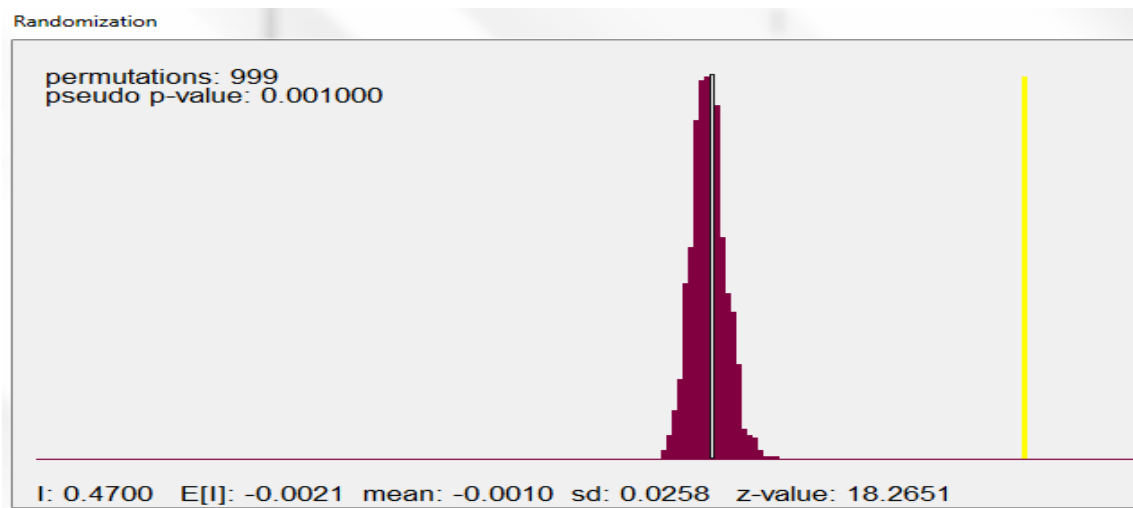
As compared to the level of urban marginalization in Monterrey, hot spot (High-High: high poverty concentration surrounded by areas with high poverty) poverty areas in Dallas county were a smaller number (n=65) and located in the center of the county area.

Map 8. Local Moran's I of households with disability members living below poverty line in Dallas County
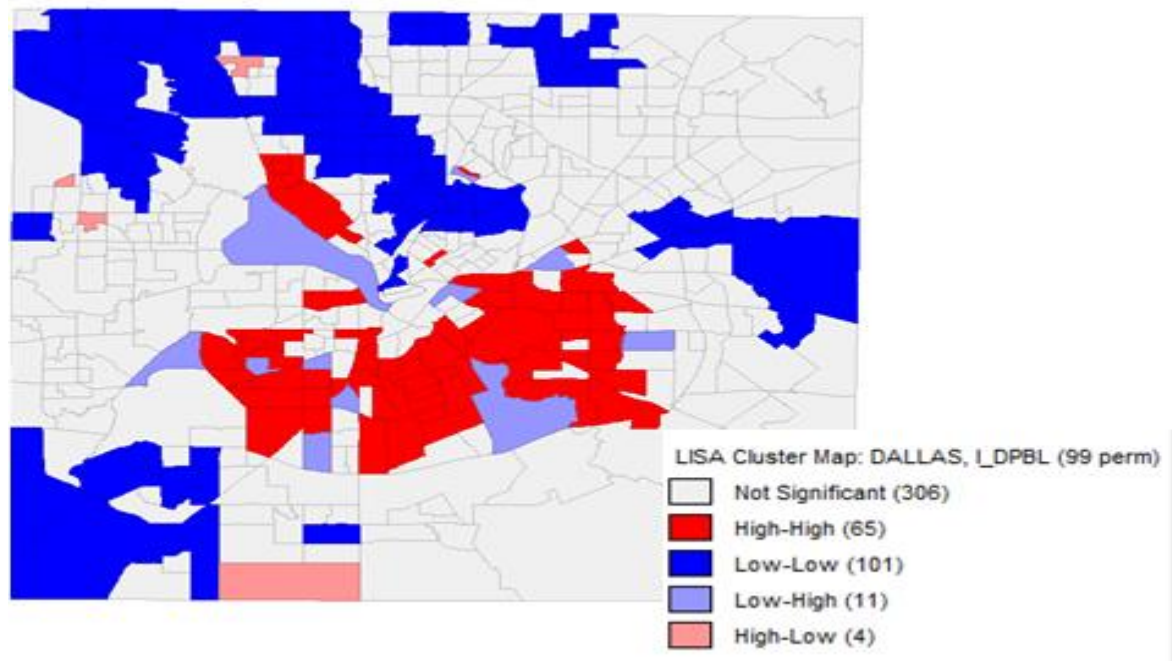
To compare the difference in spatial patterns of PWD living below and above the poverty line in Dallas County, Global and Local Moran's index for the variable of HH with PWD living above poverty were tested. Interestingly, spatial patterns of HH with PWD living above the poverty line were observed; the index of spatial autocorrelation was positive and significant (I= 0.36; *p*= 0.001).

Figure 14. Global Moran's I: Households with disability members living above poverty

#obs	R^2	const a	std-err a	t-stat a	p-value a	slope b	std-err b	t-stat b	p-value b
487	0.318	0.0277	0.024	1.15	0.25	0.362	0.024	15	0
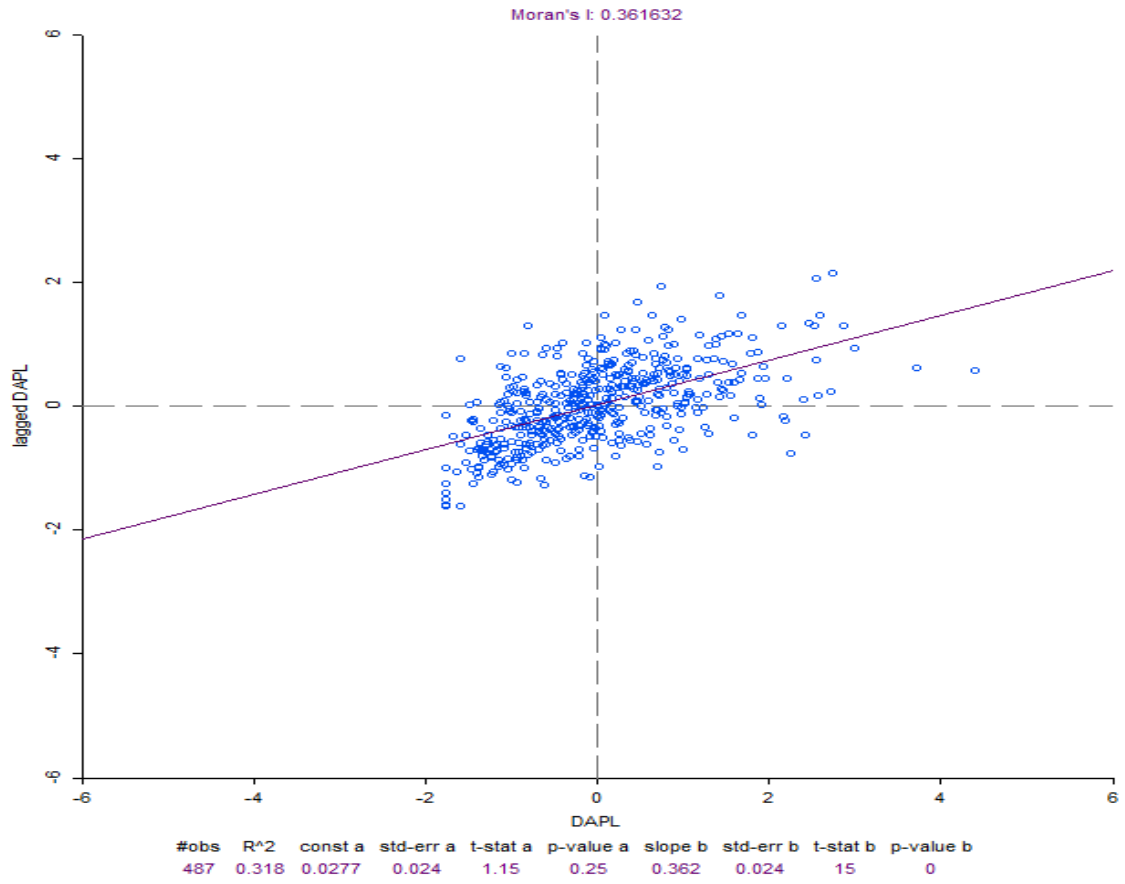
Figure 15. Randomization (5)
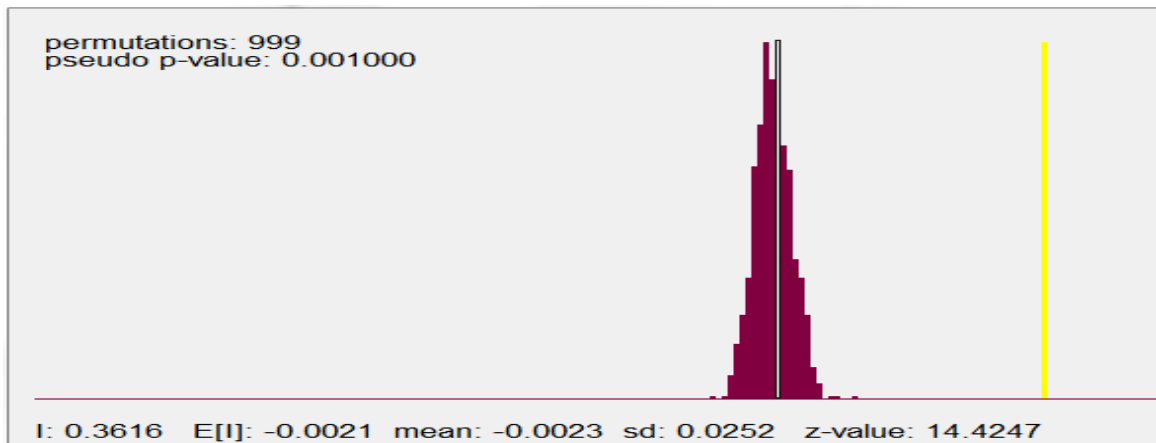
Clusters of PWD were observed not only among households with PWD living below the poverty line, but were also observed among those living above poverty (map 9). However, their number was smaller (n=58), and their geographical location differed.

Map 9. Local Moran's I of households with disability members living above the poverty line in Dallas County
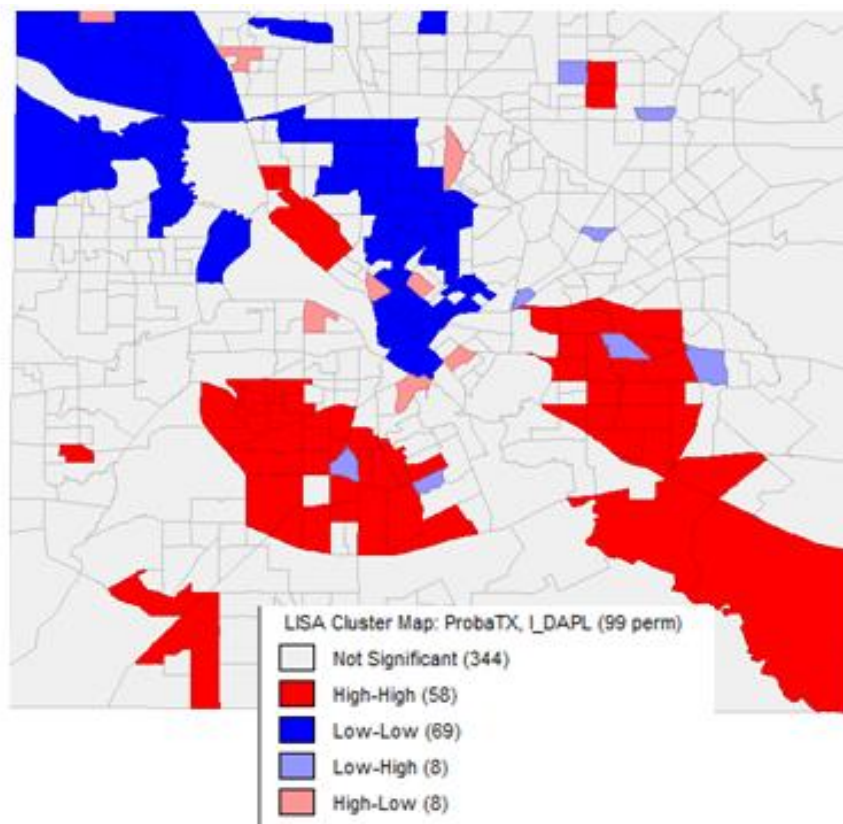
Regression

The second phase of the analysis involved a series of regression models – spatial lag (SL), spatial error (SE) and geographically weighted regression (GWR). The first two models, spatial lag and spatial error, were used to deal with the possible dependencies between the errors and/or the variables in the model (Baller, Anselin, Messner, Deane & Hawkins, 2001).The GWR model was used to identify the model specification and address the non-stationarity and the heterogeneity in the regression relationships (Charlton, 1996).

Model building

A method of three components: model specification [i.e.variable identification and selection (x, y)], model fitting (i.e. equation building), and model diagnosis (i.e. diagnostic checks for significance and parsimony) were used to create a multiple regression model explaining disability prevalence in Dallas County and Monterrey (Groebner, Shannon, Fry & Smith, 2010). The model building procedure was both theory and data driven. While previous studies were used to determine the variables to be chosen, available metadata from the census data sets informed the selection of the most appropriate modeling method variables.Consistent with the hypothesis of the study and the discussion made in the previous four chapters, the process of regression model building started with the selection of the *x* and *y* variables for the model. It further continued with testing the assumptions required for linear modeling.

$$Y = b0 + b1X + \varepsilon.$$

In the equation above, the *y* variable is disability. The *x* variables were specified as: education, employment, house ownership/household living conditions, race/ethnicity, and health coverage. The equation tested the following assumptions:

1. Dependent variable is in a linear relationship with the independent variables.

2. Error terms, ε, are: a) independent from one another and b) identically distributed.

3. The error term is normally distributed with a mean of zero and a standard deviation of σ_2, N $(0,\sigma_2)$.(Groebner, Shannon, Fry & Smith, 2010).

Further, the model diagnosis continued with tests for heteroscedasticity, multicollinearity, and normality. The latter statistical procedures were tested through spatial regression (SL and SE analysis) calculation provided with the GeoDa software system for PC v. 13.0.

The conceptualization of the terms "high" and "low" income environments were also important for the research analysis. Based on the previously done literature review for both Mexican and American contexts (chapter 2), the researcher made a decision to distinguish high/low environments of people with disability based on the following logical arguments:

- Households with PWD with basic or upper education, employed, and with housing stability (e.g. house ownership/household conditions criteria) will generate environments of people living in greater well-being and disposing with greater social assets compared to people with no/low education, unemployed, and lacking housing security (table 14).

Table 14. High and low income environments

Variable	Have	Not have
Education	+	_
Employment	+	_
Housing stability	+	_
Environment	High income	Low income

The suggested three variable categories of high-low income environments were considered as the overlaying trends of disability matters in both countries. If the first two categories had similar coding (see variable list), the third one (i.e. housing stability) was context and census-specific. For example, the regression model of Monterrey's data included variables of living household conditions, number of people living in the HH, and number of bedrooms per person, while the model of Dallas County included variables on house and vehicle ownership.

Spatial regression

The first phase of the analysis identified spatial dependencies and clustered areas of disability in both geographic regions. Because spatial data may show spatial dependencies within the outcome variable and the error terms, the assumptions of the OLS regression model could be biased (Auselin, 2005). A solution for the biased regression estimates was the simultaneous use of Maximum Likelihood approach for

Spatial Lag (SL) and Spatial Error (SE) models and the use of diagnostics to detect

spatial dependence along with the OLS evaluation (GeoDa). The spatial regression

command including OLS, SL and SE allowed a step-by step decision making on what

procedure might be at work when dealing with spatial effects (appendix 2). For

example, if the diagnostic of OLS indicated presence of lag or error dependence, a

decision for SE or SL was taken to mitigate its impact on the outcome variable *y*.

To start the spatial regression process, a weight matrix (i.e. the matrix determining

the neighboring points in the matrix of geographic coordinates) was initially created

using queen contiguity. Results from the regression are presented in the section that

follows.

A. Spatial regression: Monterrey MMA

The first section of the regression analysis was the summary of outputs of OLS,

SL, and SE regressions. Dependent variable was disability population (Disc1), while

factors in the equation were: HH with indigenous people (INDI19), no health

coverage (SALUD2), HH with 2.5 people per room (VIV9), HH lacking basic goods

(VIV41), illiterate population (EDU31), and unemployed (ECO25). Table 15 shows

general information of the run, including the number of observations, variables,

degrees of freedom, the model R-squared, probability tests, Log likelihood, Akaike

and Schwarz criterion.

Table 15. Disability in low income environment, Monterrey

DV: Disc1	N observations	N variables	DF	R2	Probability test	Log.lik	Akaike info criterion	Schwarz criterion
OLS	1602	7	1594	0.618	F=430	-8426	16867	16905
SL	1602	8 (7 + W.Disc1)*	1594	0.642	Rho: 0.22	-8383	16782	16825
SE	1602	7	1594	0.67	λ= 0.42	-8342	16698	16736

*W.Disc1- weighted variable (considered neighboring effect)

The output results of R-square indicated improved model fit from 0.618 of the OLS model to 0.64 of the SL and 0.67 of the SE models. Likewise, log.likelihood, Schwarz and Akaike criterion decreased in the SL and SE models indicating improved model comparability. Further, regression coefficients and significance of factors included in the model are illustrated in table 16.

Table 16. Regression coefficients: spatial regression for Monterrey data

OLS

Variable	Coefficient	Std.Error	t-Statistic	Probability
CONSTANT	13.79786	1.918166	7.193255	0.0000000
EDU31	0.5111457	0.03525459	14.4987	0.0000000
INDI19	0.2983045	0.1145733	2.603613	0.0093104
SALUD2	0.05979808	0.007225925	8.275491	0.0000000
VIV9	-0.1564598	0.01922352	-8.138977	0.0000000
VIV41	-1.477795	0.3046126	-4.851391	0.0000013
ECO25	0.4001482	0.05261545	7.605145	0.0000000

Spatial Lag

Variable	Coefficient	Std.Error	z-value	Probability
W_DISC1	0.228191	0.02321581	9.829119	0.0000000
CONSTANT	2.675763	2.09421	1.277696	0.2013569
EDU31	0.425985	0.03492648	12.19662	0.0000000
INDI9	0.267125	0.09463719	2.822621	0.0047634
SALUD2	0.05296158	0.007054066	7.507951	0.0000000
VIV9	-0.1117892	0.01771373	-6.310881	0.0000000
VIV41	-1.354837	0.2940297	-4.607825	0.0000041
ECO25	0.3319725	0.05103714	6.504528	0.0000000

Spatial error

Variable	Coefficient	Std.Error	z-value	Probability
CONSTANT	12.54556	2.438003	5.145837	0.0000003
EDU31	0.4733982	0.03704822	12.77789	0.0000000
INDI19	0.232275	0.113667	2.043468	0.0410060
SALUD2	0.06361728	0.00737014	8.63176	0.0000000
VIV9	-0.1017458	0.02049782	-4.963735	0.0000007
VIV41	-1.410355	0.2857936	-4.934873	0.0000008
ECO25	0.2964182	0.05107086	5.804058	0.0000000

LAMBDA   0.424239   0.02822741   15.02933   0.0000000

All seven indicators were significant in the three regression models (see table 16).

Therefore, none of the variables were further excluded from the regression set. Among

all indicators, five were positively related to the prevalence of disability, while two of

them were negatively related to the outcome variable (i.e. variables of household and

living conditions: VIV9 and VIV41). Otherwise stated, improved household conditions

(i.e. less than 2.5 people living in a room, and access to social goods) would lead to a

decrease in the number of people with disability in the metropolitan area.

The next section of the regression-building deals with regression diagnostics (see table

17).

Table 17. OLS Regression diagnostics (Monterrey data)

Regression diagnostics		
Multicollinearity condition number		10.81999

Test of normality of errors

Test	DF	Value	Probability
Jarque-Bera	2	14297.98	0.0000000

Heteroscedastisity

Test	DF	Value	Probability
Breusch-Pagan test	6	409.7859	0.0000000
Koenker-Bassett test	6	51.57253	0.0000000

Specification robust test

Test	DF	Value	Probability
White	27	79.00873	0.0000005

Diagnostics for spatial dependence

Test	MI/DF	Value	Probability

Moran's I (error)		0.228783	13.2602024	0.0000000
Lagrange Multiplier (lag)	1		88.5439497	0.0000000
Robust LM (lag)	1		0.0266226	0.8703889
Lagrange Multiplier (error)	1		171.9990093	0.0000000
Robust LM (error)	1		83.4816823	0.0000000

The diagnostics of the OLS model did not indicate condition of multicollinearity (multicollinearity was less than 30). However, the normality test indicated non-normal distribution of the error terms. The diagnostics for heteroscedatsicity pointed to the existence of heteroscedasticity, while the diagnostics of spatial dependence indicated presence of spatial autocorrelation (Moran's I was positive and highly significant). Additionally, all tests of lag and error (see diagnostics for spatial dependence) indicated spatial dependence. The spatial dependence statistics are: LM test for a missing spatially lagged dependent variable [Lagrange Multiplier (lag)]; LM test for error dependence [Lagrange Multiplier (error)]; variants Robust statistics such as Robust LM (lag) and Robust LM (error) which tests for error dependence in the possible presence of a missing lagged dependent variable; and SARMA test, which combines Lagrange Multiplier (error) and Robust LM (lag) tests.

The outcome results showed that the robust measure for error was still significant, but the robust lag test was insignificant, indicating lag related dependence between the covariates of the outcome variable, and possible error dependence if not suppressed by the presence of the lagged dependent variable. The literature states that possible causes for spatial effect in regression models might be due to unconsidered factor variables in the model, measurement misspecification, spatial unit interactions, external environmental factors, and so forth. (Koening, 1999; Carsten, *et al*., 2007).

Therefore, the analysis continued with a re-estimation of the regression model with a maximum likelihood approach testing both the spatial lag and spatial error regression models, while controlling for the spatial dependence effect.

Results from SL and SE models showed improved general model fit, but the impact of the independent variables remained virtually the same (see table 18). Two coefficients: coefficient parameter (Rho) in the SL model and coefficient on the spatially correlated errors (LAMBDA) in the SE model were reported as additional outcome indicators. Although both of them were significant and positive, they did not indicate substantial decrease in the spatial dependence of the model. Moreover, the diagnostics for heteroscedasticity and spatial dependence for both SE and SL models showed persistence and did not make the spatial effects to decrease or disappear (see table 18).

Table 18. Regression diagnostics for Spatial error and Spatial lag (Monterrey data)

Regression diagnostic		
Spatial lag		
Diagnostics for heteroskedasticity		
Test	DF	Value	Probability
Breusch-Pagan test	6	409.7526	0.0000000
Diagnostic for spatial dependence		
Test	DF	Value	Probability
Likelihood Ratio Test	1	87.5108	0.0000000

Spatial error

Diagnostics for heteroskedasticity

Test	DF	Value	Probability
Breusch-Pagan test	6	480.1307	0.0000000

Diagnostic for spatial dependence

Test	DF	Value	Probability
Likelihood Ratio Test	1	169.2174	0.0000000

Comparison of the spatial lag and spatial error models showed that both yieldedimprovement to the original OLS model. Therefore, their role in controlling for spatial dependence was essential for the overall spatial model performance. Further, the OLS predictability of people with disability was tested with variables suggesting possibility for greater well-being. Initially, the model included variables such as completed level of education (EDU 37), adequate health insurance coverage (SALUD 1), employment (i.e. employed) (ECO 4), and index of urban marginalization (IUM 2010). Due to high multicollinearity (over 30), however, the variables were reduced to three (see table 20).

Table 19. Disability in high income environment, Monterrey

DV: Disc1	N observations	N variables	DF	R^2	Probability test	Log.lik	Akaike info criterion	Schwarz criterion

OLS	1602	4	1598	0.48	F=497.4	-8669.6	17347.2	17368.7

When testing disability prevalence in non-scarce environments, Monterrey showed to have lower predictability than the predicted disability in scarce environments (R-square was 0.48 vs. 0.61 of disability prediction in low income environments (see tables 14 and 19). The result suggested a probability of almost 50% of disability prevalence in Monterrey MMA to be related with environments of greater social opportunities, i.e. a probability of 50/50 chance for a disability prediction. In other words, the model would explain the phenomena of disability as a random event because of its equal probability to occur.

Table 20 reports important information on the probability and the coefficient weights of the independent variables in the model.

Table 20. Regression coefficients: disability in high income environments

----

Variable	Coefficient	Std.Error	t-Statistic	Probability
CONSTANT	7.15766	2.426918	2.94928	0.0032314
EDU37	0.03986843	0.005963425	6.685491	0.0000000
SALUD1	-0.04906343	0.005927066	-8.277862	0.0000000
ECO4	0.138352	0.01102451	12.54949	0.0000000

All three factor variables had significant effect on the outcome variable and improved the fit of the regression model. Furthermore, the variable health coverage (Salud 1) had a minor negative impact on the prevalence of people with disabilities, i.e. decreased health protection would increase the number of people with disability. Such an impact can have a devastating effect on the health care system in Mexico. A recent study on health expenditure of disability in Mexico reported a significant monetary impact of disability on the out of pocket health expenditure. Additionally, the impact was higher in poor households indicating greater significance of the health system on income disadvantaged families (Urquieta-Salomon, Figueroa & Hernández-Prado, 2008). Therefore, incorporation of socioeconomic conditions of PWD and their families in health policies and social interventions would provide effective improvements in the lives of the disadvantaged PWD in Monterrey.

Furthermore, conditions of heteroscedasticity and normality error in the sample distribution were reported in the diagnostic model output (see table 21). The latter was aligned with the diagnosed spatial dependence from all five dependence tests (Lagrange multiplier and Robust LM tests). Because all tests suggested for error and lag dependence, spatial error and spatial lag regressions were conducted as follows:

Table 21. Regression diagnostics: Disability in high income environment, Monterrey

Regression diagnostics			
Multicollinearity condition number			27.199022
Test of normality of errors			
Test	DF	Value	Probability

Jarque-Bera 2 7790.668 0.0000000

Heteroskedastisity

Test	DF	Value	Probability
Breusch-Pagan test	3	393.5172	0.0000000
Koenker-Bassett test	3	65.88705	0.0000000

Specification robust test

Test	DF	Value	Probability
White	9	86.87284	0.0000005

Diagnostics for spatial dependence

Test	MI/DF	Value	Probability
Moran's I (error)	0.314411	18.1539581	0.0000000
Lagrange Multiplier (lag)	1	250.7161127	0.0000000
Robust LM (lag)	1	8.6327267	0.0033018
Lagrange Multiplier (error)	1	324.8451237	0.0000000
Robust LM (error)	1	82.7617377	0.0000000
Lagrange Multiplier (SARMA)	2	333.4778504	0.0000000

As observed in previous regression models using SL and SE methods, the fit of the

model (R-square was 0.59 in both models) and the three comparability (log.lik, Akaike

and Schwarz) criteria also improved (table 22).

Table 22. Spatial regression: Disability in high income environment, Monterrey

DV: Disc1	N observations	N variables	DF	R2	Probability test	Log.lik	Akaike info criterion	Schwarz criterion
SL	1602	5	1597	0.596	Rho: 0.38	-8551	17112	17139
SE	1602	4	1598	0.598	λ= 0.51	-8521	17050	17072

Additionally, variables in both models were significant with a similar pattern of positive

relationships with the outcome variable, with the exception of the health variable (Salud

1) (see below). The latter variable confirmed the results discussed in the literature that

increased access to health care would decrease the possibility for disability and chronic

disease development.

Table 23. Spatial regression coefficients: Disability in high income environment,

Monterrey

Spatial lag

```
-------------------------------------------------------------------------------------
Variable   Coefficient    Std.Error      z-value  Probability
-------------------------------------------------------------------------------------
W_DISC1    0.3808586     0.02253657     16.89958   0.0000000
CONSTANT   -10.85688      2.388335     -4.545796   0.0000055
  EDU37      0.03849845   0.005464591   7.045075   0.0000000
SALUD1    -0.03061874    0.005450734    -5.61736   0.0000000
  ECO4      0.09344091    0.01022464    9.138793   0.0000000
-------------------------------------------------------------------------------------
```

Spatial error

```
--------------------------------------------------------------------------------------
  Variable   Coefficient    Std.Error      z-value  Probability
--------------------------------------------------------------------------------------
  CONSTANT     11.95533      3.094125     3.863882   0.0001116
   EDU37      0.05740903    0.006562412    8.74816   0.0000000
   SALUD1    -0.03092516    0.005861626   -5.275867  0.0000001
   ECO4        0.091499     0.01132587     8.07876   0.0000000
  LAMBDA      0.5139075     0.02564437    20.03978   0.0000000
```

Finally, significant regression diagnostics of the spatial lag and spatial error models

indicated continuous spatial dependence effect.

Table 24. Regression diagnostics: Disability in high income environment, Monterrey

Regression diagnostic			
Spatial lag			
Diagnostics for heteroskedasticity			
Test	DF	Value	Probability
Breusch-Pagan test	3	338.0992	0.0000000
Diagnostic for spatial dependence			
Test	DF	Value	Probability
Likelihood Ratio Test	1	236.8312	0.0000000
Spatial error			
Diagnostics for heteroskedasticity			
Test	DF	Value	Probability
Breusch-Pagan test	3	379.9059	0.0000000
Diagnostic for spatial dependence			
Test	DF	Value	Probability
Likelihood Ratio Test	1	269.3091	0.0000000

Section conclusion: Several promising spatial regression results were identified. First, the variables included in regression models suggesting disability prediction in poor and non-poor environments differed significantly. A good model fit was achieved using the variable categories: education, employment, and housing security. Results indicated

greater disability prevalence in poor than non-poor environments. Secondly, all but two indicators were negatively related to the dependent variable: household conditions and health coverage. In a country like Mexico, where the level of poverty is over 46% (INEGI, 2010), health expenditures for disability care can be a challenge. Therefore, addressing both components i.e. conditions of living and health care protection in disability interventions demands political attention. Lastly, the persistent spatial dependence effect in all regression models might be explained by missing explanatory variables. Variables in this study were selected from a limited set of disability data available on a census tract level. This limitation of data availability could have direct or indirect effect on the predictability of the model.

B. Spatial regression: Dallas county

  The analysis using data from the U.S. census used households with individuals with disabilities living below the poverty line (DBPL) as a dependent variable, while factor variables in the regression equation were: race (AVD01, BVD01, HSD01, WVD01, NVD01), house ownership- renter/owner (OO_0; RO_0, RO_1), educational attainment (Male_Dis_N;FEDU30) and employability (MPWD_16_20_unemployed, MPWD_21_64_unemployed,

FPWD_16_20_unemployed, FEVD28, MEVD13).

For gender, because data were available for males and females, two separate gender models were tested. The OLS process included all factors listed above. However, several variables were cleaned from the initial set of the model, after the first OLS model was conducted.

The final OLS model for males included 6 variables namely, race (Black, White, and Hispanic), unemployment, and house and vehicle ownership (with 0 or 1 car). The model had a model fit (R-square) of 0.7, making the model highly predictable (Rosenthal & DiMatteo, 2001).

Table 25. Spatial regression: Dallas County (males)

DV: DBPL	N observations	N variables	DF	R_2	Probability test	Log.lik	Akaike info criterion	Schwarz criterion
OLS	487	7	480	0.796	F=318	-2163	4340	4370
SL	487	8 *	479	0.804	Rho: 0.13	-2157	4331	4365
SE	487	7	480	0.807	λ= 0.29	-2155	4325	4355

* weighted variable included (considered neighboring effect)

The spatial lag and spatial error models yielded improvement to the original OLS model. R-square increased (i.e. 0.8) and initial parsimony of the model (OLS) was achieved. All variables included in the models were significant (with the exception of " White" race and the variable "renter occupied" with one vehicle available. See table 26 below).

Table 26. Regression coefficients (males)

OLS

```
--------------------------------------------------------------------------------
       Variable  Coefficient    Std.Error   t-Statistic  Probability
--------------------------------------------------------------------------------
    CONSTANT      2.929077      2.103238     1.392651    0.1643696
       BVD01    0.03285736    0.002740579      11.9892   0.0000000
      HSVD01    0.03474683    0.002871208     12.10181   0.0000000
       WVD01   -0.005445253   0.002555982    -2.130396   0.0336468
```

```
MPWD_21_65   0.08642044    0.02332411      3.705198    0.0002358
   RO_0          0.1223974   0.01112228      11.0047    0.0000000
   RO_1         -0.01073423  0.002396562    -4.479011   0.0000094
   ----------------------------------------------------------------------------
```

Spatial Lag

```
   ------------------------------------------------------------------------------------

 Variable   Coefficient    Std.Error    z-value  Probability

------------------------------------------------------------------------------------

        W_DPBL     0.134723    0.04015091     3.355416   0.000792
       CONSTANT   -0.7583705    2.366403     -0.320474   0.7486092
        BVD01     0.02986441   0.002837115    10.52633   0.0000000
        HSVD01    0.03184166   0.002965039    10.73903   0.0000000
        WVD01    -0.003954364  0.002568001   -1.539861   0.1235943
    MPWD_21_65    0.07548042     0.022975      3.285328   0.0010188
        RO_0       0.1189038    0.01104802     10.76245   0.0000000
        RO_1     -0.009229431   0.002385429   -3.869086   0.0001093
    ---------------------------------------------------------------------------------
```

Spatial Error

```
   ---------------------------------------------------------------------------------

    Variable    Coefficient    Std.Error     z-value  Probability
---------------------------------------------------------------------------------
CONSTANT   4.568411     2.331358      1.95955     0.0500483
  BVD01    0.03223016   0.002936986   10.97389    0.0000000
  WVD01   -0.007129256  0.002718327  -2.622664    0.0087246
MPWD21_65  0.07195361    0.02313668   3.109936    0.0018714
  RO_0      0.1310416    0.0113041     11.5924     0.0000000
  RO_1     -0.010132    0.002534759   -3.997223   0.0000641
 HSVD01    0.03502685   0.003008929   11.64097    0.0000000
 LAMBDA    0.2905649    0.06838439     4.248995   0.0000215
 ---------------------------------------------------------------------------------
```

The negative relationship between the outcome variable and the White race variable requires additional discussion. As indicated in the beginning of the current analysis, among all racial groups, White Americans have higher prevalence of disability than the

rest of the racial groups. However, the spatial cluster diagnostic did not indicate

clusters of White PWD, but such clusters were observed among Black and Hispanic

PWD (see Map 1). The current statistical outcome overlaid a racial discrepancy

between people with disability living below the poverty level. Although efforts have

been made to better understand the intersection of race and disability[6] , this disparity

remains to be a complex issue related to a vast set of social subsystems such as health,

education, employment, family, and service systems (Balcazar, Suarez-Balcazar &

Taylor-Ritzler, 2010). On the other hand, the negative relationship of the variable

"renter occupied with one vehicle available is an evidence of greater vulnerability of

PWD who lack housing security. A study of Carling (1993) on housing discrimination

against people with mental disability discussed the high correlation between residential

instability and poverty. Innovative financing strategies such as coalitions to develop

housing or creating capital funds were among the successful working strategies used to

mitigate the problem of housing discrimination and housing security of people with

mental disabilities (Carling, 1993). Furthermore, the diagnostics of the OLS model did

not indicate condition of multicollinearity (multicollinearity number was 8.5). However,

the normality test indicated non-normal distribution of the error terms; the diagnostics

for heteroscedatsicity point to existence of heteroscedasticity, and the Moran's I was

positive and highly significant. Additionally, both tests of lag and error were significant,

alarming for a pattern of spatial dependence (table 27).

---

[6] First National Conference on Health Disparities Research at the intersection of race, ethnicity, and disability, Washington DC, April, 2013, see http://www.ohsu.edu/xd/research/centers-institutes/institute-on-development-and-disability/public-health-programs/project-intersect/index.cfm

Table 27. OLS Regression diagnostics: Dallas County (males)

Regression diagnostics			
Multicollinearity condition number			8.520803

Test of normality of errors

Test	DF	Value	Probability
Jarque-Bera	2	112.9225	0.0000000

Heteroscedastisity

Test	DF	Value	Probability
Breusch-Pagan test	6	253.7631	0.0000000
Koenker-Bassett test	6	120.0942	0.0000000

Specification robust test

Test	DF	Value	Probability
White	27	168.1514	0.0000000

Diagnostics for spatial dependence

Test	MI/DF	Value	Probability
Moran's I (error)	0.101903	4.2486064	0.0000215
Lagrange Multiplier (lag)	1	11.1238601	0.0008522
Robust LM (lag)	1	2.2055195	0.1375176
Lagrange Multiplier (error)	1	15.3536212	0.0000891
Robust LM (error)	1	6.4352806	0.0111875
Lagrange Multiplier (SARMA)	2	17.5591407	0.0001538

Results from the OLS diagnostics showed that only the Robust ML (lag) test was significant. The latter indicated for presence of a spatially lagged dependent variable among the covariates. However, having a significant robust measure for error when lagged dependent variable is present might obscure possible error dependence in the model (Robust LM error was significant at $p=0.001$ level). Therefore, both Spatial lag and Spatial error testing were consequently conducted. However, none of them

removed the spatial effect from the regression relationship i.e. test for heteroscedasticity and spatial dependence were significant and indicate existing spatial effect (Table 28).

Table 28. Regression diagnostics for Spatial error and Spatial lag: Dallas county (males)

Regression diagnostic			
Spatial lag			
Diagnostics for heteroskedasticity			
Test	DF	Value	Probability
Breusch-Pagan test	6	267.6854	0.0000000
Diagnostic for spatial dependence			
Test	DF	Value	Probability
Likelihood Ratio Test	1	10.88904	0.0009673
Spatial error			
Diagnostics for heteroskedasticity			
Test	DF	Value	Probability
Breusch-Pagan test	6	237.7117	0.0000000
Diagnostic for spatial dependence			
Test	DF	Value	Probability
Likelihood Ratio Test	1	15.02241	0.0001062

Females

The regression model for females achieved best model fit by including the following variables in the OLS equation: race (Hispanic, White, and Black), education, unemployment (21-65 years), house ownership (renting with 0 or 1 vehicle).

Table 29. Spatial regression: Dallas County (females)

DV: DBPL	N observations	N variables	DF	R_2	Probability test	Log.lik	Akaike info criterion	Schwarz criterion
OLS	487	9	478	0.811	F=268	-2139	4296	4334
SL	487	10 *	477	0.822	Rho: 0.12	-2134	4288	4365
SE	487	9	478	0.821	λ= 0.19	-2136	4291	4328

*weighted variable included

The general information of the run for each regression model showed improved model fit (R-square increased and Log. Likelihood, Akaike criterion, and Schwarz criterion decreased for SL and SE models). All variables included in the OLS model remained significant. However, the variable - house ownership with no vehicle (Oo_0) was not significant in both SL and SE models (table23). Therefore, the variable was removed from the model and the SE and SL regressions were tested again. The results, however, did not improve significantly the fit of the model, nor decreased the existing spatial dependence.

Table 30. Regresion coefficients: Dallas County (female)

OLS

Variable	Coefficient	Std.Error	t-Statistic	Probability
CONSTANT	1.619982	2.074252	0.7809958	0.4351957
BVD01	0.01530748	0.003754048	4.077593	0.0000533
HSVD01	0.02635809	0.003050015	8.641953	0.0000000
WVD01	-0.0158125	0.002904548	-5.444047	0.0000001
FEDU30	0.05915902	0.02789338	2.120898	0.0344444
FPWD_21_65	0.1682221	0.0247887	6.786242	0.0000000
RO_0	0.1254534	0.01094556	11.46158	0.0000000
RO_1	-0.01153231	0.002597573	-4.439646	0.0000112
OO_0	0.07560772	0.04027076	1.877484	0.0610603

Spatial lag

Variable	Coefficient	Std.Error	z-value	Probability
W_DPBL	0.1294339	0.03877125	3.338399	0.0008427
CONSTANT	-1.679056	2.269912	-0.7397007	0.4594815
BVD01	0.01303329	0.003761386	3.465022	0.0005303
HSVD01	0.02300434	0.003160774	7.278071	0.0000000
WVD01	-0.01422368	0.002879424	-4.939766	0.0000008
FEDU30	0.06268784	0.02733184	2.293582	0.0218144
FPWD_21_65	0.1618449	0.02427797	6.666325	0.0000000
OO_0	0.05534263	0.03972211	1.393245	0.1635459
RO_0	0.1202767	0.01089855	11.03603	0.0000000
RO_1	-0.01041369	0.002559231	-4.06907	0.0000472

Spatial Error

Variable	Coefficient	Std.Error	z-value	Probability
CONSTANT	2.535964	2.202077	1.151624	0.2494759

```
       BVD01    0.01645999    0.003837645      4.289086    0.0000180
      HSVD01    0.02670509    0.003159923      8.451182    0.0000000
      WVD01   -0.01555173    0.002949875     -5.271996    0.0000001
      FEDU30    0.05509562    0.0276397        1.993351    0.0462229
   FPWD_21_65    0.1557407    0.02491883       6.249922    0.0000000
        OO_0    0.06273707    0.0405862        1.545774    0.1221593
        RO_0    0.1290167     0.01117069      11.54957     0.0000000
        RO_1   -0.01117722    0.002665633     -4.193083    0.0000275
      LAMBDA    0.1934924     0.07252786       2.667836    0.0076342
      --------------------------------------------------------------------------------
```

Additionally, the OLS diagnostics showed no collinearity effect, but presence of

heteroscedasticity, dependence, and non-normal distribution of the sample data (see

table 24). Furthermore, the diagnostic for spatial dependence indicated significant

Robust (error) test due to a possible correlation between the error terms of the lagged

dependent variable.

Table 31. OLS Regression diagnostics: Dallas County (females)

Regression diagnostics

Multicollinearity condition number   12.215745

Test of normality of errors

Test	DF	Value	Probability
Jarque-Bera	2	123.7152	0.0000000

Heteroscedastisity

	Test	DF	Value	Probability
Breusch-Pagan test	8	228.0759	0.0000000
Koenker-Bassett test	8	105.6749	0.0000000

Specification robust test

Test	DF	Value	Probability
White	44	178.5119	0.0000000

Diagnostics for spatial dependence

Test	MI/DF	Value	Probability

Moran's I (error)	0.059980	2.6362078	0.0083839	
Lagrange Multiplier (lag)	1	10.9446188	0.0009388	
Robust LM (lag)	1	6.1418458	0.0132019	
Lagrange Multiplier (error)	1	5.3191986	0.0210917	
Robust LM (error)	1	0.5164256	0.4723704	
Lagrange Multiplier (SARMA)	2	11.4610444	0.0032454	

In attempt to omit the spatial dependence effect, Spatial lag and Spatial error regressions were conducted. The analysis showed that although the models improved the R-square of the model (0.81 initial OLS model vs. 0.82 SE and SL models), test for normality and heteroscedasticity remained problematic, i.e. statistically significant, and none of the SL or SE models could remove the diagnosed spatial spill-over effects (table 32) .

Table 32. Regression diagnostics for Spatial error and Spatial lag: Dallas county (females)

Regression diagnostic

Spatial lag

Diagnostics for heteroskedasticity

Test	DF	Value	Probability
Breusch-Pagan test	8	252.9855	0.0000000

Diagnostic for spatial dependence

Test	DF	Value	Probability
Likelihood Ratio Test	1	10.76683	0.0010334

Spatial error

Diagnostics for heteroskedasticity

Test	DF	Value	Probability
Breusch-Pagan test	8	238.4819	0.0000000

Diagnostic for spatial dependence

Test	DF	Value	Probability
Likelihood Ratio Test	1	5.773024	0.0162740

Finally, to test if there were differences in the outcome results between disability in low and high income environments in Dallas county, a regression model using "households with people with disability living above the poverty line" as a dependent variable was conducted. Similar to the previous regression sets, two models were tested separately: for males and females. Factor variables in the model included the following variables: house and vehicle ownership (one car) (Oo_1; Ro_1), employed PWD (16-64 years) (MPWD16_20, MPWD21_64; FPWD21_64, FPWD_16_20), employed people (16-65 years) with employment disability (VD05, VD12; VD20, VD 27), and enrolled in educational activities PWD (FEMALE_D_1; MALE_D_ENR).

Initially, both models, i.e. for males and females were tested with all the above listed variables. Due to the high collinearity and insignificant model outputs, several variables were omitted from the initial OLS models. Excluded variables consisted of employment disability and employment among PWD in the 16-20 years age category. As a result, the four factor variables best explained the prevalence of disability in the county area. These variables included employed PWD (21-64 years), enrolled in

educational activities female and male PWD, renter/owner occupied with 1 vehicle available (see table 33).

Table 33. OLS regression coefficients: females and males

Females

```
---------------------------------------------------------------------------------------
        Variable   Coefficient    Std.Error      z-value   Probability
---------------------------------------------------------------------------------------

     CONSTANT     41.25359       6.894762      5.983323    0.0000000
        RO_1      -0.05070362   0.007354411   -6.894314    0.0000000
        OO_1       0.1375078    0.02186967     6.287605    0.0000000
    FPWD_21_64    1.141145      0.04402341     25.92132    0.0000000
    FEMALE_D_1    0.4202016     0.2029958      2.070002    0.0389840
---------------------------------------------------------------------------------------
```

Males

```
---------------------------------------------------------------------------------------
        Variable  Coefficient    Std.Error    t-Statistic  Probability
---------------------------------------------------------------------------------------

     CONSTANT    42.87168       6.874362      6.236459    0.0000000
        OO_1      0.2721961     0.02013836    13.5163     0.0000000
        RO_1     -0.05406398   0.007415928   -7.290252   0.0000000
   MPWD_21_64   0.6694191      0.0252013     26.56288    0.0000000
   MALE_D_ENR   0.3291744      0.1644921     2.001156    0.0459362
---------------------------------------------------------------------------------------
```

The results showed that all four factor variables have significant impact on the prevalence of people with disability living above the poverty line. Similar to the previously reported outcomes, the variable "renter occupied with 1 vehicle available" had a negative impact on the outcome variable in both models. This means that house ownership instability decreases the economic well-being of males and females who live under a condition of disability and increases their social vulnerability. Because housing

stability can be a serious challenge for PWD, future housing policies will need to address effective strategies reducing housing discrimination against PWD (Turner *et al.*, 2005).

Notably, the OLS outputs of the model fit for males and females showed similar results. In both models, R-square was above .7, indicating high predictability. Otherwise stated, employment, education, and housing security could predict the prevalence of households with disability members who do not live in poverty, i.e. above poverty line (table 34). This outcome is an important distinction with the outcomes of the previous regression models, where dependent variable was households with disability members living under poverty. These results indicate that opportunities of employment, education, and housing stability can increase the standard of living of PWD.

Table 34. OLS regression: Households with members with disability living above poverty line

DV: DAPL	N observations	N variables	DF	R_2	Probability test	Log.lik	Akaike info criterion	Schwarz criterion
Females OLS	487	5	482	0.727	F=322	-2736	5483	5504
Males OLS	487	5	482	0.728	F=322	-2736	5483	5504

Likewise, the results in Monterrey, all tests for spatial dependence diagnostics were significant [Moran's I index indication issues of spatial autocorrelation (I= 0.25 for males and I= 0.16 for females, *p*= 0.0000) (table 35)].

Table 35. Spatial dependence diagnostic: disability above poverty line

Model	Moran's I (error) / *p=0.00*	Lagrange Multiplier (lag) / *p=0.00*	Robust LM (lag) / *p=0.00*	Lagrange Multiplier (error) / *p=0.00*	Robust LM (error) / *p=0.00*	Lagrange Multiplier (SARMA) / *p=0.00*
Male	0.250721	86.5502592	21.0420929	92.9422586	27.4340923	113.9843515
Female	0.160361	51.3677432	20.4457516	38.0214275	7.0994360	58.4671792

Low probability in the Breusch-Pagan test for both models (females and males) suggested presence of heteroscedasticity in the model after introducing the spatial lag and the spatial error terms. Also, in the Likelihood Ratio Test of Spatial Lag and Error Dependence, the significant result did not make the spatial effects disappear (table 36).

Table 36. Regression diagnostics: Households with members with disability living above poverty line, Dallas county

Regression diagnostic			
Spatial lag			
Diagnostics for heteroskedasticity			
Test	DF	Value	Probability
Females Breusch-Pagan test	4	72.77038	0.0000000
Males Breusch-Pagan test	4	155.2787	0.0000000
Diagnostic for spatial dependence			

	Test	DF	Value	Probability
Females	Likelihood Ratio Test	1	47.79633	0.0000000
Males	Likelihood Ratio Test	1	70.71055	0.0000000

Spatial error

Diagnostics for heteroskedasticity

	Test	DF	Value	Probability
Females	Breusch-Pagan test	4	75.00914	0.0000000
Males	Breusch-Pagan test	4	167.2377	0.0000000

Diagnostic for spatial dependence

	Test	DF	Value	Probability
Females	Likelihood Ratio Test	1	38.70278	0.0000000
Males	Likelihood Ratio Test	1	76.14252	0.0000000

Because of the existing spatial dependence problems in all performed spatial repression models, the study continued with analysis based on a geographically weighted regression (GWR) method for spatial prediction (see section C). The latter method was selected as an effective way to address spatial heterogeneity and non-stationarity (Harris, Fotheringham & Charlton, 2010).

Section conclusion: Hypothesis 1 of the study predicted clustered concentration and less access to social services among households with people with disability who live in low income environments. The first part of this prediction regarding the higher concentration of people with disability was supported by the comparative OLS regression analysis in low and high income environments in Monterrey and Dallas

County. Results clearly showed that disability clustering in low income environments was highly correlated with variables of limited social goods and services. Furthermore, owned versus rented property, vehicle ownership increasing the urban mobility, and employment in the age range of 16-64 were the strongest predictors impacting the living of households with people with disability above or below the poverty line. Lastly, disability prevalence differed among different racial groups. Disparities among White and non-White PWD requires further attention and analysis.

C. Geographically weighted regression (GWR)

GWR is an approach designed to identify whether or not relationships vary across space. Matthews and Yang (2012) define the model of geographic regression as "exploratory technique" that provides richness of the results obtained from a spatial data set. Moreover, they state:

> In GWR, the regression is re-centered many times—on each observation—to produce locally specific GWR parameter results. These local GWR results combined generate a complete map of the spatial variation of the parameter estimates. That is, GWR results, unlike global model results, are mappable (p.154-155).

Considering the convenient and powerful framework of the GWR techniques, the analysis applied the model for both Census data sets: Dallas County and Monterrey.

1. Predicted disability: Monterrey

To predict the prevalence of disability in Monterrey metropolitan area, the following factor variables were included in the regression model: unemployment, illiteracy, no health coverage, indigenous ethnicity, and poor household conditions (living more than 2.5 people in a room; HHs with limited social goods). Dependent variable was the total number of individuals with disability. In order to address the assumptions yielded in the second research hypothesis, two additional gender regression models were calculated separately for males and females. Also, a separate regression model estimated the predictability of the outcome variable without the inclusion of ethnicity in the regression equation. Lastly, the predictability effect of the index of marginalization on the prevalence of disability was tested in a different model. Notably, all regression models were tested for mullticollinearity (Geoda and ArcGIS), but no collinearity effect was observed in the suggested models.

Table 37. Predicted disability in Monterrey

Variable	R2	Adj. R2	AICc	b	Poor Education	Not employed	No health coverage	Indigenous ethnicity	HH with 2.5p. /room	HH no social goods
Disability (total)	0.747	0.701	16626	H:72 L:-8	H:1.2 L:-0.7	H:1.5 L:-0.2	H:0.22 L:-0.05	H:3.5 L:-2.5	H:0.6 L:-0.7	H: 4.2 L: - 9.2
Disability (Female)	0.699	0.642	14755	H:18 L:-12	H:1.5 L:-0.7	H:0.47 L:-0.4	H:0.49 L:-0.4	H:1.56 L:-1.35	H:1.39 L:-0.85	H:3.18 L:-2.4
Disability (Male)	0.784	0.745	14254	H:23 L:-5	H:0.64 L:-0.3	H:0.66 L:-0.17	H:0.08 L:-0.02	H:1.7 L:-1.3	H:0.3 L:-0.3	H:2.08 L:-4.06
Disability (no ethnicity)	0.763	0.710	16613	H:82 L:-20	H:1.35 L:-1.3	H:2.22 L:-0.7	H:0.23 L:-0.08		H:0.70 L:-0.77	H:6.47 L:-11.1

Variable	R2	Adj. R2	AICc	b	IUM
Disability (total)	0.420	0.368	17738	H:413.9 L:-4.27	H:268.8 L:-43.6

H- high value; L- low value; $p \leq 0.05$

The results showed that all regression models had high predictability (R-square is over 0.6) with the exception of the last model, where disability was explained by the IUM [R- square =0.42, Adjusted R-square =0.36 (see table 37)]. Overall, the HH condition variable (i.e. VIV41 Households with no access to social goods) was a strong predictor among the other variables included in the regression models. Furthermore, models using the total population of people with disability as a dependent variable found factors such as education, and employment to be strong predictors. Importantly, for both gender models (i.e. outcome variables were female and male population with disability) ethnicity had a significant impact on the outcome.

In conclusion, disability prevalence in Monterrey was highly predicted by two factors: poor household conditions and unemployment, both contributing to the poverty-building framework. Moreover, predictability of disability was sensitive to ethnicity. Highest model fit (R-square of 0.78) was reported after ethnicity was included as a factor variable in the model. Finally, disability was highly predicted in semi-peripheral and semi-central zones of the metropolitan area (Map 10). Although the degree of predictability varied from place to place, it is evident that aggravating social factors such as poverty, unemployment, and poor household conditions shape the in-place prevalence of disability.

Map 10. Predicted disability prevalence in Monterrey
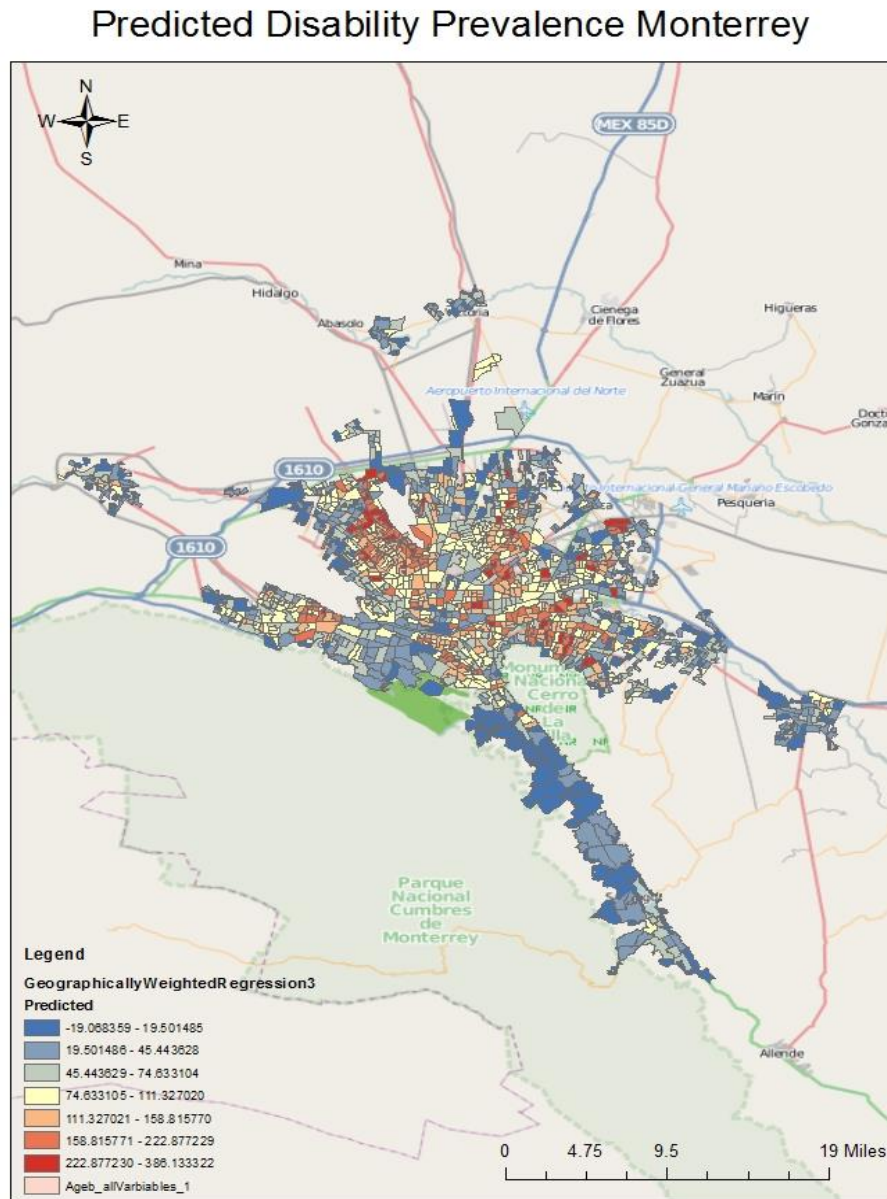
2. Predicted disability: Dallas County

The application of the GWR approach to the U.S. Census data explored the association between disability and factors related to its prevalence and development (see chapter 2). In specific, "Householder with a disability: below poverty line" (DBPL) was determined as the dependent variable in the regression equation, whereas house and vehicle ownership (OO_0, RO_0, RO_1), education (FEDU30, Male_Dis_N), unemployment (16-64 years), employment disability (VD28, VD13), and race (AVD01, BVD01, HSVD01, WVD01, NVD01) were set as factor variables. To achieve parsimony and omit effects of multicollinearity, the variable "employment disability" (16-20 years) was excluded from the model. In total, four separate regression models have been tested for males and females; two of them included "race" as a factor in the variable set (table 38).

Overall, employment and house ownership have been important predictors for disability prevalence in the county. The first model (i.e. females) showed strong prediction effect on the outcome variable, and included education, employment, house (renting/owner) and vehicle ownership as regression factors. Compared to the model predicting disability among males in low income households, sole stronger predictors were employment and house ownership. Interestingly, education showed to have strong prediction effect on disability among females. Additionally, adding variables of race and ethnicity in the models improved the overall model fit (improved R-square and the Adjusted R-square), and decreased the AIC criterion.

Table 38. Predicted disability in Dallas County

Variable	R2	Adj. R2	AICc	b	Poor Education	Not employed (16-20 years)	Not employed (21-64 years)	Empl.disability - not employed (21-64years)	Race	Rent /no car	Rent/one car	Own house/ no car
Disability (Female)	0.838	0.804	4347	H:6.4 L:-18	H:0.25 L:-0.08	H:0.57 L:-0.27	H:0.42 L:-0.07	H:0.41 L:-0.39		H:0.30 L:0.04	H: 0.02 L: - 0.05	H: 0.31 L: - 0.11
Disability (Male)	0.819	0.777	4441	H:13 L:-16	H:0.06 L:-0.04	H:0.78 L:-0.10	H:0.48 L:-0.23	H:0.51 L:-0.37		H:0.33 L:0.04	H:0.04 L:-0.04	H:0.42 L:-0.17
Disability And Race (Female)	0.856	0.834	4275	H:7.8 L:-3.6	H:0.15 L:-0.10	H:0.19 L:-0.12	H:0.34 L:-0.003	H:0.16 L:-0.23	A: 0.07~0.10 B: 0.04~0.02 W: -0.008~0.02 H:0.05~0.009 N: 0.13~0.19	H:0.17 L:-0.06	H:0.004 L:-0.02	H:0.12 L:-0.02

Disability	0.834	0.814	4323	H:7.4	H:0.02	H:0.24	H:0.14	H:0.05	A: 0.04~0.05	H:0.18	H:0.006	H:0.15
and Race				L:-	L:-0.02	L:-0.09	L:-0.008	L:-0.02	B: 0.04~0.02	L:0.06	L:-0.01	L:-0.05
(Male)				3.5					W: -0.005~0.01			
									H: 0.04~0.02			
									N: 0.11~0.13			

A: Asian; B: Black; N: Native Americans; W: White; H: Hispanic; $p \leq 0.05$

Finally, the maps below (Map 11 and 12) illustrate the areas with highest disability prevalence in low income households in Dallas County. Considering the fact that race is an important predictor for households with people with disability living below the poverty line, a visual overlay of the maps outcomes would be expected to confirm the effect of the factor variables (Map 12). In other words, clustered areas with people from same racial groups have higher likelihood for disability prevalence as compared to non-clustered areas with diverse racial groups (comparing map 1 and map 12, see below).
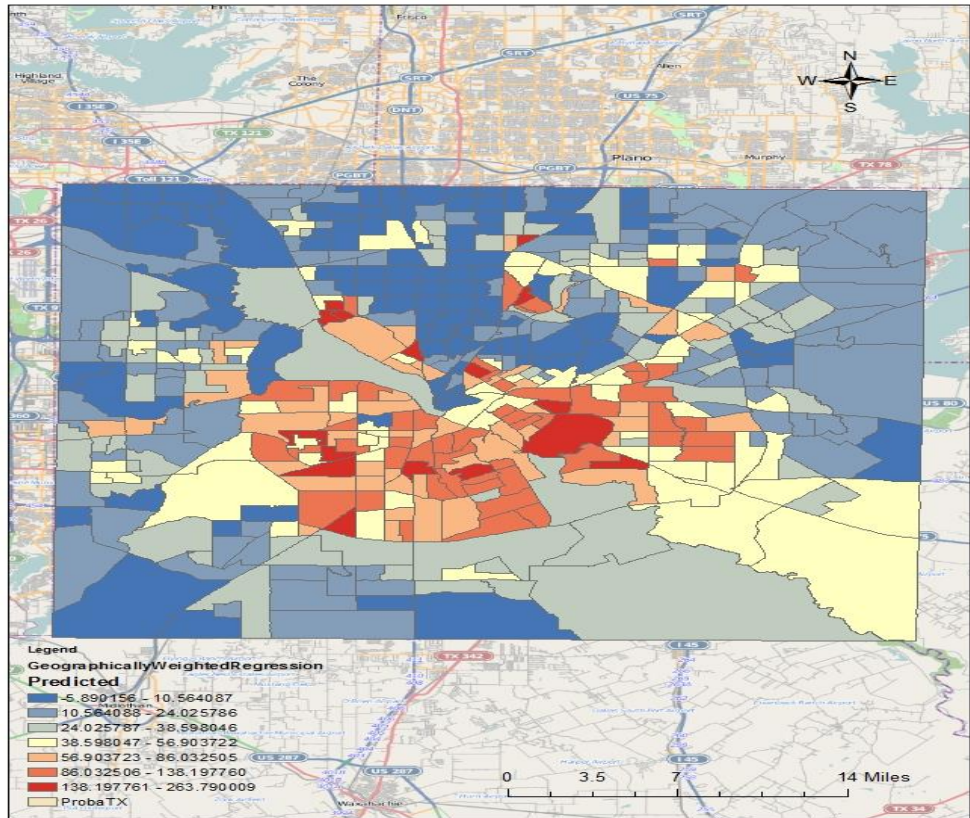
Map 11. Predicted disability in Dallas County

Predicted disability by income below poverty level, Dallas county
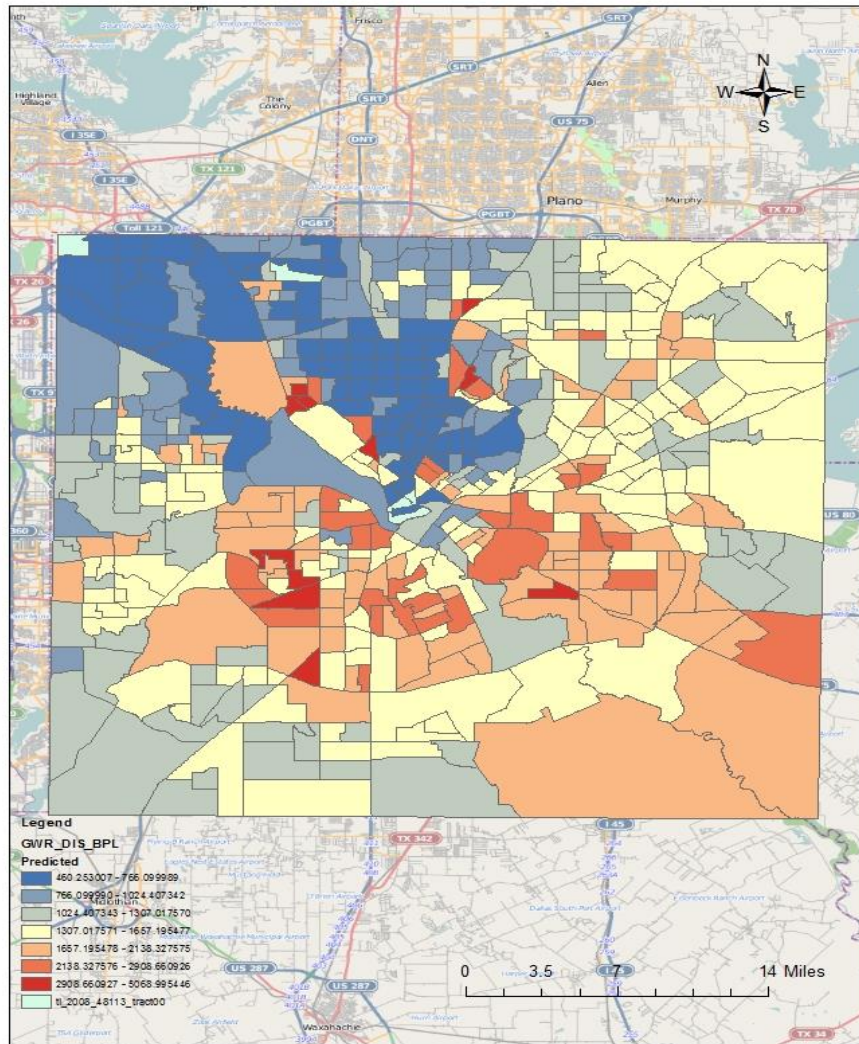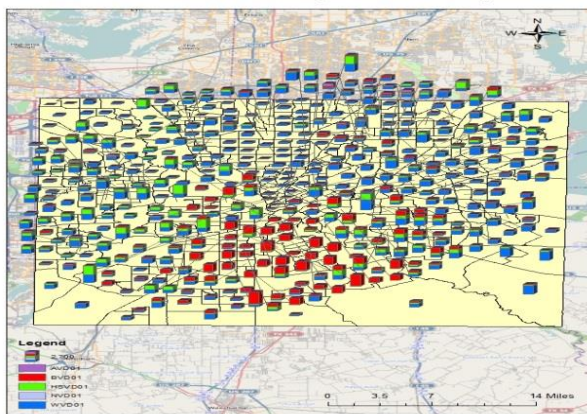
Map 12. Predicted disability in low income households: ethnicity included

Ethnicity and disability in low income households, Dallas county

Race and Disability, Dallas county

Race and disability map (1) was included as a comparative reference to map (10)

Specifically, hypothesis 2 predicted that greater disparity of disability

prevalence would be observed among minorities. The first part of the

analysis on disability and demographics did not support the hypothetical

assumption. The results showed higher prevalence of disability among White

than non-White PWD. However, the spatial regression analysis and the

analysis using GWR method for disability prediction supported the

hypothesis. The findings indicated improved model fit and higher

predictability effect after the variables of race and ethnicity were included in

the regression equation. For both gender models, the summative effect of all

racial variables had greater impact on the outcome than the rest of the factor

variables (see table 38).

Summary

Hypothesis 1 and 2 were supported by the data findings. Hypothesis 1 was

supported to the extent that smaller number of households of PWD was

observed in high income environments (e.g. Dallas County). Interestingly,

patterns of spatial clustering were observed in low and high income

environments. Such a result was reported in the findings for Dallas County,

where clustering of HHs with PWD living below and above poverty was

compared. This result was also statistically significant and suggested that

PWD, regardless of the level of their social well-being status, tend to form

clusters. Additionally, hypothesis 1 supported the assumption that low

income environments will tend to have less access to social services. The

regression models from both data sets reported higher model fit and

predictability of disability prevalence when social disadvantage factors such as unemployment, housing insecurity, household living conditions, and lack of education were used.

Hypothesis 2 stated that gaps in social goods will be greater among minorities. The results from the spatial regression and the GWR analysis supported that assumption. Ethnicity and race significantly increased the predictability of disability in both metropolitan areas. Important outcome observed in the findings was the negative relationship of the White race to the outcome variable. Hypothesis 2 stated that discrepancies in the findings will be gender-sensitive. Prediction of disability among females was expected to be stronger as compared to males. Results for Monterrey and Dallas County, however, showed dissimilar findings. Disability among females in Dallas County had a higher predictability than disability among males. While for Monterrey, the opposite trend was observed. Such a discrepancy in the findings provide implications for the field of gender and disability studies and will be further discussed.

In the next chapter, the significant findings of this study will be placed in the context of previous research. Considerations of their contribution to the understanding of disability will aid in understanding disability as an international phenomenon. Furthermore, the possible causes of the study's unexpected findings, similarities and dissimilarities of the results, will be discussed along with the limitations of the study and implications for practice and research.

CHAPTER 6

DISCUSSION: INTEGRATION OF RESULTS

This doctoral project investigated the performance of disability within two different political, cultural, and socioeconomic environments. Data were analyzed from decennial census data from Mexico (2010) and the U.S. (2000) that included a measure of disability prevalence and the activities on which disability status is assessed. In this chapter, a synopsis of the dissertation is followed by a reflection of study findings with regard to the research questions that guided this study. The synopsis of the dissertation will review the first five chapters of this dissertation in relation to the study purpose, context, theoretical views, methodology, and significance. The discussion of the study findings will review the reported chapter five results in light of previous studies in three areas: (1) geographic embodiment of disability; (2) disability clustering, and (3) disability and minorities. Furthermore, the strengths and limitations of this dissertation are considered and suggestions for further research are presented. This chapter will conclude with implications for social work research, practice, and knowledge building.

Synopsis of the Dissertation

In Chapter 1, the relevance of the study to the understanding of disability as a context-related matter was explained. The advances in the scientific knowledge of perceptions on disability were also discussed. Complex interactions between social, spatial, cultural, and structural

elements were identified as potential key dimensions for research on disability. Comparative statistics and scholarly reports on disability have been used to discuss the existing discrepancies between disability trends in developing and developed countries. An emphasis for a construction of multifactorial comparative model for disability research was proposed based on previous discussions on disability research.

The main purpose of this study was to examine the differing performance of disability prevalence within two different political, cultural, and socioeconomic contexts. Two dimensions were explored in this regard: environment as a disabling factor and the impact of minority backgrounds on disability prediction. The secondary purpose of this study was to evaluate how social participation is associated with the social status of people with disability. In particular, the degree to which exercised rights such as the right to work and employment, education, mobility, health, and adequate standards of living and social protection affects people with disabilities. The study developed a structural comparative approach placed in the contexts of diverse factor interactions impacting the relationship of social environmental influences on the prevalence of disability.

In Chapter 2, empirical and non-empirical literature was critically reviewed. As a result, several tentative conclusions were drawn from the critical review. First, it was noted that countries with different living standards face similar barriers to disability inclusion and development. Previous studies had discussed ongoing trends of housing, gender, labor, and

education discrimination against people with disabilities. Second, it was noted that statistics on disability in developing countries (i.e. Mexico), when compared to developed countries (i.e. the U.S.) yielded significant discrepancies. The number of individuals with disabilities in the United States was approximately four times greater than the number of individuals with disabilities in Mexico. Moreover, evidence suggested that such misbalanced trends have shaped the direction of disability studies into a northern-centered perspective. Third, development of disability policy in both states was comparatively reviewed. Specifics on welfare inconsistency, program development, and policy implementation were also detected with greater program and policy integration observed in the U.S. and greater advances in international disability human rights ratifications in Mexico. This study has added new critical context-related dimensions to the comparative research on disability and re-examined the existing knowledge base on disability beyond the Western horizon of disability understandings.

In Chapter 3, the theoretical framework of the study was described. A model of "Person within environment and space" was initially designed to explain the overlapping genesis of sub-systems of social inclusion of individuals with disability. A combination of key concepts – (dis)advantaged environments and (dis)ability were discussed from the theoretical standpoint of Amartya Sen and Pierre Bourdieu. This study suggested a new conceptual model-crafting of the WHO (2001) model on disability, with a re-designed

perspective of comprehensive understandings of access and inclusion of people with disability.

In Chapter 4, the research design was described, along with the methodology and rationale. A cross-sectional study design was employed using data from two national census data collections. Conceptual and methodological comparison of disability measurement was thoughtfully discussed and synchronized. A set of explanatory variables was selected and placed in four chief research domains. A discrepancy of selected independent variables was predetermined by the specifics of each data set and the availability of information on census tract level. Poverty as income and non-income measure was used as a proxy explanatory variable of disadvantaged contexts. Here, data analysis included three sub-stages: 1) socio-demographic description; 2) spatial dependence analysis and 3) spatial and geographically weighted regression analysis. Appropriate statistical procedures using GeoDa software for geospatial analysis and computation (version 13.0), and ArcGIS software for mapping and spatial analysis (version 10.1) were used.

In Chapter 5, a descriptive analysis on the research population was initially conducted. Spatial econometric models (Global and Local Moran's Index) were used to measure the overall clustering of the data and to identify localized patterns of spatial autocorrelation. Spatial regression analysis (i.e. Spatial Lag and Spatial Error models) of the first hypothesis was subsequently conducted to eliminate the dependence effect in the data.

Additionally, testing of models of different combinations of explanatory variables was conducted as part of the regression analysis. Finally, geographically weighted regression models were computed for prediction of disability among males and females (Hypothesis 2). A geographically weighted regression analysis of the second hypothesis was also conducted to test the aggregated effects of race and ethnicity on disability prediction in Monterrey and Dallas County.

Major study findings

To better comprehend the expected and the unexpected outcomes reported in the results section, major study findings and their implications for the understanding of disability as a complex context-related matter will be discussed. First, the relationship between disability and place is discussed, along with the possible explanations for the reported similarities and differences of the findings from both urban data analysis. Following this, the implications of the findings on disability occurrence among minorities are discussed.

The geographic embodiment of disability: a comparative view

Spatial regression analysis was conducted with variables that have been associated with disability occurrence and social inclusion of individuals with disabilities. As noted in chapter two, some previous studies have discussed the impact of the social and living environments on disability. A positive association was found between household conditions, housing

security (ownership) and disabled people living in low income environments (e.g. Turner et al., 2005;González et al., 2008; Urquieta-Salomón, 2008). Likewise, in both cities, an association has been found between (1) the level of education, and (2) the employment status with the prevalence of households with people with disability living below the poverty line (Dallas County) and the overall disability prevalence (Monterrey) being higher (e.g. Ganon & Nolan, 2006; González et al., 2008). Although these findings were not a part of this study's hypothesis, an analogous discernible pattern of socially disadvantaged groups of people emerged. In both city analysis, regressions on disability reported high predictability associated with unemployment, low levels of education, and poor household conditions and housing security. However, the regression coefficients of the conducted models using census data from Dallas County and Monterrey showed different intensity. Unemployment (16-64 years) was a strong predictor of disability occurrence in Dallas County (Coefficient range [high]: 0.19 - 0.78), while for Monterrey, highest predictability effect on disability had the poor household conditions (Coefficient range [high]: 2.08 – 6.47). Education showed to have greater regression effect on disability among people with disability living in Monterrey (Coefficient range [high]: 1.2-1.5), and variability by gender in Dallas County (Coefficient [high] (females): 0.25; Coefficient [high] (males): 0.06). Comparativeness of the effect of the variables of health care was not possible because the U.S. census data (2000) did not provide information on health coverage and service usability on a

tract level. However, the results from the regression model of disability using Mexican data indicated low variability impact of the health coverage variable (0.22-0.49) as compared to the rest of the variables in the regression equation. That is probably due to the measurement of the data itself. Generally, publicly available census data provide information only on the trends in the type of health insurance and the preferences for a health provider [e.g. Mexican census data], while non-Census National Health Surveys (e.g. National Health Interview Survey, part of National Center for Health Statistics (Center for Disease and Control), the U.S.) provide in-depth information on health status, access to and use of health services, health insurance coverage, immunizations, risk factors, and health-related behaviors. Recognizing the limitations of the Census data, the results from this study might only partially corroborate previous investigations that have explored the relationship between health care coverage and condition of disability (i.e. findings from the analysis of the Mexican data).

In this study, people with disabilities, through their social practices and embodied environments, have refined their geo-social positions within the metropolitan areas. Indeed, the interplay between choice and chance to form opportunities and lifestyles is mapped by the demographic picture of the occurrence of disability in both cities and reflect the differences in their social standards. Previous reports on disability profiles from both regions have separately described the trends in disability and barriers to social inclusion (see Gonzalez et al., 2008; National Council on Disability, 2008).

The descriptive analysis of this study lent support to the comparative profile-

building of the population with disability in Dallas County and Monterrey. It

was noted that disability has different statistical priority in both contexts. The

striking difference in disability prevalence between the countries is an

invitation for a deeper thought on the perception of the condition of

disability. In a context of well-established disability policies and effective

informative campaigns, such as the context of the United States, the level of

social-awareness and understanding of the problem is significantly deeper.

For example, two decades after its enactment, ADA has shaped social

perceptions, political and court decisions, and has received an impressive

public support (Davis, 2013). That public "pressure" on the problem has

resulted in better understanding of the needs, the conditions, and the rights

of the individuals with disabilities (Fleisher & Zames, 2001). Moreover, the

public awareness of the problem was reflected by many supportive and

screening programs such as the Social Security Disability Insurance (SSDI),

Supplemental Security Income (SSI), Workers' Compensation program,

State Vocational Rehabilitation (VR) program, Department of Veterans

Affairs (VA) Programs, and by a sophisticated measurement of the number

of people who were tallied to have some form of disability during the

decennial census count. Mexico on the other hand, has a shorter history in

disability lawmaking and policy implementation. In 2006, the country

enacted the law on disability (i.e. Ley General de Personas con

Discapacidad), whereas in 2007 the National Health Department (Secretaria

de Salud) released the first disability programs in Mexico (Programa de
Atención Específico: Atención Integral a la Salud de las Personas con
Discapacidad, 2007 – 2012; Programa de Acción Especifico: Tamiz
AuditivoNeonatal e Intervención Temprana, 2007 - 2012). The increased
public and political awareness of the problem of disability led to 3.3%
increase of the tallied people with disability in the 2010 census count. These
developments in disability policy planning and implementation recognized
the importance of information on PWD in terms of provision of services and
programs. Therefore, in the conduct of census data collection, where the
disaggregation is at a more detailed geographic breakdown, the targeted
activities towards greater information and awareness of the problem are of
crucial importance.

Disability literature has also explored the association between
disability status and age. Although the spatial analysis did not focus on a
particular age group, the descriptive comparison of the disability trends in
both metropolitan areas suggested different associations between disability
status and age. Males and females with disability living in Dallas County
were predominantly elderly population (over 40% were above 65 years),
while for Monterrey, the statistics showed a disturbing fact. Disability status
in Monterrey was observed among both the elderly (over 65 years,
approximately 20%) and non-elderly population groups (16-64 years,
approximately 24 %). On a broad scale, the latter statistics suggest implicit
positive relationship between disability, perceived health status, population

trends, and age. For example, the diagram for Mexico shows the

unmistakable pyramidal shape caused by the ever-increasing number of

births and a larger proportion of non-elderly citizens, while the diagram of

the U.S. has the classic shape of a shrinking population with larger group of

senior citizens (Appendix 3). Considering the age disability trends described

earlier, a possible explanation for the reported statistics can be aligned with

the self-reported health status. Previous studies have specifically linked

individuals with an early onset of disability to report better general health

than people with later onset of disability (e.g. Jamoom, Horner-Johnson,

Suzuki, Andresen& Campbell, 2008). Therefore, in societies with large

elderly population such as the United States, populations are expected to

report higher number of people with disabilities as compared to

predominantly younger societies like Mexico. This comparative strategy

allowed initial evaluation of the relationship between age and self-reported

health status for individuals with a wide range of ages and types of disability.

Further, it provided methodological support for future cross-national studies

to investigate these issues prospectively.

<center>Disability clustering</center>

The chief purpose of this study was to compare the cluster of people

living with disabilities in low and high income environments. The

comparison was done in two levels: intra-group comparison between PWD

living in the same urban environment, and cross-group comparison of PWD

living in different urban environments (e.g. Monterrey and Dallas). It was

assumed that people with disabilities who live in low income environments will tend to cluster around a higher concentration compared to those living in high income environments. Global and local Moran's I (i.e. measures of spatial autocorrelation) were initially used to test this assumption.

Disability prevalence (measured as a total population in the Monterrey's sample) and households with individuals with disability living below poverty (Dallas County sample) were the dependent variables to test hypothesis one that predicted disability clustering in the metropolitan areas. The index of spatial autocorrelation (I= 0.41, $p \leq 0.001$ Monterrey; I= 0.36, $p \leq 0.001$ Dallas County) indicated favorable cluster patterns in the models. This means that people with disability were more likely to form spatial clusters than being homogeneously distributed in the areas of the cities. One implication of this finding is that areas with limited resources seem to have repercussions for the high concentrations occurrence of PWD living in such areas.

Previous research tends to support the interpretation of a link between socioeconomic status (SES), i.e. low-income environments and disability status for patterns of spatial segregation. For example, disability and chronic illness have been linked to unemployment and place of residence (e.g.,Støver, Pape, Johnsen, Fleten, Sund& Claussen, 2012). Støver and associates (2012) found that unemployment increased the risk of receiving subsequent disability pension. A minor, but statistically significant impact was also attributed to the municipality of residence. Contrary to the

socioeconomic status divide, research on people with neurodevelopmental

and neuromuscular problems reported no association with poor household

SES (Simkiss, Blackburn, Mukoro, Read & Spencer, 2011). One possible

explanation for this differential association is that depending on the type of

disabilities and the severity of the disability condition, the association

between disability and SES will differ substantially. For example, people

with mental or behavioral related problems may have greater correlation with

the socioeconomic conditions than the people with physical or genetic

problems because they have a higher likelihood to live longer with their

disabling condition (Simkiss et al., 2011). In this study, the predominant

disability types for Dallas County were mental and self-care disability that

yielded greater likelihood of PWD to live in low socioeconomic

environments due to unemployment. Results from both spatial regression and

geographical regression analysis showed high predictability effect of

employment condition on disability prevalence in Dallas County. In

addition, the main disability types in Monterrey indicated difficulties to see

and walk often caused by a previous disease condition or an accident

(INEGI, 2010). Further, results from both spatial regression and geographical

regression analysis indicated high correlation and impact of the poor

household conditions on disability. Personal environmental conditions such

as poor household conditions might reframe the health and social contexts of

individuals to the extent that would increase the risk of disability (WRD,

2011). There is ample research documenting situations in which poor

household conditions relate to poor nutrition and quality of life, and higher disease prevalence (e.g. Department for International Development, 2000; Lusting& Strauser, 2007; Eide & Ingstand, 2011). Therefore, the model of factors influencing disability prevalence in Monterrey may be explained by considering chief household condition factors such as access to household goods and services. However, further research will be needed to provide statistical support for the relationships between disability types, disease, living conditions and variables of SES in low and high income countries.

As initially established, hypothesis one assumed higher clustering effect and lesser accessibility to social goods and services among poor households with people with disability compared to high income households with people with disability. To compare the assumption with the outcomes and test spatial dependencies and clustering among people with disabilities living in contexts of higher income, two spatial regression models and spatial autocorrelation methods (Global and local Moran's I) were conducted. The results reported clustered areas with people with disabilities living above the poverty line and having greater acces to social services. This parallel cluster development of areas with PWD in low and high income environments, however, had different explanatory variables. As has been noted in previous chapters, resourceful environments diminish the impairment effect on PWD because their life opportunities are based on "enabling" their social inclusion factors such as higher education, employment, housing stability and mobility, and access to health care services. It is conceivable that economic,

social, physical, and service environments would impact the health of the individuals with disability in the communities where they reside. For instance, a report from the Secretariat of the WHO Commission on the Social Determinants of Health in 2005 raised the importance of social justice and socioeconomic equality and their relationship with health (WHO 2008). Major discussion point in the report was the differing opportunities developed in low and high income market environments. Findings from studies on healthy and safe communities reported very substantial differences in the quality of available resources in low and high-income places. For example, less healthy-based food stores but more liquid stores, higher crimes rates, and less recreation areas were described in low income environments (Romero, 2005; Moore & Roux, 2006). Having added the market dimension to the environmental settings where people with disability above and below poverty line live, there is a possibility that the unhealthier product supply in poor neighborhood could increase the risk of unhealthy outcomes to the point that greater risk for disability development might occur. Until there is an empirical basis for understanding how market environments contribute to healthy community development, it may be possible to predict whether business investments would positively favor the health and social development of residents with disabilities. Indeed, for the concept of community health investment to be useful in the context of disability prevalence and health disparities, the way in which building opportunities and choices for individuals with disabilities must be examined empirically.

One factor that influences the environmental clustering and disparities among people with disability is their minority background. The discussion turns next to an analysis of the findings of the relationship between race and ethnicity to the prevalence of disability in Dallas County and Monterrey.

6.2.3 Disability prediction among minorities

The second aim of this study was to evaluate how social participation is associated with the social status of households with people with a disability. Specifically, it was predicted that the gap in the accessed goods and services will be higher among women and minorities. To begin, the mapping results in the descriptive section of the analysis overlaid a clustering trend of people with disabilities by race living in Dallas County. It was observed that among all races, Blacks and Hispanics with disabilities were highly concentrated in particular areas of the city. Further, the mapping of the areas of households with individuals with disability in the county pictured similar clustering pattern. Likewise in Monterrey, the concentration of indigenous people was in the marginal areas of the city where the index of urban marginalization indicated moderate values. Again, results from the spatial regression analysis and the geographically weighted regression in both metropolitan areas indicated high R-square values (above 0.6, $p{\leq}0.05$) of disability predictability in low income environments. Still, the result was higher in the Dallas county model where racial/ethnic group disparity was greater than it was in the Monterrey model. This finding is congruent with previous studies that have found correlations between racial/ethnic

socioeconomic disadvantages and disability status (e.g.Ozawa & Yeo, 2008;

Wang, Shi, Nie & Zhu, 2013). However,it obviously contrasts with previous

studies that could not find strong relationship between race/ethnicity and

disability (e.g. Huang, Chung, Kroenke & Spitzer, 2006; McGuire &

Miranda, 2008).

One way to interpret the variation in racial and ethnic disparities in

disability prevalence across studies is to speculate that disability conditions

may have different paths of development depending on the management of

diseases and the understanding of specific health conditions by different

cultural groups (Manton & Stallard, 1997). For example, Latinos report

lower correlation of severity with disability than blacks or non-Hispanic

whites (Huang et al., 2006). This epidemiological fact is known as the

"Latino paradox" and is explained by social and cultural protective factors

maintained by community networks – family, friends, community members,

and community health workers that provide informational and behavioral

contexts for healthy living outcomes (McGlade, Somnath & Dahlstrom,

2004). Alternately, it is possible that the failure to take confounds such as

educational attainment, age, immigration status, and type of disability into

account, may mask the under estimation of the disparities among diverse

racial/ethnic groups of people with disabilities. For example, immigration

status and acculturation increases the risk of disability and chronic diseases.

Previous studies discussed Asians with higher socioeconomic status and

those born outside the United States to be healthier than Asian Americans

born in the United States (Singh & Miller, 2004). Additionally, a study

comparing disability rates among white non-Hispanic and Asian

American/Pacific Islanders found that both Hawaiian/Pacific Islanders and

Vietnamese experienced higher rates of cognitive problems than whites,

while Hawaiian/Pacific Islanders also had higher rates of functional and

ADL limitations (Fuller-Thomson, Brennenstuhl & Hurd, 2011).

Subsequently, racial disparities on disability have different age variability.

The study of Moody-Ayers, Mehta, Lindquist, Sands and Covinsky (2005)

compared non-Hispanic white and black elderly populations and found that

elderly blacks experienced the onset of disability at a higher rate and earlier

than whites. Furthermore, literature has discussed the overrepresentation and

the underrepresentation of white and black students with learning disability

in the education system (Blanchett, 2010). Of concern is the fact that white

students with learning disabilities are more likely to be educated in regular

classrooms, while black students with behavioral and emotional difficulties

are most likely to receive education in separate environments (Blanchett,

2010; U.S. Department of Education, 2005). Unfortunately, the political and

social beliefs underlying such facts are difficult to be assessed directly

because of the perceived social desirability to present "equal and fair" view

of racially and ethnically diverse individuals with disabilities. It is feasible

that some progress might be made in alleviating racial disparities among

individuals with disabilities through debates for re-evaluation of the current

special education act (IDEA) (Blanchett, 2010), research on immigration

and acculturation as part of the racial/ethnic component of multicultural environments (Singh& Miller, 2004), and development of systematic policies and programs that address the age specific needs of elderly PWD such as access to health care (Wang et al., 2013).

Indeed, the racial discrepancy between white and nonwhite people with disability has been observed within the results of this study. White race predictor was in a negative relationship with the prevalence of households with PWD living below poverty (Spatial regression coefficients for OLS, SL, and SE were -0.01, $p = 0.00$). Perhaps more importantly, the potential effect of the white racial factor is confounded by the fact that disability occurrence is tested in a context that encompasses factors that disproportionately advantage Caucasians: including education, income, and net worth (Ozawa & Yeo, 2008; Fuller-Thomson, Nuru-Jeter, Minkler & Guralnik, 2009). The importance of these study findings is to suggest that the impact of the racial/ethnic component on disability is multidimensional. It can be inferred that understanding the variability of disability occurrence (higher or lesser)   and access to social goods must be made with reference to race-specific context characteristics.

In this study, it had been predicted that along with minorities, women with disabilities would have less access to social goods. Contrary to the initial expectations, the results from the geographically weighted regression indicated that R-square of the predicted prevalence of disability among women in Monterrey (R-square=0.69, $p \leq 0.05$) had less values as those of

the predicted disability among males (R-square = 0.78, $p \leq$ 0.05); while the

results in Dallas County indicated slight difference in the R-square values

between females (R-square=0.83, $p \leq$ 0.05) and males (R-square= 0.81, $p \leq$

0.05). The original prediction was made on the basis of studies that hadfound

gender differences in terms of the social goods available and accessible for

women and men with disabilities (e.g. Harris & Enfield, 2003; Martínez &

Acevedo, 2004; Okkolin, Lehtomäki & Bhalalusesa, 2010; WRD, 2011).

There are a number of possible alternative explanations for this

unexpected finding. One possible alternative explanation is that disability as

a function of assessed social goods depends on several intangible societal

factors such as social and family roles, and cultural attitudes. In an

androgenic culture like the Mexican is, the role of women is widely

perceived to be that of housewives or caregivers (Alvarez de Vicencio,

2002). This cultural perception may mask the effect of the measure of

accessibility in the face of divergent, cultural-specific meanings attached to

gender roles, rights and expectations. In the U.S., greater advances have

been achieved in gender egalitarianism and democratic opportunities for men

and for women with disabilities (e.g. ADA, 1990; JAN, 2010). Nevertheless,

questions of labor integration policies and equality in remuneration are still

posing great challenges in both countries. Disparities in labor market

participation provide another possible explanation of the observed

differences in the gender results.   In the U.S., factors such as low payments,

part-time working schedules, and less ranked-positions drive part of the

gender differences in employment outcomes that might generate less advantageous lifetime trajectories for women than their male counterparts (Parker, Grebe, Hirts, Hendey & Pascall, 2007). In this context, gender differences in accessing and sustaining equitably paid employment might compound group-based social disadvantages arising from social marginalization. This is one of the thornier issues of today's disability study agenda which was partially addressed in research such as this. Issues of study limitations will be further discussed.

Limitations of the study

There are several limitations for this study. The first limitation concerns the spatial dependence outcomes from both spatial regression models (i.e. spatial lag and spatial error models). Although both alternative models yielded improvement to the original OLS model, tests for heteroskedasticity and normality indicated dependence effects between the variables and the error terms. This limitation however is not unique to studies using spatial statistics in their analysis (Basile, Kayam, ´ınguez, Mur & Mur, 2013). Further, the significant spatial autocorrelation in the reported outcomes did not determine whether these were true spatial effects or were spurious, i.e. attributed to patterns in other variables, such as income or individual characteristics (i.e. age, gender, etc.) (e.g.Cheng, Chen, Liu & Yang, 2011).

The selection of explanatory variables has been constrained by non-shared, country-specific census variables. As mentioned previously, the model building of both regression models was limited to a list of census variables, similar in their categorical meaning, but different in content (e.g. household conditions (Mexican data) and house ownership (Dallas data)). Additionally, the theoretical model of disability based on access and functionality (WHO, 2001) was only partially reflected in the regression models. Therefore, the conceptualization of disability in both models was "lacking" potential explanatory variables, because they were not measured on a track level (i.e. health coverage, Dallas county data; mobility/transportation, Mexican data) or were not measured during the census decennial collection (i.e. specific variables such as quality and type of received health care services; frequency and type of used transportation; variables of social participation (i.e. voting) and leisure activities (i.e. recreation), etc.).

Subsequently, a limitation was the use of census data. Since census measures couldn't capture the full richness of the human functioning -- either by functional domain (body structure/function, activities, and participation), or by interaction between functional status and environment (Mont, 2007), the study could only provide a parallel overview of the prevalence in disability without sufficient statistical "room" for further inferences.

Additionally, the issue of validity of the data used in the comparative approach was an extra-methodological concern. Since the attempts to build

compatible construct validity by synchronizing the differences in the census variability of the data could not fully support the methodological legitimacy of the study, a broader "social validity" term was inherently meant to recognize the importance of different views in measuring and evaluating context-diversity (Foster & Mash, 1999).

Building on the notion of social validity, a potential criticism of this study is the structural comparison of the outcomes (i.e. macro level), allowing inferences on trends, rather than discussions of the causes and the consequences of the correlations between the variables in the study. Additionally, the use of the proxies (i.e. poverty and index of urban marginalization) could be considered also problematic because the validity of their instruments was unknown. Finally, the absence of data collected from a different instrument enriching the analysis with broader information on environmental influences on disability in both contexts decreased the potential predictability of the study.

Lastly, the use of ArcGIS software to calculate the predictability of disability in Monterrey and Dallas County imposed a further limitation of this study. Scholars have discussed the use of GWR software as a more powerful geostatistical method for geographically weighted regression calculation (Matthwes& Yang, 2012). Using isolane method allowing the map reader to read both the approximate parameter estimate and the t-value for any location on the map (Matthews & Yang, 2012), GWR software would have enabled accurate and located predictability outcome values of

the prevalence of disability for each census track area in both cities. In contrast, ArcGIS software visualized the predictability effect through outcome maps and calculated a total R –square statistics for the whole geographic area, but did not specify the local (i.e. track level) values of the predicted variable impact on disability. The GWR software might be of particular importance for research and policy decision-making where allocation of resources in scarce environments requires more sophisticated methods in identifying vulnerable populations and assessment of the social risk.

<div align="center">Implications for social work practice</div>

Conceptualizing the dominant discourse and understanding the phenomenon of disability in economically diverse contexts broadens the theoretical ground for social work research and practice in this area.   The empirical evidence from this study supporting a relationship between the context of individuals with disabilities and their accessibility to social goods, lends support to the widened theoretical context of social work and helps expand the "problem" of disability beyond interventions, focusing on the "deficit within the individual" (Hiranandani, 2005). The need for alternative group interventions in social work has been mainly explored in the social work practice literature in the context of therapeutic interventions with individuals with learning and intellectual disabilities (Mishna, Michalski& Cummings, 2001; Enosh, Duvdevany & Arzi, 2008) and in the context of

advocacy interventions for parents with learning disabilities (Bauer, Dixon, Wistow& Knapp, 2013).

The findings of this study suggest interventions aimed at improving the service accessibility, along with enhanced access to social goods such as education and trainings for students and disabled employees, along with access to health care, accessible housing service accommodations and improved living conditions, may have a significant influence on the well-being and the level of integration of PWD. As social workers learn how to effectively address the needs of people with disabilities and their families as part of the interrelated needs of the community where they reside, the rest of the community members will become part of a new model for community development. Change in the community perceptions and understandings could then open the process of a parallel inclusion– from individual/family towards community and vice versa. This will provide social workers with an open door to mediate for improving the communication between disabled and non-disabled individuals and will foster positive change in the attitudes towards inclusion of the socially disadvantaged disabled community members. New relationships could then be developed between disabled and non-disabled people through community investment and capital building using market and non-profit organization strategies such as micro-crediting and capacity-building (Lombe, et al. 2010). Promising practices using community development as a way to generate social, health and human capital among disabled citizens have implemented educational and

vocational programs and public-private partnership projects for micro-

enterprises to contribute to the advanced skill-building and financial stability

of PWD and their families (http://www.comop.org/). Additionally,

gardening projects for community tradeoffs generating jobs and providing

fresh food (Hancock, 2001) and health investment projects shaping health

and behavioral risk practices among disadvantaged groups (Mullany,

Barlow, Neault, Billy, Jones, Tortice, et al., 2012) suggest evidence for

effective social entrepreneurship and draw strategies for inclusion of PWD

in a sustainable community development schema. Perhaps in the light of the

latter evidence, social workers, in their role as community mediators, may

want to discuss with community and business leaders to engage in projects

and practices that will create favorable environments generating access to

social goods and services to people with disabilities and their families. By

using the CBPR model social workers can conduct research with the

potential for positively influencing policy in the direction of social justice

(Jacobson & Rugeley 2007).

In addition, this study's findings, together with studies noting the

disparities in disability prevalence among minorities (e.g. Ozawa & Yeo,

2008) and women (e.g. Harris & Enfield, 2003) suggest that diverse

disability groups require different ways for social intervention corresponding

to their unmet needs. Theoretical work and empirical findings tend to support

the proposition that models providing a more complex analysis of racial and

gender discrimination bolster the effectiveness of interventions aiming at

reducing social and health disparities among disabled citizens (Newell

&Kratochwil, 2007,Mwachofi, 2009). This suggest a platform for

empowerment and advocacy building for diverse disadvantaged disability

groups, raising possibilities that citizens with disabilities in developed and

less developed environments could participate in more equitable service

provision, employment, and educational programs, to name but a few

(WRD, 2011).

It is proposed that social workers, along with other professionals,

provide information, education, training and consultations for both

disadvantaged groups and policy and community leaders. Participatory GIS

in which marginalized individuals and communities play active roles in

shaping the focus, content and purposes to which geospatial data are put can

be a powerful tool for social workers and their collaborators (i.e., consumers

and other stakeholders) to create innovative and responsive interventions

(Elwood, 2006). Therefore, social workers and their collaborators could

bridge gaps in knowledge and practices in dealing with disparities in

disability, with the purpose of enhanced participation and inclusion of people

with a disability. Additionally, social workers could take on a more

important role in addressing differences and inequalities among individuals

with disabilities by impacting upon societal and political norms through

advocacy and outreach practices.

In conclusion, the study findings suggest focusing social work efforts

towards creating a cohesive environment for individuals with disability on a

community level. It also broadens the scope for cohesion to include

adaptations for diverse minority groups of people with disabilities. The

experience of people with disabilities who belong to minority groups is

distinct and thus interventions directed towards them require adaptations

(Olkin & Pledger, 2003). A move towards community empowerment would

have a vital role in creating new strategies in disability interventions.

Implications for social work education

The basis for social work education is the commitment to social

justice and equality. Council on Social Work Education (CSWE) Educational

Policy and Accreditation Standards (EPAS) mandates that social work

programs include issues of disability, as part of the mandates for education in

diversity (CSWE, 2008). Moreover, one of the core ethical principals in

social work appeals for "sensitivity to and knowledge about oppression and

cultural and ethnic diversity" (National Association of Social Workers

(NASW), 1996). Therefore, education in disability matters is considered

essential part of the social work curricula.

Disability content in social work education has a short history of

implementation (Bean &Krcek, 2012). Unfortunately, limited stuies, mainly

from American sources, has discussed the importance of disability studies in

social work education. For example, a recent study found that only 37 % of

the top-50 schools in social work in the United States had included at least

one disability course in their programs (Laws, Parish, Scheyett, & Egan,

2010); while another one reported 22 BSW and MSW courses (1%) that had

a disability related terms in the course title, and 87 courses (5%) that

included disability content within the course description (Bean & Krcek,

2012).

Disability content in social work education is vital to the knowledge

of all future social work practitioners and researchers who might serve and

advocate for individuals with disabilities. Therefore, preparing social work

students to work with this vulnerable group of people is essential for the

quality of their service. This requires a shift from a diagnostic approach to

social work education around disability to one that addresses the multiple

overlapping environments, including geographical, economic and societal

loci, in which people with disability are situated (Gilson & DePoy, 2002)

Additionally, Hamilton and Fauri (2001) state that the "fuel" of

political activity is greater among students enrolled in social work programs.

Importantly, role in the advocacy process have social work educators who

"can assist students in developing political skills, such as writing and

delivering testimony, meeting with government officials, and working in

political campaigns" so that future professionals can develop knowledge in

public participation and advocacy of rights (Hamilton &Fauri, 2001).

Although guaranteed by the law, many people with disabilities struggle with

their self-advocacy and need service providers to help them better understand

and exercise their rights (Downing, Earles-Vollrath, & Schreiner, 2007).

Therefore, it is proposed that social work students, along with their educators

could advance the level of disability advocacy through enhanced knowledge on current ADA policies and issues in disability rights and services.

In conclusion, this study has reflected on the need for expanded framework on disability and diversity in social work education. This demanded for an application of disability course content in the social work curricula on graduate and undergraduate levels. More research, however, is needed to assess and compare the importance of the integration of disability content in social work programs in Mexico and the U.S.

Implication for policy and research

The policy framework for disability inclusion is based on a citizenship approach and acknowledges the social responsibility of the state to provide people with disabilities with greater opportunities to contribute to their own well-being and to participate fully in their communities (ADA, 1990; Barton, 1993; Ley general de personas con discapacidad, 2006). Moreover, the social work code of ethics promotes the expansion of social work practices and advocacy for programs and projects involved in social justice and human rights matters (NASW, 2008).

This study was an appeal for greater political and social awareness of the problems of accessibility and inclusion for individuals with disability living in Monterrey and Dallas. It was assumed that despite the social, cultural, and economic differences between the states, people with disabilities would face similar challenges. By using the results of this

analysis, the study invites social workers, activists, and policy makers to re-think and re-shape the demands on disability matters through common action plan initiatives and programs.

The results from the 2-staged analysis addressed common and divergent areas for policy research and action. To begin with, a need for a comprehensive disability survey design should be addressed in both political contexts. Measure of disability on a national level through census survey falls short of information, and forces researchers into limited compromises with the available information. For a complex social problem such as disability, mixed method design would have probably expand the understanding and decreased the misspecifications of its explanatory models (Kroll, Neri& Miller, 2005). Thus for example, problems of dependence and heretoskedasticity observed in the current study could have been better addressed through the use of qualitative methods and a capture of respondents' understanding and assessment of the problem.

Previous studies have identified the use of Community Based Participatory Research (CBPR) facilitated by Academic-Community Partnership in facilitating the abilities of researchers to create effective and accessible data collection instruments through academic and community collaboration (Nicolaidis, Raymaker, Macdonald, Dern, Boisklair, Ashkenazy, et al., 2012; Mullany, Barlow, Neault, Billy, Jones, Tortice, et al., 2012). Such an approach can greatly improve the knowledge on disability and thus benefit the target population and the policy-makers with

collaborative work in setting research questions, design study protocols, recruit participants, interpret results and co-author reports. Applying this approach to the current study would benefit the public with greater awareness and understanding on the disparities among individuals with disabilities. Moreover, it might be used prior to implementing a population-based survey, and thus increase the accuracy, predictability, and generalization of the results after using geospatial and standard statistical methods for social analysis on disability.

Another key area for policy and research action is the assessment of the accessibility of the social and living environments of people with disabilities. The results of this study showed high association between disability and social goods such as employment, education, housing, and household standards of living. Improved policies in the latter areas would enhance the independence and the inclusion of citizens with disability. In specific, attention to policies assisting the living of poor households with PWD should be a priority for the local political decisions on disability in Monterrey. On the other hand, results from the analysis in Dallas County indicated high association between disability and employment. Therefore, current efforts in addressing unemployment among individuals with disability in Dallas should be re-evaluated and improved.

Some possible ways to frame and reflect upon such problematic political areas include ongoing efforts that require interdisciplinary solutions (Clark, 2006). Despite the strong prediction of the two above listed factors -

unemployment and poor household conditions, disability policies in both cities will have to address the intersection and interdependence of these factors along with the rest of the factors impacting disability (e.g. education, housing, health access, etc.). Acknowledging the interdependence of the factors related to disability will shape future policies into more local-based and multifaceted program solutions.

In conclusion, the policy implications of this study propose a local-multifaceted program solutions addressing the needs and challenging the issues of populations of PWD living in diverse communities and localities. Policies that reflect local realities of cultural, economic, and racial/ethnic disparities, coupled with targeted locally-based research, interventions, and programs are expected to improve the inclusion and the state of wellbeing of people with disabilities. These locally-crafted policy responses will make effective use of the strengths and the resources of the community areas where they reside.

Future directions and conclusions

Future research on the relationship between socioeconomic context and the prevalence of individuals with disability must address challenges of local development and resource availability. Several insights will shed light into the areas that require attention, involvement, and commitment from disability scholars, activists, and policy-makers.

One of the most essential elements of national and international
policies in disability is the participation of people with disabilities in social,
economic, and cultural activities that enables them to improve their well-
being, exercise their human rights, and generate resources for an
independent living   (ADA, 1990; Barton, 1993; Ley general de personas con
discapacidad, 2006; WHO, 2001). Recent trends in disability statistics of
enhanced disability prevalence (US Census Bureau, 2000; INEGI, 2010) has
alarmed for upcoming budget deficit and decreased public funding
(Congressional Budget Office, 2010). Therefore, the use of alternative asset-
development strategies that advance the personal and economic well-being of
citizens with disabilities are possible solutions for development opportunities
for PWD (Lombe, et al., 2010). Some efforts conducted in this direction have
been the Asset Accumulation and Tax Policy Project (AATPP). Developed
in 2003, the project aimed at improving the lives of youth and adults with
disabilities through participation in financial education programs, inclusion
in community economic development initiatives that create cooperative
housing and business ownership; access to low-cost financial services
through community development credit unions, etc.
(http://www.wid.org/publications/asset-accumulation-and-tax-policy-project-
aatpp).Tested in contexts of poverty, asset-generating programs seem to be a
powerful instrument in decreasing the negative effects of socioeconomic
inequalities (Latifee, 2003). Widely used in developing countries (i.e.
African and Asian), asset-based models increase the purchasing power of

disadvantaged people and provide opportunities to buy goods and services such as food, medication, transportation, education, to name a few.

The current study suggests several other areas for further inquiry, beginning with the findings addressing disparities among minority groups of people with disabilities. A CBPR approach that includes participation of people with disabilities and their families and provides exclusive insights on barriers to their well-being might guide studies of a sensitive nature towards greater appeal, credibility, and collective legitimacy in the eyes of policy makers. (Nikolaidis, et al., 2011). Given the strengths of this approach, i.e. involvement of the participants in the design, analysis, and presentation of the study, CBPR could be used as a tool for creating awareness, understanding, and knowledge on the problem of disability in both disabled and non-disabled community members. This t would help improve the social dynamics and networking among advantaged and disadvantaged populations and would lead to the establishment of action plans, aiming at mitigating inequalities in the community.

Future investigations might also promote cross-national multidisciplinary collaborations in comparative disability research projects and practices, with the aim of improving the lives of people with disabilities, their families and careers, throughout the world. Enhancing the horizon of the World Programme of Action Concerning Disabled Persons (http://www.un.org/disabilities/default.asp?id=23) through multidisciplinary and multisectoral approaches would entail the involvement of international

academic communities into research projects for socio-economic development and multicultural understanding of disability matters. Finally, a multilevel comparison of the problem via diverse geographic and geostatistical methods for disability analysis would enable a research partnership between investigators and practitioners from different academic fields. Thus, in a context of a larger on-going plan for collaborative research, global initiatives such as the world action program on disability would have greater impact and legitimacy at governmental and non-governmental levels to create a perceived mutuality of interests.

In conclusion, a focus on the disparities facing persons with disabilities living in diverse social contexts is needed to better understand the challenges of their everyday living *in situ*. Despite the fundamental differences in the level of social development in Mexico and the U.S., disability equally resonates as alarming symbol of unachieved social justice and inclusion. This study indicates that disability is not an isolated social phenomenon but related to health, social, spatial and cultural dimensions. Given the divergent and sometimes conflicting trends in practices and policies addressing disability in low and high income environments, it becomes crucial to re-examine the framework of disability by gauging local characteristics and by infusing a grounded socio-cultural understanding of the various contexts that consequently shape place-based social behaviors and political decisions.

APPENDIX 1

Variable list

Dallas county census data 2000

Variable	Label
AVDO1	Asian American
BVDO1	Black/African American
HVDO1	Hispanic
NVDO1	American Indian and Alaska Native
WVDO1	White American
ABTVD01	Total persons with disability (by age and disability type)

Note: The analysis of disability prevalence considered variables for males and females (FVD_ / MVD_), different age groups and disability types (ABDT_), education (EDU_) and employment (E_) following the variable model for each data table set:

VD01   Total disabilities tallied:

VD02   Total disabilities tallied for people 5 to 15 years:

VD03   Total disabilities tallied for people 5 to 15 years: - Sensory disability

VD04   Total disabilities tallied for people 5 to 15 years: - Physical disability

VD05   Total disabilities tallied for people 5 to 15 years: - Mental disability

VD06   Total disabilities tallied for people 5 to 15 years: - Self-care disability

VD07   Total disabilities tallied for people 16 to 64 years:

VD08   Total disabilities tallied for people 16 to 64 years: - Sensory disability

VD09   Total disabilities tallied for people 16 to 64 years: - Physical disability

VD10   Total disabilities tallied for people 16 to 64 years: - Mental disability

VD11   Total disabilities tallied for people 16 to 64 years: - Self-care disability

VD12   Total disabilities tallied for people 16 to 64 years: - Go-outside-home disability

VD13   Total disabilities tallied for people 16 to 64 years: - Employment disability

VD14   Total disabilities tallied for people 65 years and over:

VD15   Total disabilities tallied for people 65 years and over: - Sensory disability

VD16   Total disabilities tallied for people 65 years and over: - Physical disability

VD17   Total disabilities tallied for people 65 years and over: - Mental disability

VD18   Total disabilities tallied for people 65 years and over: - Self-care disability

VD19   Total disabilities tallied for people 65 years and over: - Go-outside-home disability

MNEVD07   Male: - With a disability: - Not enrolled in school

MALE_D_ENR   Male: With a disability: enrolled

FEMALE_D_1   Female: With a disability: enrolled

FDNEVD30   Female: - With a disability: - Not enrolled in school

MEVD13   Male: - 21 to 64 years: - With an employment disability: - Not employed

FEVD21   Female: - 16 to 20 years: - With an employment disability: - Not employed

FEVD28   Female: - 21 to 64 years: - With an employment disability: - Not employed

VD20   Female: - 16 to 20 years: - With an employment disability: employed

VD27   Female: - 21 to 64 years: - With an employment disability: employed

VD05   Male: - 16 to 20 years: - With an employment disability: employed

VD12   Male: - 21 to 64 years: - With an employment disability: employed

MEVD06   Male: - 16 to 20 years: - With an employment disability: - Not employed

MPWD_16_20_Unmployed   Male: - 16 to 20 years: - With a disability: - Not employed

MPWD_21_64_unemployed   Male: - 21 to 64 years: - With a disability: - Not employed

FPWD_16_2-_unemployed   Female: - 16 to 20 years: - With a disability: - Not employed

FPWD_21_64_unemployed   Female: - 21 to 64 years: - With a disability: - Not employed

DBPL   Householder with a disability: below poverty line

NDBPL   Householder without disability: below poverty line

O_0   House owner with no vehicle

R_0   House renter with no vehicle

Monterrey census data 2010

Variable   Label

DISC1   Total population with disability

DISC2   Female population with disability

DISC3   Male population with disability

DISC7   Population with difficulties to walk

DISC8   Population with difficulties to see

DISC9   Population with difficulties to communicate

DISC10   Population with difficulties to hear

DISC11   Population with difficulties to self-care (eat, get dressed; take a shower)

DISC12   Population with difficulties to understand

DISC13   Population with mental limitations

SALUD 1 Health coverage

SALUD_2   No health coverage

VIV9 Households with more than 2.5 people/bedroom

VIV41 Households with no social goods

EDU31   Illiterate population (over 15 years)

EDU37   Population of 15 years and over with completed level of basic education

ECO 4   Employed population

ECO25 Unemployed population

INDI19   Indigenous population by census households

INDI20   Indigenous census households
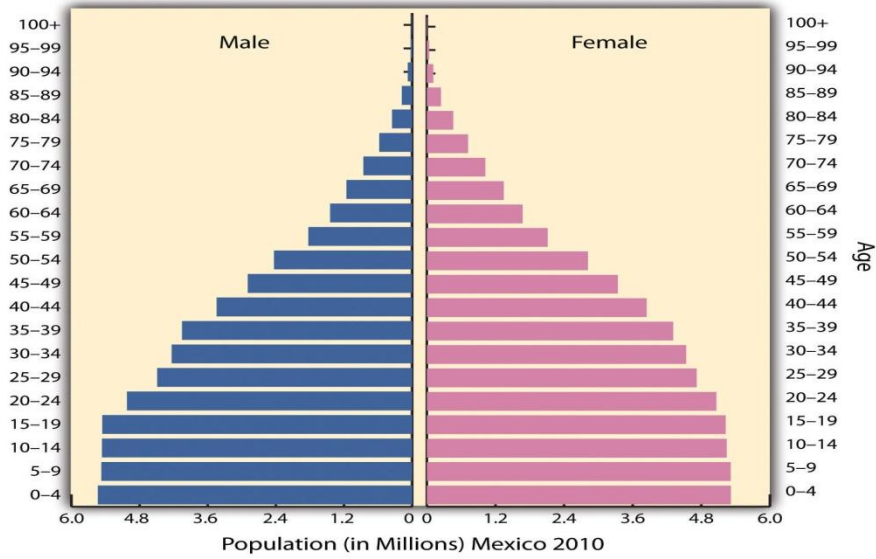
IUM   Index of urban marginalization

APPENDIX 2

Decision model from Auselin (2005)
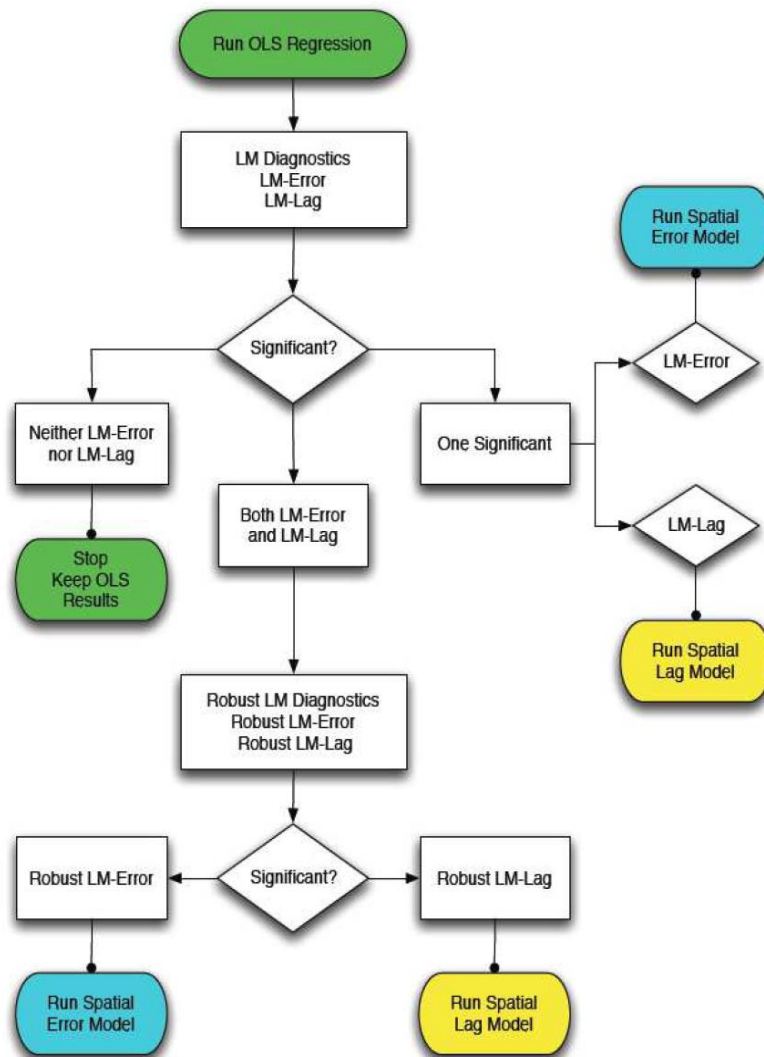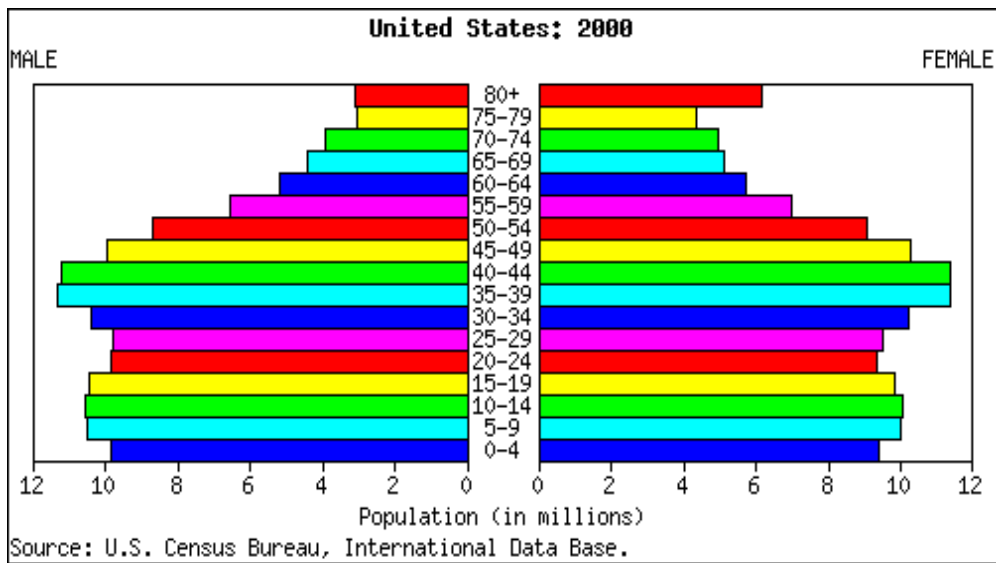
APPENDIX 3

Population pyramid Mexico

Population pyramid USA

REFERENCES

Ågerfalk, P. J. (2004). Grounding through Operationalization: Constructing Tangible Theory in IS Research. *12th European Conference on Information Systems*, Turku, Finland, 14–16 June 2004.

Albert, B. & Hurts, R. (2004). Disability and a human rights approach to development. *Disability Knowledge and Research Programme*, Retrieved from: http://www.disabilitykar.net/research/red_pov.html

Alkire, S. (2008) .Using the Capability Approach: Prospective and Evaluative Analyses. In S. Alkire, M. Qizilbash & F. Comim (eds). *The Capability Approach: Concepts, Measures and Application*(pp.26-49). Cambridge: Cambridge University Press.

Alkire, S., Qizilbash, M. &Comim, F. (2008). *The Capability Approach: Concepts, Measures and Applications*. Cambridge: Cambridge University Press.

Allen, C. (2004). Bourdieu's habitus, social class and the spatial worlds of visual impaired c\children. *Urban Studies*, *41*, 287–506.

Alvarez de Vicencio, M.E. (2001). Realidad de la mujermexicana y propuestaspara mejorarsusituacion.In UNAM (Eds).Derechoshumanos.Memoria del IV CongresoNacional de DerechoConstitucional III. (pp.127-151). Mexico: Mexico, D.F.

Americans With Disabilities Act of 1990, Pub.L. No. 101-336, 104 Stat. 328 (1990).

Americans With Disability Act of 2008, P.L. 110-325, § 2(b) (5), 122 Stat. 3553, 3554 (2008).

Andreb, H.J. (1998). *Empirical poverty research in a comparative perspective*. VT, USA: Ashgate Publishing Ltd.

Angus, J., Kontos, P., Dyck, I., McKeever, P., &Poland., B. (2005). The personal significance of home: habitus and the experience of receiving long-term home care. *Sociology of Health and Illness*, *27* (2), 161–187.

Anselin, L. (2005), Exploring Spatial Data with GeoDa: A Workbook,http://geodacenter.asu.edu/system/files/geodaworkbook.pdf.

AntúnezFarrugia, M. E., &Balcázar de la Cruz, A. (2008). "DiagnósticosobreDiscapacidadenMéxico"RetrievedfromAssessments and Implications. *Alter-European Journal of Disability Research*, *3*, 219–232.

Baller, R. Auseli, L., Messner, S., Deane, G. & Hawkins, D. (2001). Structural covariates of U.S. county homicide rates: incorporating spatial effects. *Criminology*, *29* (3), 561- 588.

Baltazar, Esteban (2008). Modelos de evaluación de políticas y programas sociales en Columbia. *Papel político.* *13*(2), 449-471.

Bane, M. &Zenteno, R. (2005). Poverty and Place in North America. In M. Bane &R.Zenteno(eds.). *Poverty and Poverty Alleviation Strategies in North America* (pp. 3-32). USA: The President and Fellows of Harvard College.

Barnes, C. & Mercer, G. (2005) Disability, Work and Welfare: challenging the social exclusion of disabled people. *Work Employment and Society*, *19*(3), 527-545.

Barnes, C. (1998). III. Las teorías de la discapacidad y los orígenes de la opresión de las personas discapacitadas en la sociedad occidental. In L. Barton(Eds.), *Discapacidad y sociedad* (pp. 59-77). Madrid: Morata.

Barnes, C. and Sheldon A. (2010) Disability, Politics and Poverty in a majority World Context. *Disability and Society*, *25*(7), 771 –782.

Barnes, Colin (2003). *Disability, the organization of work, and the need for change*. Retrievedfrom:

http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1324&cont ext=gladnetcollect.

Basile, R., Kayam, S., Minguez, R., Montero, J, and M & Mur Jesus (2013), Modeling regional economic dynamics: spatial dependence, spatial heterogeneity and nonlinearities. Retrieved from

http://rri.wvu.edu/wp-content/uploads/2013/07/Fullpaper_1.C.1.pdfBauer, A., Dixon, J., Wistow, G., & Knapp, M. (2013). Investing in advocacy interventions for parents with learning disabilities: What is the economic argument. Retrieved from

http://www.lse.ac.uk/LSEHealthAndSocialCare/pdf/DP2860.pdf

Berg, A.G. &Ostry, J.D. (2011). "Equality and Efficiency: Is There a Trade-off Between the Two or Do They Go Hand in Hand?" *Finance and Development*, *48*(3), 1-20.

Batavia, A. (2001). The Financial Vulnerability of People with Disabilities: Assessing Poverty Risks. *Journal of Sociology and Social Welfare*, 28 (1),139-162.

Blanchett, W. (2010). Telling it like it is: The role of race, class, & culture in perpetuation of learning disability as a privileged category for the white middle class. *Disability Studies Quarterly*, *30*(2).

Bourdieu, P. (1990). *The Logic of Practice*. Cambridge: Polity Press.

Bourdieu, P. (2002). *Habitus In Habitus: a sense of place* (eds) J. Hillier & E. Rooksby, (pp.27-34). Burlington: Ashgate.

Bourdieu, P., &Wacquant, L. J. D. (1992).*An Invitation to Reflexive Sociology*. Chicago: University of Chicago Press.

Bowman, D. (2010).Sen and Bourdieu: understanding inequality. *Social Policy Working Paper No. 14*. Melbourne: Brotherhood of St Laurence and University Melbourne Centre for Public Policy.

Braithwaite, J., and D. Mont. (2009). Disability and Poverty: A Survey of World Bank Poverty. Assessments and Implications.*Alter: European Journal of Disability Research, 3*, 219–32.

Brault, M. W. (2012, July). Americans with Disabilities: 2010. Household Economic Studies.

Brunsdon, C., Foteringham, S. &Chalton, M. (1996). Geographically weighted regression: A method for Exploring Spatial Nonstationarity. *Geographical Analysis*, *28*(4), 281-298. 561-588.

Bruyere, S. & Murray, B. (2009). The human rights of workers with disabilities. In Gross, J. &Compa, L. (Eds). *Human rights in Labor and employment relations* (pp-213-235).USA: Lera.

Bruyère, S., Erickson, W., &VanLooy, S. (2004). Comparative study of workplace policy and practices contributing to disability nondiscrimination. *Rehabilitation Psychology*, *49*(1), 28-38.

Bureau of Labor Statistics.(2010). *Current Population Survey*. Retrievedfrom http://www.bls.gov/cps/

Cameron, A. (2006). Geographies of welfare and exclusion: social inclusion and exception. *Progress in Human Geography*, *30*(3), 396-404.

Carling, P. (1993). 'Housing and support for persons with mental illness: emerging approaches to research and practice', *Hospital and Community Psychiatry*, *44*(5), 439-449.

Carling, P. (1993).Reasonable accommodations in the workplace for individuals with psychiatric disabilities. *Consulting Psychology Journal: Practice and Research*, *45*(2): 46-62. doi: 10.1037/1061-4087.45.2.46.

Caroselli, C., & Barrett, E.A.M. (1998). A review of the power as knowing participation in change literature. *Nursing Science Quarterly*, *11*(1), 9-16.

Centers for Disease Control and Prevention. (2011). *CDC Health Disparities and Inequalities Report — United States, 2011.MMWR,* 60, (Suppl), 1–113.Atlanta: CDC.

Clichevsky, N. (2000). Informalidad y segregación urbana en América Latina. Una aproximación. Comisión Económica para América Latina (CEPAL): Serie Medio Ambiente y Desarrollo, 28

Ching-Lan., Yi-Chi, C., Tzu-Ming, L., & Yea-Huei Kao, Y, (2011). Using spatial analysis to demonstrate the heterogeneity of the cardiovascular drug

prescribing pattern in Taiwan, *BMC Public Health*, *11*(4), 380-388.

doi:10.1186/1471-2458-11-380

Chouinard, V., Hall, E. and Wilton, R. 2010.*Towards Enabling Geographies:*

*Disability in Society and Space.*Burlington VT: Ashgate.

Chun, Y. & Griffin, D. (2013). Spatial statistics and geostatistics. London: Sage

Publications

Commission on Social Determinants of Health, (2005-2008*).Closing a gap in a*

generation. Geneva: WHO.

Congressional Budget Office (2010, July).Social Security Disability Insurance:

ParticipationTrends and Their Fiscal Implications. Retrieved from

http://www.cbo.gov/ftpdocs/116xx/doc11673/07-22-

SSDisabilityIns_Brief.pdf

ConsejoNacional de Evaluación de la Política Social.(2009). *Informe 2009*.México:

CONEVAL.

ConsejoNacional de Evaluación de la Política Social.(2011). *Metodologíapara la*

mediciónmultidimensional de la pobreza en México. Retrieved from

http://www.inegi.org.mx/prod_serv/contenidos/espanol/bvinegi/productos/int

egracion/especiales/revistinter/RevistaDigital%/Doctos/RDEArt3.pdf

ConsejoNacionalparalas Personas con Discapacidad. (2009). *Programa*

Nacionalpara el Desarrollo de lasPersonas con Discapacidad 2009-2012.

Mexico:CONAPRED

Consejo Nacionalpara Prevenir la Discriminacion. (2010). *Encuesta Nacionalsobre*

Discriminacion en Mexico: Resultados generals. Mexico: CONAPRED.

ConsejoNacional de Poblacion. (2010). *Indice de Marginacion Urbana 2010*.

    Mexico: Conapo.

CosejoNacional de Poblacion. (2010). *Zonasmetropolitanas 2010*. Retrieved from

    http://www.conapo.gob.mx/en/CONAPO/Zonas_metropolitanas_2010

Council on Social Work Education: Commission on Accreditation. (2008).

    Handbook of accreditation standards and procedures (5th ed.). Alexandria,

    VA.

Crimmins, E., M. & Hayward, M.D. (2004).Workplace characteristics and work

    disability onset for men and women. *SozPraventivmed. 49*(2), 122-31.

Current Population Reports.(2010).*Americans with disabilities,*70-131. Washingron,

    DC: U.S. Census Bureau.

Danforth, S. (2006). From epistemology to democracy: Pragmatism and the

    reorientation of disability research. *Remedial and Special Education*, *27*(6),

    337-345.

de la Osa, N., Ezpeleta, L., Doménech, J.M., Navarro, J.B., & Losilla, J.M. (1997).

    Convergent and discriminant validity of the Structured Diagnostic Interview

    for Children and Adolescents (DICA-R). *Psychology in Spain*, *1*, 37–44.

DeNavas-Walt, Carmen, Bernadette D. Proctor and Jessica C. Smith. (2011).

    Income, Poverty, and Health Insurance Coverage in the United States: 2010.

    Washington, DC: U.S. Census Bureau.

Department for International Development.(2000). *Disability, poverty, and*

    development. United   Kingdom: DFID. Development and Human Rights for

    All: Retrieved from: http://www.un.org/disabilities/default.asp?id=131

DiGiorgio, C. (2009). Application of Bourdieuian theory of the inclusion of students with learning/physical challenges in multicultural school settings. *International Journal of Inclusive Education, 13*(2), 179-194.

Donelly, J. (2003). *Universal Human Rights in theory and practice*.USA: Cornell University Press.

Dormann, C.F., McPherson, J.M., Araujo, M. B., Bivend, R., Bolliger, J., Carl, G., & Wilson, R. (2007). Methods to account for spatial autocorrelation in the analysis of the species distributional data: a review. *Ecography*, *30*(5), 609-628. doi:10.1111/j.2007.0906-7590.05171.x

Drèze, J. &Sen, A. (2002).*India: Development and Participation* (2[nd]ed.). Oxford: Oxford University Press.

Elmeskol, J. &Pichelman, K. (1993, paper No.130). *Unemployment and labor force participation: Trends and cycles*. Paris: OECD.

Emens, E., F (2013). Disabling Attitudes: U.S.Disability Law and the ADA Amendments Act. In Davis, L. J. (4. ed.). *The disability studies reader* (pp.42-57) New York, NY: Routledge.

Enosh, G., Duvdevany, L., &Arzi, L, (2008), Social workers' intervention preferences in cases of parental violence toward intellectually disabled children, Journal Of Aggression, *Maltreatment & Trauma*, *16*(4), 439-455.

Erkulwater, J. (2006). Disability rights and the American Social Safety Net. USA: Cornel University Press.

Esping- Anderson, C. (1999). The three worlds of welfare capitalism. New Jearsy: Prinston.

Esri (2011). Place matters in the helping professions: GIS for human and social services organizations. Retrieved from http://www.esri.com/library/whitepapers/pdfs/gis-for-human-svc-and-ssos.pdf

Ezpeleta, L., de la Osa, N., Júdez, J., Doménech, J.M., Navarro, J.B., & L (1997).Diagnostic agreement between clinicians and the Diagnostic Interview for Children and Adolescents--DICA-R--in an outpatient sample. *Journal of Childhood Psychology and Psychiatry*, *38*(4), 431-40.

Fleischer, D. &Zames, F. (2001).*The disability rights movement*. Philadelphia: Temple University Press.

Foster S. L & Mash E.J (1999).Assessing Social Validity in Clinical Treatment Research Issues and procedures. *Journal of Consulting and Clinical Psychology*. *67*(3) 308-319.

Frank, J. J., &Bellini, J. (2005). Barriers to the accommodation request process of the Americans with disabilities act. *Journal of Rehabilitation*, *71*(2), 28-39.

Fuller-Thomson E, A. Nuru-Jeter, Meredith M, and Jack M. (2009).Black–White Disparities in Disability Among Older Americans: Further Untangling the Role of Race and Socioeconomic Status.*J Aging Health*. 2009 August; *21*(*5*): 677–698. doi: 10.1177/0898264309338296

Fuller-Thomson, E.,Brennenstuhl, S., &Hurd, M. (2011).Comparison of Disability Rates among Older Adults in Aggregated and Separate Asian American/Pacific Islander Subpopulations.*American Journal of Public Health*. *101*(1), 94-100

Fuller-Thomson.,Brennenstuhl, S., &Hurd, M. (2010).Comparison of Disability
Rates among Older Adults in Aggregated and Separate Asian
American/Pacific Islander Subpopulations.*American Journal of Public
Health*. *101*(1), 94-100.

Galafassi, G. (2002). Ecological crisis, poverty and urban development in Latin
America. *Democracy and Nature*, 8 (1), 117-130.

Gaines, D. (2004). Geographical perspectives on disability: a socio-spatial analysis
of the mentally disabled population in Russia. *Middle State Geographer*, *37*,
80-89.

Garza, G. (2007). La urbanización metropolitana en México: normatividad y
características socioeconómicas. *Papeles de Población*, 13 (52), 77-108.

Gannon, B. & Nolan, B. (2006).*The Dynamics of Disability and Social Inclusion in
Ireland*. Dublin: The Equality Authority and the National Disability
Authority.

Gonzalez, B., Makowski, S., Rosas, A.S. &Manzini.F.(2008). *Discapacidad y
pobreza en Nuevo Leon*. Nuevo Leon: Consejo de Desarrollo Social.

Goodley, D. (2011). *Disability Studies: An Interdisciplinary Introduction*. London:
SAGE.

Gottschalk, P. &Smeeding, T. M. (1997).Cross-national comparisons of earnings
and income inequality. *Journal of Economic Literature*, *35*, 633–687.

Grech, S. (2011).Comment from the Field: Disability and the Majority World:
Challenging Dominant Epistemologies.*Journal of Literary & Cultural
Disability Studies*, *5*(2), 217-220.

Groce N., Kett M., Lang R., & Trani J.F. (2011). Disability and Poverty: the need for a more nuanced understanding of implications for development policy and practice. *Third Worls Quaterly*, 32 (8), 1493-1513.

Groebner, D., Shannon, P., Fry, P., Smith, K. (2010). Business statistics: A decision making approach, Eight edition. Upper Saddle River, New Jersey: Pearson.

Grut, L., Olenja, J., Ingstad, B., (2011). Disability and barriers in Kenya.In Eide, A. &Ingstad, B. (Eds). *Disability and poverty: A global challenge* (pp.153-155). UK: The Policy Press.

Hamilton, D. &Fauri, D. (2001). Social workers' political participation: Strengthening the political confidence in social work students. *Journal of Social Work Education*, *37*(2), 321-332.

Hantrais, L. &Mangen, S. (Hgg.) (1996): „Method and management of cross-national social research.", in: Cross-national research methods in the social sciences, London: Pinter, S.1-12.

Harris, A. & Enfield, S. (2003). *Disability, Equality and HumanRights.A   training manual for development and humanitarian organizations*. Great Britain: Oxfam.

Harris, P., Charlton, M., Fotheringham, A. (2010) Moving window kriging with geographically weighted variograms, Stochastic Environmental Research and Risk Assessment (SERRA) Journal, Springer, 24, (8):1193-1209. doi: 10.1007/s00477-010-0450.

Harris. P, Charlton, M. &Fotheringham.A. (2010). Moving window kriging with geographically weighted variograms. *Stochastic Environmental Research and Risk Assessment*, *24*, 1193-1209.

Hartnett, H., Thurman, H&Cordingly, K. (2010). Individuals perceptions of employment accommodation decisions and solutions: lessons for social workers. *Journal of Social   Work and Disability Rehabilitation*, *9*(1), 53-68.

Hernandez, B. &McDonald, K. (2010).Exploring the costs and benefits of workers with disabilities. *Journal of Rehabilitation, 76,* 15-23.

Hernandez, B**.**, Keys, C., &Balcazar, F. (2004). Disability rights: Attitudes of private and public sector representatives. *Journal of Rehabilitation*, *70*, 28-37.

Hiranandani, V (2005). Towards a critical theory of disability in social work. *Critical Social Work, 6*(1). Retrieved from http://www1.uwindsor.ca/criticalsocialwork/towards-a-critical-theory-of-disability-in-social-work

Hoefer, R. (2012). *Policy creation and evaluation: Understanding Welfare Reform in the United   States.* New York: Oxford University Press.

Holmes, E. B. (2007). *Impairment rating and disability determination*. Retrieved from http://emedicine.medscape.com/article/314195-overview#a1

Hoover, H. (1920). *American Individualism*. USA: Double day, Page Company.

Hortulanus, R., Machielse, A. &Meeuwesen, L., *Social isolation in modern society*. London/New York: Routledge.

Huang, F.Y., Chung, H., Kroenke, K., Spitzer, R.L.(2006) "Racial and Ethnic Differences in the Relationship between Depression Severity and Functional Status," *Psychiatric Services, 57*(4), 498–503.

INEGI. (2004). *Las personas con discapacidad en Mexico: una vision censal*. Aguascalientes: INEGI.

INEGI. (2011). *Estadisticas a propositodeldiainternacional de las personas con discapacidad*. Aguascalientes: INEGI.

INEGI.(2012). *Resultados de la EncuestaNacional de Ocupacion y Empleo.Cifrasdurante el segundo semester del 2012* (Boletin en prensanum.281/12).Aguascalientes: INEGI.

James, J. C., Wu, C. (2006) Race, Ethnicity, Disability, and Literature: Intersections and interventions.Melus: *31*(3).

Jamoom, E.W., Horner-Johnson, W., Suzuki, R., Andresen, E.M., & Campbell, V.A. (2008).Age at disability onset and self-reported health status.*BMC Public Health*, (*8)* 10-16.

Jimerson, S. R., Burns, M. K., &Heyden, A. V. (2007). *Handbook of Response to Intervention*. New York: Springer.Mwachofi, A.K. (2009). Gender difference in access and intervention outcomes: the case for women with disabilities. *Disability & Rehabilitation*, *31*(9), 693- 700. doi:10.1080/09638280802305929.

Job Accommodation Network (2009). Workplace Accommodations: Low cost, High Impact. Retrieved from: http://askjan.org/media/downloads/LowCostHighImpact.pdf

Johnson, M.L., Crown, W., Martin, B.C., Dormuth, C.R. & Siebert, U. (2009). Good Research Practices for Comparative Effectiveness Research: Analytic Methods to Improve Causal Inference from Nonrandomized Studies of Treatment Effects Using Secondary Data Sources: The ISPOR.Good Research Practices for Retrospective Database Analysis Task Force Report-Part III. *Value in Health*. *12*(8), 1062–1073.

Karger, H. J. &Stoesz, D. (2010). *American social welfare policy: A pluralist approach,* (6th ed.). Boston: Allyn& Bacon.

Kasnitz, D., &Shuttleworth, R. (2001).Anthropology in Disability Studies. In L.Rogers and B.   Swadner (eds), *Semiotics and Disability: Interrogating categories of difference* (pp.67-78). State of York Press: Albany.

Kitchin R (1998). 'Out of Place', knowing one's place: space, power and the exclusion of disabled people. *Disability and Society*, *13*(3): 343-356

Kitchin, R.M. (2000) *Disability, Space, and Society.* Sheffield: Geographical Association.

Kregel, J., Virginia Commonwealth Univ., R. r., & And, O. (1990). Supported Employment for Persons with Severe Disabilities: From Research to Practice. Volume III.

Kroll, T., Neri, M.T, Miller, K. (2005). Using mixed methods in disability and rehabilitation research. *Rehabilitation Nursing. 30*(3), 106-13.

Kuklys, W. (2004).A monetary approach to capability measurement of the disabled - Evidence from the UK. *Papers on strategic interaction. 8-2 2004*. Jena:Max Planck Institute for Research into Economic Systems.

Landry, M., Dyck, T. & Raman, S. (2007). Poverty, disability and human development: a global challenge for physiotherapy in the 21st Century. *Physiotherapy*, *93*(4), 233-234.

Lang, R. (2011). *The Challenges of Implementing the UN Convention on the Rights of Persons with Disabilities in Developing Countries*. Disability and the Majority World: Towards a Global Disability Studies. 7-8 July, Manchester Metropolitan University.

Latifee, H., I. (2003). Micro-credit and Poverty Reduction. Presented at the International Conference on" Poverty Reduction through Microcredit"held at Ceylan Inter-Continental Hotel, Taksim-Istanbul, Turkey from June. Retrieved from:

http://www.grameentrust.org/MicrocreditandPovertyReductionJune2003inTurkeyF.pdf

Leach, N. (2002). Belonging: towards a theory of identification with space. In J. Hillier and E. Rooksby (eds), *Habitus: A Sense of Place* (pp.297-315). Aldershot: Ashgate.

Lewis, M. A., Lewis, C E., Leake, B., King B**.,** &Robert L.(2002).The quality of health care for adults with developmental disabilities**.** *Public Health Rep, 117*(2), 174–184.

Lusting, D. & Strauser, D. (2007). Causal relationship between poverty and disability. *Rehabilitation Counseling Bulletin*, *50*(4), 194-202.

Lynn, P. (2003). Developing standards for cross- national survey research: five

    approaches. *International Journal of Social Research Methodology*, *6*(4),

    323-336.

McConkey, R. (2012). Disability, Illness and Poverty: Can the winter of despair lead

    to aspringtime of hope?. *International Journal of Disability, Development*

    and Education, 59 (3), 321-323.

Madans, J.H., Loeb, M.E. & Altman, B.M. (2011). Measuring disability and

    monitoring the UN Convention on the Rights of Persons with Disabilities:

    the work of the Washington Group on Disability Statistics. *BMC Public*

    *Health.*11 (Suppl4):1–8. doi: 10.1186/1471-2458-11-S4-S1.

Mandel, H. &Semyonov, M. (2006). A welfare state paradox: state interventions and

    Women's employment opportunities in 22 countries. *American Journal of*

    Sociology, 111(6), 1910-49.

Manton KG, Stallard E. Health and Disability Differences among Racial and Ethnic

    Groups. In: National Research Council (US) Committee on Population;

    Martin LG, Soldo BJ, editors. Racial and Ethnic Differences in the Health of

    Older Americans. Washington (DC): National Academies Press (US); 1997.

    3. Retrieved from: http://www.ncbi.nlm.nih.gov/books/NBK109844/

Martha N. Ozawa PhD &Yeong Hun Yeo PhD Candidate (2008) Race/Ethnicity and

    Socioeconomic Class as Correlates of Disability in Old Age, *Journal of*

    Gerontological Social Work, *51*(3-4), 337-365, doi:

    10.1080/01634370802039700.

Martínez, I. & Acevedo, G. (2004). La brechasalarial en México con enfoque de género: capital humano, discriminación y selecciónmuestral". *Ciencia UANL*, *8*(1), 66-71.

Mascareñas, T. (1994). La pobreza y la extrema pobreza en las ciudades latinoamericanas. In: Puncel, A. (Ed.) *Las ciudades de América Latina: Problemas y Oportunidades.* (pp.143-152). Valencia: University of Valencia.

Matthews, S. & Yang, T. (2012). Mapping the results of local statistics: Using geographically weighted regression. *Demographic research*, *26*(6), 151-166.

McDonald, E. K., Keys, C.B., Balcazar, F. E (2007). Disability, race/ethnicity and gender: themes of cultural oppression, acts of individual resistance. *Am J Community Psychol, 39*(1-2), 145–161. doi:10.1007/s10464-007-9094-3

McEwan, C. & Butler, R. (2007). Disability and Development: Different Models, Different Places*. Geography Compass*.*1*, 448-466.

McGlade, M., Saha, S., &Dahlstrom, M. (2004). The Latina paradox: an opportunity for restructuring prenatal care delivery. *American Journal of Public Health*, *94*(12), 2062-2065. doi:10.2105/AJPH.94.12.2062

McGuire, T., & Miranda, J. (2008). New evidence regarding racial and ethnic disparities in mental health: policy implications. *Health Affairs*, *27*(2), 393-403.

McGuire, T., Miranda, J. (2008), New evidence regarding racial and ethnic disparities in mental health: policy implications. *Health Affairs*, *27*(2), 393-403.

Meltzer, A., Muir, K. &Dinning, B. (2010). *Executive Summary and Introduction: Report on the consultation data for the revision of the National Standards for .Disability Services. Development of a consultation package and analysis methodology of the National Standards forDisability Services* Australia: Department of Human Services, Disability Services Division.

Metraux, S., Caplan, J.M., Klugman, L., & Hadley, T.R. (2007). Assessing residential segregation among Medicaid recipients with psychiatric disability in Philadelphia. *Journal of Community Psychology, 35*(2), 239–256.

Mira, E.B. (2012). The social model analysis of disability and the majority world. *INTERSTICIOS:RevistaSociologica de Pensamiento Crtitico*, *6*(2), 279-288.

Mishna, F., Michalski, J., & Cummings, R. (2001). Camps as social work interventions returning to our roots. *Journal of Social Work with Groups*. *24*(3-4).

Mitra, S. Posarac, A. Vick, B. (2011). *Disability and poverty in developing countries: A snapshot from the world health survey.* (Social Protection Discussion paper N. 1109). Washington D.C.: World Bank.

Mohan, J. (2002). Geographies of welfare and social exclusion:dimensions, consequences and methods. *Progress in Human Geography, 26*(1), 65–75.

Molina, C. (2002). *Modelo de formación de políticas y programassociales.*Editor: INDES.

Monkkonen, P. (2011). Public Housing and Unemployment: Skills and Spatial Mismatch in Postindustrial Hong Kong. (Working Paper No.05). Retrieved from: http://www.iurd.berkeley.edu/publications/wp/2011-05.pdf

Mont, D. (2007). Measuring disability prevalence.(Discussion Paper No. 0706).

Retrieved

from:http://siteresources.worldbank.org/DISABILITY/Resources/Data/Mont

Prevalence.pdf

Moody-Ayers, S.Y., Mehta, K.M., Lindquist, K., Sands, L., Covinsky, K.E.

(2005).Black-white disparities in functional decline in older persons: the role

of cognitive function. *J Gerontol A BiolSci Med Sci. 60*(7), 933-9.

Moore, L., Roux, A, (2006). Associations of neighborhood characteristics with the

location and type of food stores. *American Journal of Public Health*, *96*(2),

325- 331. doi:10.2105/AJPH.2004.058040

Moravscik, A (2001). Why Is U.S. Human Rights Policy So Unilateralist? InShepard

F Forman, S. &Stewart, P. (Eds.), *The Cost of Acting Alone: Multilateralism*

and US Foreign Policy. Boulder: Lynne Riener Publishers.

Muggeridge, M. (2008). Organized labor´s international law project? Transforming

workplace Rights into Human rights. *The federalist society for law and*

public policy studies, 9(1), 98-108.

Mullany, B., Barlow, A., Neault, N., Billy, T., Jones, T., Tortice, I., Lorenzo, S...,

Walkup, J. (2012). The family spirit trial for American Indian teen mothers.

Society for Prevention Research. 13, 504-518. doi:10.1007/s11121-012-

0277-2.

NASW (2008).*Code of Ethics of the National Association of Social Workers.*

Approved by the 1996Delegates Assembly and Revised by the 2008 NASW

Delegate Assembly. Retrieved

fromhttps://www.socialworkers.org/pubs/code/code.asp

Nicolaidis, C., Raymaker, D., McDonald, K., Dern, S., Boisclair, C. W., Ashkenazy,

E & .Baggs, A. (2012). Comparison of Healthcare Experiences in Autistic

and Non-Autistic Adults: A Cross-Sectional Online Survey Facilitated by an

Academic-Community Partnership. *J Gen Intern Med, 28*(6), 761–9.

doi:10.1007/s11606-012-2262-7.

Nikolova, S. (2011).*The given relationship between disability and urban poverty: An

experience from Monterrey city, Mexico.* Presented at the 1st Annual

International Conference Disability and the Majority World: Towards a

Global Disability Studies, Manchester, UK.

Nunn A., Johnson S., Monro S., Bickerstaffe T., Kelsey S. (2007). Factors

influencing social mobility (Research report No. 450). Leeds: Crown.

Okkolin, M., Lehtomaki, E. &Bhalalusesa, E.P. (2010).The successful education

sector development in Tanzania-comment on gender balance and   inclusive

education. *Gender and Development Journal, 22*(1), 63-73.

Oliver, M. & Sapey, P. (2006). *Social work with disabled people* (3rd edition)*.*

Basingstoke*:* Plagrave Macmillian.

Oliver, M. (1998). II. ¿Una sociología de la discapacidad o una sociología

discapacitada?. In: Barton, Len (Eds.), *Discapacidad y Sociedad* (pp.34-59).

Madrid: Morata.

Palmer, M. & Harley, D. (2011). Models and measurement in disability: an

    international review. *Health Policy and Planning*, 1- 8.

    doi:10.1093/heapol/czr047

Parker, G., Grebe., C, Hirst., M, Hendey, N., & Pascall, G. (2007). Double

    discrimination? Gender and disability in access to the labor

    market.(European Social Fund Report No.ESF 2237 12.07). Retrieved from

    http://www.york.ac.uk/inst/spru/pubs/pdf/double.pdf

Parker, S. (2005).New Paradigms of Disability in Social Security Law and Policy in

    Australia: Implications for Participation. *Disability Studies Quarterly*, *25*(4),

    Retrieved from http://dsq-sds.org/article/view/621/798

Parodi, G. & Sciulli, D. (2008). Disability in Italian households: income, poverty

    and labour market participation. *Applied Economics, Taylor and Francis*

    Journals, 40 (20), 2615-2630.

Parnes, P. , Cameron D., Christie N., Cockburn L., Hashemi G., & Yoshida K.

    (2009). Disability in low-income countries: issues and implications.

    Disability and Rehabilitation, 31 (14), 1170-1180.

Payne, M. (1993).*Linkages: effective networking in social care*. London: Whiting

       and Birch.

Pena, S. (2005). Recent developments in urban marginality along Mexico's northern

    border. *Habitat International*, *29*, 285–301.

Perry, D. (2007). *EmployAbility: A Resource Guide on Disability for Employers in*

    Asia and the Pacific. Bangkok: ILO.

Phillips, S. (2011). *Disability and mobile citizenship in post socialist Ukraine*.

  Bloomington: Indiana University Press.

Piar, D. (2008). A welfare state of civil rights: The triumph of the therapeutic in

  the American institutional law. *William & Mary Bill of Rights*

  Journal, *16*(3), 649-684.

Pokempner, J. & Roberts, D. (2001).Poverty, welfare, and the Meaning of

  Disability. *Ohio State Law Journal, 62*, 1-23.

Quinn, G., Degener, T., Bruce, A., Burke, C., Castellino, J., Kenna, P., et al. (2002).

  Human rights and disability: The current use and future potential of United

  Nations human rights instruments in the context of disability. New York

  and Geneva: United Nations.

Rawal, N. (2008). Social inclusion and exclusion: A review. *Dhaulagiri Journal of*

  Sociology and Anthropology, 2, 161-180.

Reisman, D.A . (1977). *Richard Titmuss: Welfare and society*. London:

  Heinemann.Retrieved from:

  http://www.who.int/social_determinants/thecommission/en/

Rioux, M and Carbet, (2003). Human Rights and Disability: The International

  Context. *Journal of Developmental Disabilities*, *10*(2), 1-14.

Riox, M. (2001, February).*Social disability and the public good*. Paper presented at

  the International Conference beyond the Washington Consensus-Governance

  and the Public Domain in Contrasting Economies: theCases of India and

  Canada. Chandigarh, Canada. Abstract retrieved from

  http://www.yorku.ca/drache/talks/pdf/apd_riouxzubrowfinal.pdf

Roblezo, J. (2007). *Antecedentes y contenido de la Convención de Derechos Humanos de las personas con Discapacidad. Memoria del Seminario International de la Convención sobre los Derechos de las Personas con Discapacidad. Secretaríade Relaciones Exteriores, Programa de Cooperación sobre Derechos Humanos*. México: Comisión Europea.

Rodriguez, M. (2000). *Modelos socio-demograficos: atlas social de la ciudad de Alicante*. (Doctoral thesis). Universidad de Alicante, Spain.

Romero A. J (2005).Low-income neighborhood barriers and resources for adolescents' physical activity.*Journal of Adolescent Health, 36*, 253–259.

Rosano, A., Mancini, F., &Solipaca, A. (2009). Poverty in people with disabilities: Indicators from the capability approach. *Social Indicators Research*, *94*, 75-82.

Rosenthal R &Dimatteo M. R. (2001). Meta-analysis: recent developments in quantitative methods for literature reviews. *Annual Review in Psychology*. *52*, 59-82.

Schteingart,M.&Saenz,O.(1991).Environment, health and urban poverty.A perspective for the study of human settlements. *Demos*. *4*, 28-29.

Schur, L., Kruse, D., Blasi, J., Blanck P. (2009). Is Disability Disabling in All Workplaces? Workplace Disparities and Corporate Culture. *IndustrialRelations*, *48*(3), 381-410.

Secretaría de Salud (2008). Programa de Acción específico 2007-2012. México, Retrievedfromhttp://www.cenave.gob.mx/progaccion/lepra.pdf

Sen, A. (1993). Capability and Well-being. In Martha C. Nussbaum and Amartya K. Sen (eds). *The Quality of Life*, (pp. 30-53). Oxford: Clarendon Press.

Sen, A. (1999). *Development as freedom*. Oxford, Oxford University Press.

Sen, A. (2000). Social exclusion: concept, application, and scrutiny. *Social Development Papers No. 1*. Manila: Asian Development Bank.

Simkiss,D., E,Blackburn**,**C., M, Felix, O., Mukoro, F., O**,** Read, J., M, & Spencer, N., J. (2011) Childhood disability and socio-economic circumstances in low and middle income countries: systematic review.BMC Pediatrics**,** 11:119. doi: 10.1186/1471-2431-11-119

 Singh G., P.& Miller, B., A.(2004).Health, Life Expectancy, and Mortality Patterns Among Immigrant Populations in the United States. *Canadian Journal of Public Health, 95*(3), 14-21.

Spencer, M. S., Albert, S. M., Bear-Lehman, J., Burkhardt, A. (2008). Relevance of race and ethnicity for self-reported functional limitation. *J Am Geriatr Soc*. *56*(3), 553–557, doi: 10.1111/j.1532-5415.2007.01595.x

Stein, M.A. (2007). Disability human rights. *California Law Review, 95*(1), 75–121.

Stern,S.,&Brault, M. (2005). Disability *Data from the American Community Survey: A Brief Examination of the Effects of a Question Redesign in 2 2003*.Retrievedfromhttp://www.census.gov/people/disability/methodology/acs.html

Switzer, J. (2003). Disabled Rights.American Disability policy and the Fight for Equality. Washington, D.C.: Georgetown University Press.

Szekely, M. (2006). Unnuevorostro en el espejo: percepciones sobre la

    discriminación y la cohesión social en México. Santiago de Chile: CEPAL.

Thibodaux, L.R. (2005). Habitus and the embodiment of disability through

    lifestyle. *American Journal of Occupational Therapy*, *59*, 507-515.

Thiboduah,L.R. (2005). Habitus and the embodiment of disability through lifestyle.

    American Journal of Occupational Therapy, *59*(5), 505-515.

Tichkovski, T. (2002).Cultural maps: Which way to disability? In T. Shakespeare &

    M. Corker (Eds.) *Disability/post modernity: embodying disability theory*

    (pp.101-111). London: Continuum.

Toboso, M. (2010).Rethinking disability in Amartya Sen's approach: ICT and

    equality of opportunity. *Ethics and Information Technology, 13*(2), 107-118.

Trani, J.**,** & Loeb M. (2010). Poverty and disability: A vicious circle? Evidence from

    Afghanistan and Zambia. *Journal of International Development, 24*, S19–

    S52.

Trevillion, S. (2000). Social Work Research: What Kind of

    Knowledge/Knowledges? An Introduction to the Papers. *British Journal of*

    Social Work, *30*, 429-432.

Turner, M. A., Herbig, C., Kaye, D., Fenderson, J., & Levy, D.(2005).

    Discrimination against Persons with Disabilities: Barriers at Every Step.

    Washington D.C.: HUD User, Department of Housing and Urban

    Development.

Unemployment and disability pension-an 18-year follow-up study of a 40-year-old population in a Norwegian County. (2012). *BMC Public Health*, *12*(1), 148-155. doi:10.1186/1471-2458-12-148.

United Nations (2000). *Universal Declaration of Human rights.* Retrieved from http://www.un.org/en/documents/udhr/

UnitedNations. (2006). *Convención sobre los derechos de las personas con discapacidad*. Retrieved from:

http://www.un.org/esa/socdev/enable/documents/tccconvs.pdf

Urquieta-Salomón, J.E., Figueroa, J.L. & Hernández-Prado, B. (2008). El gasto en salud relacionado con la condición de discapacidad. Un análisis en población pobre de México. *Salud Publica Mexico*, *50* (2), 136–146.

USAID. (1998a). *Democracy and Governance: A Conceptual Framework*. Washington, DC: Center for Democracy and Governance, Technical Publications Series, USAID.

van der Geest, T. M. (2006). Conducting usability studies with users who are elderly or have disabilities. *Technical Communication*, *53*(1), 23-31.

Wang, T., Shi, L., Nie, X., Zhu, J. (2013). Race/ethnicity, insurance, income and access to care: the influence of health status. *International Journal for Equity in Health*, *12*(29).

Weber, M. (2008). Disability rights, disability discrimination, and social insurance. *Georgia State University Law Review*, *25*, 575-605.

Wehman, P. (1993). *The ADA mandate for social change*. Baltimore: Paul H. Brooks.

Weinstein, B., &Clower, T. (2004). Dallas. In D. Levinson (Ed.), Encyclopedia of homelessness. (pp. 104-106). Thousand Oaks, CA: SAGE Publications, Inc. doi: 10.4135/9781412952569.n35.

World Bank.(2006). *Equity and Development*. Washington: World Bank and Oxford University Press.

World Health Organization (2001). International classification of functioning, disability and health (ICF). Geneva: WHO.

World Report on Disability (2011). *The Lancet,* 337(9782), 1997.

Wunderlich, G., Rice, D., & Amado, N. (2002).*The Dynamics of Disability: Measuring and Monitoring Disability for Social Security Programs*, Washington D.C., National Academy Press.

Yeo, R & Moore, K. (2003) *Including Disabled People in Poverty Reduction Work: "Nothing About Us, Without Us"*. World Development, 31 (3), 571 – 590.

Zemelman, H. (1987). Razones para un debate epistemológico. *Revista Mexicana de Sociología. 49*(1), 1-10.