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Title

**Syndemic: An Effective Approach in Studying Minorities' Health "The
comparative Case of Mexican migrant Women in the US and Tuareg
Women of the Sahel"**

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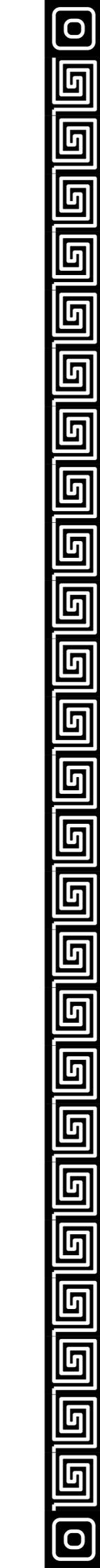
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Dedication

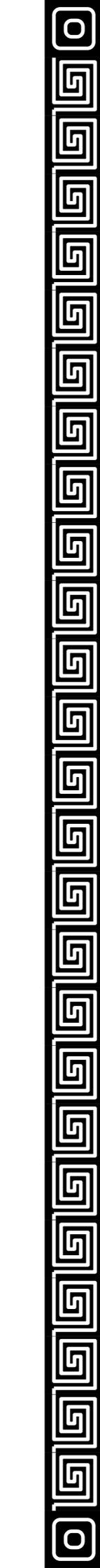
To the memory of my father; I know there is nothing I can say or do will make my loss easier, you are gone but your belief in me has made this work possible.

In memory of my Uncle Saleh, you left fingerprints of grace on my life. You will never be forgotten.

This thesis is dedicated to my mother; her motherly care and support are shown in incredible ways. Thank you, my dear mother, and may God protect you.



Abstract



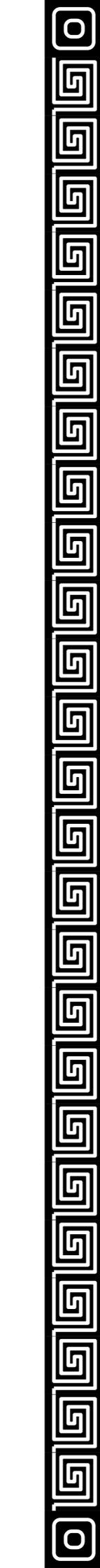
The current research employs a cross-nation comparative case study to provide a historical overview on the presence of Mexican immigrant women in the USA, the presence of Sahelian Tuareg women in Algeria, as both ethnic groups are labour-driven migrants. The present thesis seeks to answer whether migrating to the eventual milieus promotes health inequality, among the groups under study. This comparison is studied within the context of structural discrimination and within the Syndemic approach perspective, considering the complex jeopardy of gender and ethnic affiliation. Putting both US and Algerian healthcare systems through the lens of structural discrimination, the study reveals that the severity of structural discrimination is soaring within capitalist settings such as the United States of America, in contradictory manner, within social-based societies, like Algeria, both healthcare system and health accessibility to migrants in general, and to marginalized minorities in particular is provided, unless institutional shortages are scored otherwise. Also, as the primary objective of this research is to depart from the classical methods that put the effects of discrimination in the limited position of victimization, the work depends on the scientific mechanism provided by the Syndemic theory. The latter mediates the association between subjugation and minorities' adverse health status. To provide this explanation, the research work analysis relies on limiting the scope on one case study that associates stressful discrimination with diabetes prevalence among the targeted minorities. Over all, the work concludes that Mexican migrant women stress is triggered by perceiving prejudice within the US society, in contradiction to Tuareg women of Sahel origins whom diabetes prevalence anchors from stress relative to perceiving discrimination within their home countries, and a lack of legal status which exacerbates their economic shortages within the host society.

Keywords: Syndemic theory, Sahelian Tuareg women, Mexican immigrant women, life discriminatory stress, diabetes prevalence.

Summary in French

La recherche utilise une étude de cas comparative transnationale pour fournir un aperçu historique de la présence des femmes immigrées mexicaines aux États-Unis, de la présence des femmes touaregs sahéliennes en Algérie, car les deux ethniques sont des migrants motivés par la main-d'œuvre. La présente thèse cherche à déterminer si la migration vers les milieux éventuels augmente les inégalités en matière de santé, parmi les groupes étudiés. Cette comparaison est étudiée dans le contexte de la discrimination structurelle et dans la perspective de l'approche syndémique, en tenant compte du risque complexe de genre et d'appartenance ethnique. En plaçant les systèmes de santé américains et algériens à travers la vision de la discrimination structurelle, l'étude révèle que la gravité de la discrimination structurelle monte en flèche dans des contextes capitalistes tels que les États-Unis d'Amérique, de manière contradictoire, au sein de sociétés sociales. Comme en Algérie, le système de santé et l'accessibilité sanitaire aux migrants en général, et aux minorités marginalisées en particulier, sont assurés, sauf des pénuries institutionnelles. De plus, le travail dépend du mécanisme scientifique fourni par la théorie syndémique. Ce dernier sert de médiateur dans l'association entre l'assujettissement et l'état de santé défavorable des minorités. Pour fournir cette explication, l'analyse des travaux de recherche repose sur la limitation de la portée d'une étude de cas qui associe la discrimination stressante à la prévalence du diabète parmi les minorités ciblées. Dans l'ensemble, les travaux se déterminent que le stress des femmes migrantes mexicaines est déclenché par la perception de préjugés au sein de la société américaine, en contradiction avec les femmes touaregs d'origine sahélienne que la prévalence du diabète ancre du stress par rapport à la perception de la discrimination dans leur pays d'origine, et un manque de statut juridique qui exacerbe leurs pénuries économiques au sein de la société d'accueil.

Mots clés : Théorie syndémique, femmes touaregs sahéliennes, femmes immigrées mexicaines, stress discriminatoire dans la vie, prévalence du diabète.



Summary in Arabic

ملخص

يستخدم البحث دراسة مقارنة عبر الدول لتقديم لمحة تاريخية عن تواجد المكسيكيات المهاجرات في الولايات المتحدة الأمريكية، وكذا تواجد نساء طوارق من بلدان الساحل في الجزائر، حيث تعتبر هجرة العمالة الدافع المشترك بالنسبة لكلا المجموعتين. لذلك، تسعى هذه الأطروحة للإجابة عما إذا كانت الهجرة إلى الأوساط المستقبلية قد عززت في عدم المساواة الصحية، بين المجموعتين قيد الدراسة، لاسيما أنها قد شكلت أقلية في كلا البلدين. تتم دراسة هذه المقارنة في سياق التمييز الهيكلي ضمن منظور نظرية السيندميك، في ضوء الإنتماء العرقي والإنتماء الجنسي على حد سواء. من خلال وضع نظام الرعاية الصحية بكلا الدولتين تحت عدسة التمييز الهيكلي، تكشف نتائج الدراسة أن شدة التمييز الهيكلي ترتفع داخل البيئات الرأسمالية، مثل الولايات المتحدة الأمريكية، وبطريقة مختلفة، فإن المجتمعات القائمة على النمط الاجتماعي، مثل الجزائر، توفر إمكانية الوصول إلى الخدمات الصحية للمهاجرين بشكل عام، وللأقليات المهمشة بشكل خاص، في ظل النقائص والتحديات التي تواجه مؤسسات نظام الرعاية الصحية في بلدان العالم الثالث بشكل عام. كما أن الهدف الأساسي من هذا البحث هو الخروج عن الأساليب الكلاسيكية التي تحلل آثار التمييز في إطار محدود. وفقا لذلك نظر العمل في الآلية العلمية التي توفرها نظرية السيندميك والتي تعنى بالدراسة العلمية التي تتوسط العلاقة بين التمييز العرقي وصحة الأقليات المهاجرات المنحدرة من أصول مكسيكية في الولايات المتحدة الأمريكية وكذا صحة نساء الطوارق من الأصول الساحلية. ولتقديم هذا التفسير، يعتمد تحليل العمل البحثي على تحديد نطاق الدراسة ضمن دراسة تطبيقية ربطت حالات التمييز وانتشار مرض السكري بين الأقليات قيد الدراسة. بشكل عام، يخلص العمل إلى أن انتشار مرض السكري بين المكسيكيات المهاجرات هو حصيلة كميات القلق الناتج عن التمييز العنصري في المجتمع المستقبل، على خلاف النساء التارقيات من أصول ساحلية، و باستخدام استبيان شبه كمي (عدده 30) ومقابلات نوعية معمقة (عددها 30) للإطلاع على قصصهن وتقصي حقائق التمييز والتهميش من خلال تجاربهن اليومية. تتلخص نتائج البحث، في عمومها، على وجود ارتباط وثيق وعلاقة طردية بين التمييز العنصري الذي تعرضت له المرأة الساحلية من أقلية الطوارق في بلادهن وحالتهن الصحية المتدهورة بشكل عام، وعلى وجه التحديد، إصابتهن بداء السكري.

الكلمات المفتاحية: نظرية السيندميك، نساء الطوارق من أصول ساحلية، النساء المكسيكيات المهاجرات بالولايات المتحدة الأمريكية، التمييز العرقي، التمييز الجنسي، انتشار المرض السكري

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List of Abbreviations and Acronyms

AHCPR	The Agency for Health Care Policy and Research
AIDS	Acquired Immune Deficiency System
AFDC	The Aids for Family with Dependent Children
ASEC	Annual Social and Economic Supplement
AHCPR	The Agency for Health Care Policy and Research
CRH	Corticotrophin Releasing Hormone
CONAPO	National Population Council of the Government of Mexico
CPS and ASEC	The Current Population Survey Annual Social and Economic Supplement
Gallup	George Gallup's American research-based company
HIV	Human Immunodeficiency
HPA	Hypothalamic Pituitary Adrenal Axis
HPV	Human Papillomavirus
HSDMI	Health Service Disparities Among Mexican Immigrants
IRCA	Immigration Reform and Control Act
ICRC	International Committee of the Red Cross
NCHWA	National Center for Health Workforce Analysis
OMB	The Office of Management and Budgets
RWJF	The Robert Wood Johnson Foundation
UNHCR	Nations High Commissioner for Refugees
SES	Socioeconomic Status
TADDMERTS	Tuareg Transition, Abuse, Depression, Diabetes, Reactions to Stress
VIDDA	Violence, Immigration, Depression, Diabetes and Abuse

Introduction

Adverse Health refers to hidden discriminatory behaviours manifests itself through unequal treatment, unequal access and/or an unequal ethnical oriented health status that inflict one ethnic group over another. Among those groups are Mexican immigrant women in USA and Sahelian Tuareg women in Algeria who find themselves in the dilemma of gambling with their lives catching up with social ladders or suffering with chronic diseases that would be the result of accumulative stressful discriminatory actions. In the US, latest health statistics have found divergent evidence supporting the idea of the inherent nature of Mexican immigrant women unfavorable health conditions. Relied on the National Population Council of the Government of Mexico [CONPO] is one among others which shows how Mexican immigrant as ethnic group among them women faced big health challenges in USA health status. In a similar way, reports like *Sahel and West Africa Club Secretariat SWAC/OECD* urged an alarming increase in health adversity among Tuareg minority. On the light of these parameters, we frame our research which is interested in explaining the different transgressed Sahelian and US structural elements that lead the targeted minorities to this eventual status.

Focusing on Mexican immigrant women in United States and Sahelian Tuareg women in Algeria, the research primarily concern is analyzing the different elements that promote health adversities among them. Therefore, this study insists on two most important subjects that are deemed vehicles to bridge the overwhelming reasons behind health disparities, taking into consideration all the ethnical and cultural nuances of the populations under the study. It is not possible to tackle the problem of health disparities without carrying deep attention to the concept of structural discrimination which encompasses both socioeconomic status and health care

institutions where both groups live in. Interested to do so, in order to highlight that the current health status of women at both the social and the institutional levels is an outcome of deep-seated rules that have formed both the US and the Sahelian social and institutional systems. The second theme that the thesis considers important in addressing the association between subjugation and health is the mechanism under which discrimination can act from the social facet to the physiological level_ the organism level. The association that can only be granted by the syndemic theory as a new vision in understanding health inequality among ethnicities all over the world.

The contemporary health inequality that both Latinas and Targuias experienced each in their society is as obvious as being a leading reason that issues the present research. The whole research is driven by the logic that possible social similarities between Mexican immigrant women in the US and Tuareg women of Sahel conducted them to the eventual health conditions. Hence, the thesis encompasses the following questions that are important in dealing with the problem of health inequalities stemmed from discriminatory experiences in one angle, and the problem of belonging to both ethnic and gender group on the second angle:

1. How does the migratory form the foundation of discrimination against Tuareg women of Sahel?
2. How can the migratory story form the foundation of discrimination against Mexican immigrant women in the US?
3. How does structural discrimination form health inequality within healthcare system?
4. How does structural discrimination form health inequality within the US healthcare system?
5. Does this type reflect health inequity against Tuareg women who are permanently in transit?

6. How does this type reflect health inequity against Mexican immigrant women who transit to the US?
7. How does the association between adverse social conditions and diabetes among Tuareg women through syndemics theory's perception?
8. How does the association between adverse social conditions and diabetes among Mexican immigrant women living in the US through syndemics theory's perception?

The early presence of Mexican immigrant in the US and Tuareg women of Sahel in Algeria determines their situation in both social ladders. Even though the story of immigration differs from both groups, they both live in disadvantageous living conditions. Viewing the association between discrimination and health from the structural discrimination, the US health care institutions depict source of prejudice at both sides. From the ethnical and gender sides, the target ethnicities are in the grip of mal-treatments that are stemmed from the adverse socioeconomic status since wealth has become the only way to book adequate healthcare access. However, within the Algerian healthcare system where access is offered, especially to Sahelian migrants, rather some structural shortages are commonplace. The main cultural components of these minorities appear to be absent in this health institutions that normally is constructed to fit the whole US and Sahelian ethnic belongings. Despite the call for multicultural institutions, English is still the standard languages in each American health settings as the situation is for French in the Algerian as well as in most Sahelian countries hospitals. Mono-cultural health system is also displayed with its health care providers who belong to ethnic majority and how this labor predominance can affect the health of minorities within US and Algerian health institutions. The status promotes the inequalities of health among women under study through the actions of stereotypes. Within these ethnical gaps, the thesis proves the intricacies of the gender aspect at the same complexities of the ethnic ones.

For one reason or another, the work intends to dismiss the population under the study from being simply victims of discrimination who might become stocked in the statistics in an attempt to give the subject its share of novelty. The Syndemic theory mediates to understand the positive association between discrimination and health at the biological level and within range of chronic diseases among them Diabetes. The latter is considered one of the prevailed chronic diseases which gathered Mexican and Tuareg immigrant women as narrative operates as unique windows into the lives of the aforementioned groups, it portrays the intersection of structural, social, interpersonal, psychological factors that incite the adverse health position among women under study.

Situating these narratives findings into a border discussion of diabetes among them, stress is identified to be a major source of such chronic illness. Nine major forms of discriminatory stresses are introduced to expound the association of discrimination with health. The crux of the Syndemic is the clustering of two pathogens that must intersect with and only with that large political, economic and social discrimination that are emerged from their intersection at the biological level.

Taking the previous studies on the health of minorities as a platform, the research is traced its primary sources from J Health Social Behavior U.S. Census Bureau Pew Psycho Rev CAIR CPS drawn on several studies that deal with the same subject. Substantial primary sources: are used including news reports especially, public opinion polls, surveys such as Pew, Gallup and other organization reports, including, CIA, World Facts, CAIR, CONAPO, and COGME. Furthermore, primary resource includes conference like. Interviews are also implemented as they carried during the collection of narratives. Secondary resources stand side by side to primary resources as they play the role of accomplishment in order to come with complete information. Thus, academic scholars, social authors, printing press are used as well.

To portray the story of immigration in general and women in specific; how this movement cannot be detached from the risk it brought toward those women under study, how this movement is decided upon certain laws that were driven in response to significant events happened in both countries_ US and Sahel. This amount of knowledge can't be granted without dependable studies like: For example, Joe R. Feagin and José A. Cobas's *Latino Facing Racism: Discrimination, Resistance and Endurance* (2007), Kossoudji, Sherrie A., and Ranney, Susan, "The Labor Market Experience of Female Migrants: The Case of Temporary Mexican Migration to USA" (1984), Ruiz, Vicki L. *From Out of the Shadows: Mexican Women in Twentieth-Century America* (2009), William Arp, Marilyn K. "The Immigration Reform and Control Act: Differential Impact on Women?" (1999), Laura Borgelt, Mary Beth O'Connell, Judith Smith and Karim and Anton Calis's *Women's Health Across Lifespan: The Pharmaceutical Approach* (2005), Emily Mendenhall's book *Syndemic Suffering: Social Distress, Depression, and Diabetes among Mexican Immigrant Women* (2012), Jalali's article "Tuareg Migration: A Critical Component of Crisis in the Sahel" (2013), Montavon's article "Health of mobile pastoralists in the Sahel – assessment of 15 years of research and development" (2013).

Both Joe R. Feagin and José A. Cobas's *Latino Facing Racism: Discrimination, Resistance and Endurance* and Bernus Edmond in their works *Dates, Dromedaries, and Drought: Diversification in Tuareg Pastoral Systems* grant a picture of the early settlement of Mexican and Tuareg race within USA and Sahelian racial classification respectively. The books analyze the process of immigration and the status of poverty for women under study through their adverse social position. The two main studies that come to complete the survey provided by this work are "The Labor Market Experience of Female Migrants: The Case of Temporary Mexican Migration to USA" and *From Out of the Shadows: Mexican Women in Twentieth-Century America*. In the first article

Kossoudji and Ranney use Mexican national survey, they provides a profile of temporary Mexican female migrants in the US labor market and highlights the mal-distribution of wage rates across occupational groups for migrant women but at the same time it compensates the presence of Mexican immigrant women in the literature meanwhile depict their discriminatory sides of their labor immigration. The idea that is emphasized by Vicki L. Ruiz when she shows the struggles these women have faced, the communities they have built, and also highlights the various forms of political protest they have initiated. It is also considered as an important addition to the largely undocumented history of Mexican-American women in USA.

Another exemplar work is the article “The Immigration Reform and Control Act: Differential Impact on Women?” written by William Arp, Marilyn K. Dantico and Marjorie Zatzin which it provides a consistent knowledge about the state of Mexican illegal immigrant women, focusing on how the burden becomes doubled when the gender agent interferes in such case. The problem is addressed within the main gender-blind policy that of the Immigration Reform and Control Act of 1986. The authors scrutinize the whole provisions of the act and he shows the different points of gender-blind facets to prove the cause of the huge number of illegal immigrant women coming from Mexico.

In the Sahelian Tuareg context, Jalali’s article “Tuareg Migration: A Critical Component of Crisis in the Sahel” (2013) tackles the status of the migration of Tuareg and Tuareg Pastoralists within the Algerian regions. The article analyzes the process of immigration and the status of poverty for Tuareg under study through war events. In parallel way, Montavon’s article “Health of mobile pastoralists in the Sahel – assessment of 15 years of research and development” (2013) illustrates the case of about 20–30 million Tuareg people who live as mobile pastoralists between

Mauritania and Somalia including Northern Kenya. Montavon and her colleagues concluded that despite the high exposure to zoonoses and problems caused by extreme climatic conditions, and mobile pastoralists, Tuareg pastoralists are virtually excluded from health services because the provision of social services adapted to their way of life is challenging.

One of the most important studies about women's health is Laura Borgelt, Mary Beth O'Connell, Judith Smith and Karim and Anton Calis's book *Women's Health Across Lifespan: The Pharmaceutical Approach*. The work is considered as the point of inspiration from which the work is built. This book details the main points that genders' health can differ as well as the different points from which the immigrant health can be differed considering the socio-political, psychological and the socioeconomic factors that deepen the gaps. This information is structured in one devoted chapter the author entitled "Historical and Social Issues".

Yet, Emily Mendenhall's book *Syndemic Suffering: Social Distress, Depression, and Diabetes among Mexican Immigrant Women* provide a unique account about the real mechanism in which the discrimination can get under the skin. Taking diabetes as case of study, the work is built upon interviewing more than 120 women between the ages of forty-sixty who identified as Mexican immigrant. Syndemic theory in this work is taken as pillars from which Emily can prove in scientific manner the positive association between discrimination and diabetes among Mexican immigrant women. Depending on this rich literature, this thesis will clarify the conditions, causes and the effects of discrimination on Mexican women's health.

The present thesis attempts to highlights the subject of minorities' health in the field of the Algerian academic scholarship overcoming the shortages and the neglect of subjects of this kind not only at the level of Algeria scholarship, but even at the concerned level that of US and Sahelian

academic scholarship. Directed our interests toward the health of minority, the work primary concern is to relate the idea of discrimination against minority to newly subject that have been untreated like the subject of health. It is common that the fact of interesting in the subjects gives voice to those voiceless minorities like Mexican immigrant women of the US and Tuareg women of Sahel. Also, it is important for this study to give the subject of discrimination not only the cover of victimization but a sort of analytical model that can be generated to other minorities with the same adverse health position derived from the act of discrimination.

As the research depends on scientific approach, the latter should also be based on an empirical strategy that can deploy several methods. For example, the historical method is implemented to achieve the historical background of the work. It provides a means by which the early evolution of Mexican and Tuareg race has appeared. Also, the Content analysis grants the work access to information offered by articles published in newspapers, video tapes in internet, interviews and other recorded materials on television. Further, the method is used to analyze governmental document such as constitutional acts that affect precisely the targeted group's status wherever they are concerned.

The quantitative method has the importance of analyzing the abstract compiled data into interpretative lines that help understanding for instances the rate of poverty among women living under study the fact from which the present research could interpret their weak access to health insurance. The method is also an effective tool to associate the maps' data with the rate of poverty. Looking at the distribution of both Tuareg and Mexican minorities within southern states of both US and Sahelian regions grant an understanding about their poverty status. In the same manner, the same distribution that the map grants will be illustrated by graphics that parallel the residential

distribution with wealth misdistribution in both countries. Moreover, what polls and survey come with about women's educational attainment complete the above interpretations as it adds another angle from which poverty and health insurance can be tackled in the context of health among the population under the study.

The paper will be organized into three main chapters. The first chapter "A Historical and Discriminatory Portrait of Tuareg migrant women of Sahel in Algeria and Mexican migrant Women in the US" headed to detail background information about Tuareg women of Sahel and Mexican immigrant women of the US from a historical perspective. The chapter begins with describing the presence of each ethnicity in the US and Algerian settings, including major historical stations. It then describes the discriminatory patterns of the historical as well as the migratory status for both groups. To complete the testimony of similarity between the target minorities, the chapter inserts the human capital theory model through which it helps to clarify the different factors that shape the disadvantaged social position that both women have eventually experienced.

Entitled "Structural Discrimination: The American and the Algerian Healthcare Systems", the second chapter captures the structural discrimination as an innovative term in measuring ethnic inequality. However, the latter encompasses many sub-institutions, and as the focus of this area of research is on health, structural discrimination is viewed from the corner of the healthcare system as well as the institutions that are consequently intertwined. This part of thesis scrutinizes both the US and the Algerian healthcare systems as well as the socioeconomic systems in order to underscore the elements that may put the health of both Mexican immigrant women of the US and Tuareg women of Sahel at stake. The chapter also considers the role of gender in the subject of

health, and studies the axes complexities of being women who belong to the mentioned adverse ethnic groups.

“Syndemic Theory: The association between Stressful Discrimination and Diabetes” as a third and final chapter analyzes the practical mechanism through which the positive association between perceiving discrimination and health is clarified. This chapter introduces and explains the methodology and design adopted to achieve the objectives of the study. Firstly, this part aims to provide an illustration of the Syndemic theory as a new perception in tackling minorities’ health via putting the minorities under study within its principles. Then, it details of the methodological procedure and design adopted for the study. The chapter presents the research questions, the research methodology that underpins the study, and then the research framework. The description of the research participants is followed by the presentation of the main instruments of data collection procedures and data analysis processes. At the end, the chapter discussed the findings of the empirical phase, as well as a comparative analysis of the findings between Tuareg women from different Sahelian origins who live in Ghardaia, and Mexican Immigrant women who live in Chicago. The main aim of the present study is to examine the adverse health position that many Tuareg women minority live. It is expected that the ultimate work would promote a suggested solution to Algerian Health Ministry in generating powerful program and adequate clinical intervention helping Tuareg migrant of Sahel origins to adequate health status.

Chapter One

A Historical Portrait of the Presence of Sahelian Tuareg women in Algeria and Mexican migrant Women in the US

This chapter presents background information about Tuareg women of Sahel and Mexican immigrant women of the US from a historical perspective. It first describes the presence of each minority, including major historical stations. It then describes the discriminatory patterns of the historical as well as the migratory status for both groups. In an attempt to reach a common point under which both mentioned minorities melt, the chapter inserts the human capital theory model through which it helps to clarify the different factors that shape the disadvantaged social position that both women have eventually experienced.

1.1. The Presence of Sahelian Tuareg migrant Women in Algeria

The most noticeable feature of the Algerian society is its incomparable structure as it is considered as a very heterogeneous community. As a mosaic of the Maghreb world's plenteous ethnicities and cultures, Algeria synthesized a lion share of ethnic composition. The principle of equality among its different minorities which was legally granted by the Algerian constitution within its Articles 32, 33 and 35 "the equal life before the Algerian constitution" (*Algeria: Constitution Needs stronger Human Rights Safeguards*).

A fresh look at the ethnic composition of Algeria reveals the reality of its diversity as the Algerian ethnic view covers a wide spectrum of ethnic affiliations. Making use of the already existing surveys carried out by various governmental organizations and research center, the top five ethnicities in Algeria are as follows: Arabs (80%), and Berbers (20%), the latter indigenous minority comprises the Kabyle (8.2%), the Chaouia/Shouia (7.8%), and Tuareg (3.6%) and other minorities (2.3%) (Chaker 16). In terms of numbers, Arabophone community represents the principal ethnic group that constitutes up to 6-7 million out of Algeria's 32 million inhabitants who have come to identify themselves Berbers (ibid). The Tuareg, who inhabit the mountainous regions of *Ahaggar, TassiliN'Ajjer, Illizi and Adrar* in Southern Algeria probably numbered

between 40.000 and 45.000 (Keenan 1-2). Tuareg themselves give numbers closer to 3 million (Shoup, 295), making an exact number of them alterable. However, beside the indigenous category of Tuareg (Tuareg of Algeria), there is a sub-category affiliation which is the Tuareg of Sahel.

Despite its insignificant percentage as it forms a tiny minority group, the group in question in the present thesis, which is Tuareg of Sahel, contributes to the Algerian cultural diversity. Taking into consideration the migratory presence of Sahelian Tuareg in the Algerian ethnic landscape and the existence of a female proportion within this community, the present work sheds light on this community whose social status has been downsized after the effects of wars and instability happened within their respective lands. As such, this part attempts to achieve a primary objective that is to provide for a lens through which the different facets which make up the marginalization's status, of Sahelian Tuareg in general and Sahelian Tuareg woman in particular, can be studied. Importantly, it is worthy to mention, in this context, that Algerian Tuareg are firstly referred to in this thesis as indigenous Tuareg, and secondly, they position a high-rise status within the Algerian social landscape.

1.1.1. The Categorization of Tuareg Women's in the Algerian Social Landscape

Any analysis of Tuareg women race in Algeria would inevitably cover two major categories into which they generally fall: indigenous, and Sahelian migrants, along with another subcategory, which include Algerian born Sahelian Tuareg women who represent the progeny of the first two categories. However, the above categorization, despite its limitation in time and space, gives at least a glimpse into the two most distinct types of the Algerian Tuareg female population. Throughout this first chapter, brief historical accounts of each of the two defined categories – indigenous and migrants are to be included.

1.1.1.1. Indigenous Tuareg of Algeria (Tuareg of Algeria)

Are they border crossers? Or the border lines crossed them? The only possible way to capture the indigenous category of Tuareg population is through digging into far history before the border lines had been set between Sahel regions and its neighboring states. The story of Tuareg presence in Sahel is part of the indigenous tale of tribal population of North Africa. Although the origin and early history of the Tuaregs are cloudy, these tribal nomads appear to have traveled down from north Africa in a series of migrations as early as the 7th century. By the end of the 14th century, Tuareg tribes had established themselves as far south as the great Sahara where they retreated to mountains and desert areas in an effort to retain their traditional lifestyle (Bleeker).

Their traditional lands range over some 1.5 million sq. Kms of the Central Sahara and Sahel. They that time find themselves occupying large tracts of Southern Sahel, Northern Mali and Niger, with smaller pockets in Libya, Burkina Faso, Northern Nigeria and Mauritania. Their precise number in any of these countries is not known. Raiding and control of caravan routes were the traditional mainstay of Tuareg economic organization in pre-colonial times. In addition, although for much of the pre-colonial period there were many kingdoms, such as the Songhai Empire¹⁴ throughout north and west Africa, the Tuareg moved freely throughout the region because most polities were without defined or enforced borders. The Tuareg managed trade routes for gold, ivory, salt, and black African slaves, and provided services to trade caravans throughout the Sahel.

Actually, the story of the indigenous Tuareg of Algeria initially commenced during the early and mid-18th, 19th to 20th century; a period of time that witnessed the rise of restrictive movement of Tuareg. It is that gradual restrictions of their transit, as well as their internal conflicts that made the indigenous group of Algeria. In his book *The Tuareg Nomads and Warriors of the Sahara*, Sonia Bleeker details the different successive stations that made up Algerian differentiation of indigenous Tuareg's stories in comparison to others. To start, any historical analysis of the

presence of indigenous Tuareg in South Algeria harks back to earlier periods of time in the late 1800s when the French colonized found Tuareg dominance incompatible with their goal of expanding the French empire, and therefore sought to weaken the Tuareg stronghold (ibid). Eventually, it restricted the freedom of movement for many Tuareg trade and agricultural caravans.

Following the line thought, in 19th century, the restriction of trade contributed to severe economic difficulty and the formation of deep-seated antagonism toward certain Tuareg leaders. This has been mainly done to spread division among different tribal groups of Tuareg. “The French divisive strategies to establish greater control over the region, at times encouraging a sense of ethnic superiority among the Tuareg peoples. On the other hand, it extended positions of authority only to “*les évolués*” (the “evolved” or “developed”)—an act of manipulation which had lasting consequences” (Bernus). The Tuaregs now are becoming divergent groups divided between advantaged (northern Sahara) and under-represented (southern Sahara) ones, whom the first the first category considered (and arguably still consider) their inferiors.

Creating divisions among people of same blood would be inherited during post-French colonialism. As such, more restricted border division would trace their lines at least since the early 20th onwards, when Niger, Mali, Algeria have got their final independence, whose setting had marked the beginning of Sahelian Tuareg indigenous, even though not on a voluntary basis. “Post-colonial period was also a time for more restrictive and designed southern borders. To figure out Mali and its neighbor Niger were no exceptions” (Asfura-Heim). Nevertheless, setting borders of these fledgling countries further exacerbated division between the Tuareg groups, laying the foundation for longstanding—and still separated—groups. Importantly, it clearly defined the Tuareg of Sahel distribution (see figure 1) because they were now unable to traverse the Sahel as

freely as they were once accustomed to and were split up and isolated from each other. Consequently, they have been reduced to seven minorities stretched throughout Algeria, Niger, Libya, Mali Burkina Faso into seven main groupings or confederations: the Kel Ahaggar, Kel Ajjer, Kel Adrar, Kel Air, Kel Geres, Aullemmeden Kel Dennek, and the Aullemmeden Kel Ataram of the Sahel regions.

Figure 1.



Tuareg Confederations

Source: Asfura-Heim, Patricio. *The Tuareg: A Nation Without Borders?* A CNA Strategic Studies: Conference Report. D.C.P. 2013. Defense Technical Information Center.

The Kel Ahaggar and the Kel Ajjer are obviously the indigenous Tuareg of Algeria who are nomadic people, live almost exclusively among the mountainous massifs of Ajjer and Ahaggar in southern Algeria. The relative security on the Algerian side of the southern border is another strong point that persist the indigenusness of this ethnicity coupled with Algeria effective management of tribal relations among the Kel Ahaggar Tuareg tribes around Tamanrasset, and among the Kel Ajjer Tuaregs based around Djanet and Illizi.

To sum up what has been previously illustrated, the story of Tuareg indigenous of Algeria is the cumulative effects of continuous restricted movement that was imposed during and after the French colonialism, it was firstly initiated inside Tuareg division to spread internal separation—it has always been a primary means of French colonial system. Dividing up Tuareg tribes between developed and under-developed is also consolidated by border separations, the action which turns Tuareg population into seven tribal groups from which the Kel Ahaggar Tuareg tribes around Tamanrasset, and the Kel Ajjer Tuaregs based around Djanet and Illizi in which they form the very sense of indigenous of Tuareg of Sahel is presented.

In order to accurately examine the ambiguity around Algerian Tuareg ethnicity, it is worthy to distinguish the meaning of three terms that are used in an interchangeable manner referring to minority under study as if they were synonymous. The misconception of the three identities – Berber, Amazigh and Tuareg - in the Maghreb States and in Sahelian societies in specific is so evident that the literature has contributed to a misleading portrayal of Tuareg ethnicity in many of its published articles particularly in recent era. As a matter of ignorance about Algerian history in general, most people in the Maghreb States are referring the term as “Berber” or in Berber language: *ⵜⴰⴳⴷⵓⴷⴰ*, to the “Tuareg” ethnicity while belonging to Tuareg does not necessarily mean being Berber and vice versa. On some occasions, it tends to suggest a kind of sameness between “Berber” and “Tuareg” by depicting all Maghreb ethnic groups as Berber. This kind of misrepresentation can be evidenced, for instance, in Karl G. Prasse’s article “Loughran on Prasse, “The Tuaregs: The Blue People”. Prasse puts Amazigh, Berber, and Tuareg identities in the same basket showing his misunderstanding of three referred concepts: linguistics, and nationality and identity.

However, taking the label Berber, which is prevailing in the literature up to this time, is an exonym firstly mentioned in an old written attestations named *Periplus of the Erythraean Sea* rhetoric, where both the Greek and Romans: βάρβαρος (barbaros pl. βάρβαροι barbaroi), denoted people who spoke neither Latin nor Greek. It was used as an ethnonym in this document as reference to non-Greek-speaking inhabitants of northern areas that is modern-day Germany as well as to other tribes like Celts, Iberians, Gauls, Goths, and Thracians (Gabriel Camps 33). In a similar way, the Arab invaders used the words *barabir* and *barabira* interchangeably, as Muslim invaders called them later because of the linguistics differences of these tribes and because they find in their (Berbers) linguistics music resemblance with the music of animals (“Histoire des Berbères et des dynasties musulmanes de l'Afrique septentrionale”) So, it can be said that the word “Berber” is a linguistic exonym firstly used by Latin and Roman as referential to all the tribes which did not speak Latin. And, lately it was adopted by the Muslim conquests of the 7th century, who also used the label of *Berber* to refer to non-Arabic speaking indigenous people of North Africa who dominated a wide area from Siwa Oasis in Egypt’s Western Desert to the Atlantic Coast of Morocco and from the Mediterranean south to the Sahel in Niger and Burkina Faso (Shoup 53).

Nevertheless, if the term Berber, in this context, is geographized to Northern African parts, in ancient and medieval times, the Greeks, Romans, and Byzantines all used “Greater Libya¹” in reference to various tribes that inhabited the area which is now called North Africa. Also, ancient Greek writers used the word “Libyan” to refer to the inhabitants of North Africa (Warmington et al. n.p.). So, in order to distinguish between the geographical reference and the linguistic identification, great Libya fits more as referential word to the inhabitants of northern Africa than Berber did because the first label (Berber) has more generalized affiliation as it covers all other tribes which are non-Greek speaking societies among them (Tuareg) community.

By definition, religion is an institutionalized system of beliefs and practices relating to the divine (Shaikh 1- 2), but not to ethnic origins. Failure in accuracy persists by including the term Tuareg as a part of indigenous origins. To clarify, the name Tuareg, (/ˈtwaːrɛɡ/; also spelled *Twareg* or *Touareg* or more precisely, *Tuwariq* is also an external labeling referred to a religious affiliation as the Tuareg do not in fact call themselves by this term. “Tuareg name has Arabic roots, i.e. derived from the verb, “*Târek*” meaning those who are abandoned by Allah (God), because for a long time this tribe refused to accept the religion of the Arabs: Islam” (“Histoire des Berbères et des dynasties musulmanes de l'Afrique septentrionale”). Ironically, at that time, the Tuareg themselves might not know about the word. “They do not use the name “Tuareg” themselves, and many of them do not even know it” (Bernus 18). Nevertheless, hitherto, there are strong joiners from the Tuareg ethnicity who identify themselves as Muslims (refers to the monotheistic religion revealed to Prophet Muhammad (pbuh) embracing the Islamic faith regardless of their piety or devotion towards their religion. For this call, Tuareg as an adjective which refers to non-Muslims affiliation before, it is no longer optimized in front of massive number of Muslims within this community.

The above two mentioned examples are just few examples among many that can be found throughout the modern literature and probably in other major historian resources as well. These instances stand for an allusion to the fact of how the Tuareg identity is being marked. The lack of accuracy in using the precise term prevails in many of Maghreb journal rhetoric not only by taking any Tuareg as Berber, but all non-Arabic speaking are mistakenly portrayed as Amazigh. Digging in the origins of the word Amazigh, *Imazighen Imaziyen* or singular *Amaziy*, or in Berber languages ⵎⴰⴷⵉⵣ, scholars believe that the origin of the word Amazigh has several theories. For the first geographical theory, the term is the same name for tribe that was called *Mazyes*² by the ancient

Greek writer Hektaios³ and *Maxyes* by the ancient Greek historian Herodotus⁴. Two terms referred to a geographical lands, under the Lower Empire and in the Byzantine⁵ era. In the same way, in Latin sources, the term Amazigh referred to all tribes that were called *Mazaces* and *Mazax*, after Massylii in the east and Masaesylii in the west, during the second Punic war⁶, when they would eventually united into Numidia kingdom⁷ (Doumir).

Secondly, according to the historian Abraham Isaac Laredo, the name Amazigh could be derived from the name of the ancestor Mezeg, which is the translation of the biblical ancestor, Dedan⁸, son of Sheba in the *Targum*⁹. According to the Berber author Leo Africanus, Amazigh meant ‘freeman’. Amazigh also has a cognate in the Tuareg word *Amajegh*, meaning ‘noble’. This term is common in Morocco, especially among Central Atlas, Riffian¹⁰, and Shilah speakers. Also, according to Ibn Khaldun, the name *Mazîgh* is derived from one of the early ancestors of the Berbers (ibid).

However, as far as ethnicity is concerned, it refers, by definition, to a group of people who share the same racial, linguistic cultural and/or national heritage. Despite the growing sense of Amazigh identity and national unity in Algeria, the Algerian Amazigh (the Kabylis, the Shawias, the Mozabites and the Tuaregs) have depicted dispersedly into sub-communities over a dispatched geographical area with weak ethnic ties.

Amazigh in Algeria remains tribally organized. Four main groups, the Kabylis, the Shawias, the Mozabites and the Tuaregs, make the Amazigh sphere in Algeria. In terms of group identification, the word Amazigh affiliates four different terms which melt into one origin _ The Kabyle; a word derived from the Arabic word “*qabila*” (plural, “*qaba’il*”) meaning tribes. The Shawias; a word stands for shepherd; this naming categorically best describes the Shawias lifestyle envisaged in raising herds. The Mozabit; which is a religious ethnic community whom ancestors

embraced the Ibadith¹¹ Islam. The founders of the Ibadith theology and culture were a group of puritans who broke from Sunni Islam. The Tuareg; as spell before, a name derived from the Arabic verb, “*Târek*” meaning those who are abandoned by Allah (God), or a of noble man (“Ethnicity, Regionalism and Political Stability in Algeria’s Grand Sud.”).

At the geographical level, the Kabyles inhabit Northern Algeria mountain region. Their homeland is often divided into two basic regions: The Great *Kabylia* of the *JbalJurjura* so-called by local dwellers with Tizi Ouzou region as a main town. The second significant region is referred to as The Little *Kabylia* or locally *Kabylia* of the *JbalBabor* where Bejaïa flourishes as the main town. The Shawias inhabit the *Aures* mountains in Eastern Algeria, the *Aures* homeland extends as mountain ranges, often divided by parallel profound valleys: *Oued el Ahmar*, *Oued Abdi*, *Oued Abiod* and *Oued Abala*. The *Aures* is divided into *Oriental Aures* and *Occidental Aures*. In contradiction, the Mozabites live in M’zab Valley in a loose confederation of seven small urban settlements. They are *Beni Isguen*, *Melika*, *Bounoura*, *Elateuf*, *Guerrara* and *Berriane* mainly Ghardaïa as the largest city center state. The Algerian Tuaregs inhabit the Sahara in a vast area stretching from the highlands of Tassili-n- Ajjer and Ahaggar to Illizi and some parts of Adrar region (Ilahiane71-3).

At the linguistic level, while most linguists agree on a close genetic relationship of Amazigh languages, they distinguish various Amazigh varieties based on linguistic analyzes. Only neighboring Amazigh speech varieties are mutually intelligible and linguistic convergence increases with geographical distance. It is in the lexicon that the discrepancy between Tamazight varieties is most noticeable and immediately apparent. “Vocabulary divergence among the main dialects is around 60% based on a test list of 200 lexical elementary terms. Other researchers

maintain that we are dealing with distinct' languages" (Terriche). Below is an illustration of vocabulary/phonology difference between some Berber varieties:

- taddart = —villagel in Kabylia, but —homel in Aures and Morocco.
- akal = —soull in Kabylia, but —countriesl for the Tuareg.
- tamazirt = —countriesl in Morocco, but —gardenl in Kabylia.
- tigemmi = —homel in Morocco, but — familyl in Kabylia. (Chaker 215-227)

Similarly, the idea of differences among indigenous linguistic varieties is simply confining in their alphabet. Though for a long time, the Berber language existed, the Tamazight has remained for so long a spoken language. "It was first written in Tifinagh¹², the oldest Tuareg alphabet. Later between about 1000 and 1500, Berbers wrote their language using the Arabic alphabet. Since the 20th century, Berbers, the Kabyles, have agreed on the Latin alphabet" (Gall and Hobby 79). Doing so, they accentuate their internal disagreement and preferences about the language that their alphabets should be written with.

At the cultural level, the Kabyles, Shawias, the Mozabites and the Tuaregs differ dramatically in many cultural components. The Kabyle are mainly Muslims with a few Christians and are predominantly agricultural, growing grains and olives and herding goats. Traditionally, each village was administered by an assembly of adult males (those old enough to observe the fast of Ramaḍān). A code of customary law dealt with all questions of property and persons as well as crimes and general offenses. Villages are divided into rival clans, and the society is organized into castes, with smiths and butchers ordinarily kept at a distance, and a serf (earlier slave) class. Traditional dress for men includes a loosely flowing robe, a woolen burnoose draped over a woolen skullcap, and a broad-brimmed straw hat. Women wear bright cotton garments, usually woven in serpent like stripes, and a silk scarf covers the head. In different manner, Tuareg society is

organized into tribes and, at least among the Ahaggar Tuareg, into a three-tiered class system of nobles, vassals, and slaves and servants, the last group often being of 'negroid' origin (80).

Comparing the Tuareg and the Mozabites in terms of religion, the form of Islam practiced by the Mozabites is extremely strict, egalitarian, and separatist in contradiction to the conventional practices of Islam within Tuareg societies. Also, non-Ibadi is not admitted into a Mozabite mosque because the code of morals is rigid, and the standards of religious purity are high, for this reason, the Mozabites do not marry outside their sect. So, paradoxically, Amazigh peoples who identify themselves as groups of the same belonging, cannot intermarry as such Mozabite community is physically homogeneous. In addition, as far as the position of women is concerned, unlike Tuareg women, The Mozabite women are heavily veiled and never leave the community whereas in Tuareg community, women enjoy high status and many privileges, and their social responsibilities equal those of men enjoying great freedom in matters such as choosing a life partner and taking care of home/house affairs (Saadi, p. 28). What is more, Tuareg who are known as "people of the veil" because in this community the men--but not the women--always veil their face by indigo-dyed cotton, and Tuareg males have no right to polygamy as men in Mozabites have.

At the racial level, the Kabyles have a physical appearance which resembles mostly the European ones. As Daumas and Fabar described the physical characteristics of the Kabyle people as very different from other Algerian features as he portraying: "While the Arab has black hair and black eyes, many Kabyles have blue eyes and ginger hair" (20). Similarly, it is argued that they not the 'pure white Berbers', the most untamed, those who'd had the least contact with imported civilizations. Were they not 'tall and slender', a white, people with a conical thorax, and the features of our own inhabitants of Auvergne" ("The World Directory of Minorities"). In contradiction, the Tuareg considered from the physical point of view as tall (about 1 m. 70 and

above), rather thin, but very vigorous and less energetic. Tuareg eye color is actually a very dark brown, verging on black. The hair likewise is black, and no evidence of hair blondism. The hair is straight, wavy, or curly with ringlets; frizzly hair among the Tuareg is considered a “negroid” diagnostic (*The Tuareg*).

To clear all ambiguity about the three exonyms words, as a matter of fact, Tuareg use different terms to refer to their origins which are completely different from the ones illustrated above. the Tuareg were divided into seven main groupings or confederations: the KelAhaggar, Kel Ajjer, Kel Adrar, Kel Aïr, Kel Geres, Aullemmeden Kel Dennek, and the Aullemmeden Kel Ataram. The Kel Ahaggar and the Kel Ajjer of the Sahel regions. southern Algeria are known as the Northern Tuareg. The other groups, who live mostly in the Sahel, are known as the Southern Tuareg. Each confederation was led by *anamenokal* (king) (Stokes 702). The Tuareg also used the term “*Kel*” in turn to highlights a particular trait. For example, *Kel-Tamahaq* highlights the linguistic criterion which means those who speak Tamahaq language; *Kel-Tagelmust* or veiled people for the large turban worn by men, and finally *Amajagh/Imajaghen* (Hawad 97) which refers to their culture and life style in its entirety.

One can conclude that under the process of nationalism and Arabization in Algeria, an urge for unifying of minority groups and the welding of the north and south into a unified state, have been put as priority, especially under the external threats and minorities’ liberalization all over the world. However, many components of Tuareg identity have been entrenched as the expanse of such social ideology. First of all, in an attempt to converge all non-Arabic speaking minorities into one ethnicity, the three terms: Berber, Amazigh and Tuareg has been used interchangeably to refer to Tuareg identity which are obviously diverged whereas they held completely different meanings

depending on their origins; the linguistic, the religious, and the geographical meanings all of which may sometimes converge as they may most of the time diverge.

The most obvious and sole convergence is when all these adjectives were given interchangeably to identify three different non-Arabic speaking groups of Algeria in terms of geographical belonging; however, the divergence can be noticed when a Tuareg adopts Islam as his/her religion in this case the adjective *Tuwariq*, which is initially given to people who did not show commitment to Islam, has recently declined in front of Tuareg Muslims who form an over majority within Kel Tamahaq society.

Additionally, the distinction can be detected when the term “Berber” is used in confine manner and it applies to all non Arabophone societies. However, the word has a Greek origin encompassing all non-Latin speaking societies of the world among them African inhabitants. Keeping with the same Algerian context, as a matter of fact, most academic writings mistakenly include Berber as a group of individuals who are not of Arab descent. However, owing to a constant stream of Arab invaders and settlers in addition to Arab-indigenous intermarriages, Berbers and Arabs melted and are now often ethnically indistinguishable “they integrated this religion without any condition. Furthermore, there are those who have adopted the Arabic language as their own mother tongue. Also, they have become part of the Arab culture, and they had also lived with the Arab people for many years.” (Grémont 182). Therefore, Islam and the Arabic language have subsequently created a North Africa cultural unity. More deeply, there are many theories who admit that all Berber of Africa has an Arabic origin. Take the example in 15th century, the historian Ibn Khaldun who justified the origin of the northern African people where he related them to Yemeni origins claiming their descendant from the Himyarites¹³ (Demouni). The sizable non-Arabic speaking populations in North Africa, who still claim non-Arabic identity

simultaneously proud of their separateness vis-à-vis the Arabs, based only on the language they speak (“Ethnicity, Regionalism and Political Stability in Algeria’s Grand Sud”).

Last but not least, the word Amazigh is granted in an attempt to provide a definition of non-Arabic speaking inhabitants of Africa among them Tuareg, yet it (Amazigh) fails to give an accurate one. Basing on a platform of a sharp cultural distinction between The Tuareg, The Shaouia, The Kabyles, the concept Amazigh is a categorization that encompasses all colors, races, costumes, and every single components of cultural belonging. Obviously, none of which can be met with one association if taking into consideration the vast cultural, religious, geographical, racial and linguistic differences among the encompassed ethnic groups that are put under an umbrella word of Amazigh.

But to free the work from dim areas, it is important to mention that an aforementioned misconception is highlighted in order to accentuate the role of Algerian government in managing its different ethnic categorization. Also, this clarification is granted to exclude the indigenous Tuareg of Algeria from the marginalization aspects of the ethnicity under study. The object of the study in the present thesis is exclusively laying its pillars on Tuareg of Sahel; a category of Tuareg and ethnicities among which Tuareg women group constitutes a significant component. The expression “Tuareg of Sahel, and Tuareg women of Sahel” “the Tamahaq speaking societies” in this context applies to all Tuareg women in Sahel who identify themselves as “Sahelian” having the Sahelian citizenship.

1.1.1.2. Sahelian Tuareg Migrant Women

To offer a parameter of analysis through which the formation of such category of Foreign Tuareg women could be perceived, it is important to briefly trace the historical course semi-nomadic people that arrived in the Sahel region in 4th or 5th century A.D. and have since established

themselves as different clans in confederations throughout lands in Niger, Mali, Libya, Burkina Faso, and Algeria. Given the dearth of scholarly works devoted to analyzing the Sahelian Tuareg female population alone, it is hard to disassociate their immigration history from that of the whole community, yet a particular reference to Tuareg women immigration is to be provided whenever data afford it.

It will be argued that the processes that influenced the migration of Sahelian Tuareg from their own countries are deeply entrenched in history and in “the composite relations between Tuareg and the environment as well as the policies and institutional context” (Abdalla 6). Tuareg women, similarly to their male counterparts, migrate to and out of the Sahel regions for highly varied reasons. Some of them moved there because they were mainly pushed by wars, political insecurity, and environmental changes, and economic shortages in their countries. Or by the better economic chances offered by the host country. Some others left their home countries and settled in other African region in high hopes of improving their living conditions. Whereas, to make separation between male and females in the process of immigration, the reason behind Tuareg women migration to Algeria, is as the same mentioned push factors before as men. However, women are mainly migrated in order to join their male counterparts.

Although very few, Tuareg women from Mali, Niger were early migrated to work as slaves on Algerian and Libyan Tuareg tents and consequently persist their nomadic identity within the institution of slavery. In his article “Tuareg Trajectories of Slavery: Preliminary Reflections on a Changing Field”, Benedetta Rossin argues that some enslaved Tuareg women used to be The *Ikelan* (*Éklan/Ikelan* or *Ibenheren* in Tamahaq; Bouzou in Hausa; Bella in Songhai; singular *Akli*). The exonym name “*Ikelan*”, and to a much greater degree Bouzou and Bella, are a caste within Tuareg society, who were at one time slaves or servile communities even though they do not face

material conditions of enslavement anymore (n.p.). This presence allowed researchers to find evidence of early presence of immigrants Tuareg females through narratives told by their descendants. In consistency with Bendetta's view, many other anthropologists confirmed the actual presence of a Tuareg origin among enslaved women during slavery era. Evidence to support such claims was found within the framework of governmental funded programs.

Field workers like Rasmussen Susan were employed around Algeria and Libya to record the oral histories of people whose ethnic origins were being lost or transformed in modern days. Some of those oral histories had perfectly described the slavery lives of Tuareg women and significantly depicted some cultural practices that denoted the presence of a certain foreign Tuareg women origins. The narratives provided for substantial evidence about these women who used, for example, to live near their nobles though most of the year as domestic servants and herders, and functioned as part of the family, with close social interactions which was a standard slavery practice in many nomadic Tuareg traditions particularly in south Algeria. Moreover, Some Tuareg noble and vassal men married slaves; through the marriages their children became freemen (98). In this sense, *éklan* formed distinct subsections of a family, and above all by their marriage, they generated the presence of female Tuareg within this category.

Besides evidences about the migration of Tuareg women along their male counterparts to different Algerian towns during the early days of the nation's history, prominent scholars on Tuareg communities among whom Muna A. Abdalla is the foremost agreed that the well-documented history of migrant Sahel Tuareg to Algeria began since more than two decades ago. The migration process occurred in a series of two distinguishable periods –1960s to 1990s, 2000 to the present day as a result to changing access to livelihood resources and current conflict between Tuareg and the governments of Mali, Niger and lately Libya (10). Similarly, Tuareg

female migration to Algeria and other neighboring countries could be implicitly envisioned through the same waves.

The first major wave of Tuareg migration was in the late 20th century. During that time Sahelian Tuareg, mainly Malian, and Nigerian, migrate to the Algerian borders into a massive influx from what was then called Sahel Crisis. They were pulled by the Algerian security and stability, and by the quest to escape the wartime effects and the economic situation in their home countries (1). So, the majority of those early newcomers were young, laborers, uneducated, unskilled, and from peasant backgrounds whose primary objective for leaving their home countries was fleeing climate drought and a war zone fought against their own race.

The resulting coup d'état and occupation of northern Mali between the Tuareg and Islamist insurgents fighting for independence from the Malian government marked the latest in a series of long-simmering Tuareg conflicts with West African nations, with earlier eruptions of violence occurring in the early 1960s, the early and mid-1990s, and several years ago (Abdallan.p.). Because the mission to move through the most rigid and dangerous Sahara was not so easy and quick one to fulfil, some of those males left their wives into their home countries, but many others persevered in their attempts to return to them whenever a secured means of move is accessible. They worked as peddlers, laborers, and constructor and some of them had established small economic ties with farmers and handicrafts. Most of those early Tuareg migrants, as noted by Jeremy Keenan, suffered mainly from lack of social network, poverty, lack of language skill (many speak other Tamahaq varieties), and absence of extended family and co-religionists (5). The problem of loneliness Tuareg immigrants suffered from was resolved either by getting sometimes married with Algerian Targuia or by bringing their brides from their home countries. These practices gave rise to a small wave of non-Algerian Tuareg female migrants.

In conformity with family reunification, the years following the end of Mali Wars of both 1993 and 2006 marked a second wave of Tuareg migration when many relatives of the already established migrants (Meier and Meier). Consequently, this period was characterized by the arrival of more Sahelian Tuareg women to Algeria, but life for many of those women migrants was as tough as the early ones as they suffered from poverty and hard financial conditions. Women were obliged, not only to find jobs in factories and mills where work conditions were very tough, but they were also subjected to changing cultural position of Sahelian Tuareg women who have enjoyed a prestigious social position once upon a time.

Niger crisis, however, brought with it a significant economic curtailment on Nigerian population and Nigerian Tuareg in specific (Kel Air, Kel Dennik, Kel Gress) by the passage of France's Areva Nuclear power company of 1970 that applied the expansion of uranium exploitation in the northern part of Niger mainly in Air valley where Tuareg are mainly concentrated. The acts essentially degraded grazing land and depleted water resources, and more dangerously affect Tuareg health. As such, the number of migrants from Niger to other Sahelian areas during that time consequently exaggerated the presence of both Tuareg male and female in Algerian ethnic landscape (ibid). Additionally, climate change during the 1980s, 1990s and 2000s incited many Sahelian Tuareg to migrate to Algeria and to Libya as well, after being essentially curtailed by restrictive land tenure that put under control number of Tuaregs landownership which were overlooked by government controls, pushing many of them (the Tuareg) to dry-land of the great Sahara. The eventual situation provided for another wave of Sahelian Tuareg migration to Algerian coastline.

Tuareg migration has also fell in the refugee categorization. By early 2013, there were around 300,000 refugees as a result of the Malian crisis, according to recent estimates by the United

Nations High Commissioner for Refugees (UNHCR) and the Internal Displacement Monitoring Centre. This figure includes between 200,000 and 230,000 internally displaced persons (IDPs), 40,000 Malian refugees in Burkina Faso, and 50,000 in Niger. Many refugees have also resettled in Mauritania (perhaps more than 70,000 at the Mbera camp alone, according to an April 2013 report by Médecins Sans Frontières), Algeria, Libya and other countries. Those who resettled were living in dismal conditions. The International Committee of the Red Cross has reported that displaced persons in the northeast corner of Mali lack food and water.

In an attempt to reach a peace agreements and mediation in both Mali and Niger since 2008 to 2013, the Algerian government allowed the refugee movement from both Niger and Mali which provisions encouraged the arrival of many Tuareg women. According to recent estimates by the United Nations High Commissioner for Refugees (UNHCR) and the Internal Displacement Monitoring Centre, around 300,000 refugees as a result many of them have also resettled in Mauritania (perhaps more than 70,000 at the Mbera camp alone, according to an April 2013 report by *Médecins Sans Frontières*, all of them were living in dismal conditions. In addition to that, the International Committee of the Red Cross (ICRC) has reported that displaced Tuareg in the northeast corner of Mali lack food and water (Meier and Meier).

The last and final wave was related to some Sahelian migration policies and to events happening in many parts of the African world. The year 2003 proved to be a watershed in the Sahelian regions. Yet, an addition category between early Tuareg migrants, either males or females, to Algeria, and those of contemporary era to present days migrants would display the reality of how among the latter there are some who tended to search for continuing their education in Algeria for example - often carried out their undergraduate studies under the European and British educational systems established by colonial rulers and Christian missionaries in their

countries of origin (Meier and Meier). Although handful, they usually arrived to Algeria with the hope of fulfilling their high education training at most of Algerian universities.

Significantly the majority of Tuareg male and female migrate either legally or illegally to different Algerian parts contributing to the enlarging of the Algerian Tuareg social fabric, many of them who came first to stable countries and stayed and found employment especially in fields for which there was a shortage in like: construction, laboring, agriculture and handicrafts. Their well-established networks provided for the basis for the arrival of future Tuareg females whom the trip was so hard to reunify their husbands which in turns contributed in increasing the number of Tuareg migrant women in Algerian cities. The preference for refugees provided under the peace agreement in 2007 accompanied by the occurrence of numerous rates of Tuareg students who have significantly pulled a large number of Tuareg females to seek education fulfilment in Algeria.

1.1.1.3. Statistical Portrait

To provide a statistical portrait of Sahelian Tuareg women, and to find out exactly how many Tuareg females are there in Algeria has proven to be a riddle like question to answer as the size of the Tuareg population itself has no exact figure. It varies dramatically from one survey to another depending on the different methodologies being deployed. Scholars and researchers agree that currently there is no scientific count of Sahelian Tuareg in Algeria for the main reasons that big share of this minority is non-sedentary-based population who moved continuously with their livestock in order to preserve the very essence of nomadic lifestyle. Another probably reasonable cause of the scarcity of exact estimates of the Sahelian Tuareg population would be its small percentage among the Algerian Tuareg population; the fact that surveys do not interview sufficient number of them to allow for meaningful analysis. Last and not least, most of recent migrant

Sahelian Touareg struggled to acquire a legal status, as Algerian policy has restricted migration from southern border as a strategy to national security.

The difficulty of assessing the number of Tuareg females of Sahel origin in Algeria is also combined by a complication to figure the proportion of male and female Tuareg because the majority of surveys tended to carry out more interviews with male than female. This drawback, according to The CIA World Factbook (2008), can sometimes be attributed to some cultural factors such as the conviction among some tribes that it is inappropriate for Tuareg women to be interviewed by a stranger. As such, measures of both the size of the Sahelian Tuareg population and the overall gender balance among them may be unreliable.

Estimates of the Tuareg population in Algeria vary largely from one source to another. This variation in estimation might well be fluctuated for political interests. Those groups who would like to minimize the number giving close to forty-thousand probably are the ones who advocate the success of Algerian government in controlling southern border by limiting illegal migration, whereas human right activists and journalists who want to reveal the Algerian political deficiencies in manipulating southern border in far Sahara especially who criticized the smuggling practices, claim that the current numbers are as high as seventy-five thousand.

The CIA report (2008) states that there are about 3,455,000 million Tuareg in all the Sahelian countries. According to the same survey released in 2010 entitled *The Tuareg – A People Without an Own Country*; there are about 73,000 Tuaregs in the Algeria. However, other surveys estimate the number to be more than 5 million such as Joshua projects which cites a number of 5 million in all Sahel countries (2008 - *the World Factbook*). Given the difficulty of sorting out the exact number of the Tuareg female population, one should be moderate and assume that the Kel Tamahaq is a sizeable community that represents nearly 16.5 % of the Sahelian populations; a

percentage that counts for about 5, 4 million among which the number of women is estimated at slightly more than 3.6. million in the same regions (*The World Factbook*).

1.2. Sahelian Tuareg Migration: Reaction to Liberal Economy, Drought and Insecurity

The migration of Sahelian Tuareg migration to neighboring countries, especially in Algerian, has been the ultimate end result of three major reasons: The change to liberal economy adopted by main Sahelian countries, Drought and Insecurity. The relentless hunt for starvation, drought and economic system, border insecurity had a devastating impact on both male and female components of the Sahelian Tuareg community. Thus, thousands of Tuareg who had previously developed a pastoralist way of live depending on their livestock, and who had once sedentary possessing a great position within their own tents and societies, chose to leave their regions either by settling in north-southern states like; Algeria, Mauritania, Tunisia, or in some faded cases, situating to costal Sahelian states. No precise statistics are available about the number of these movements, if there were any.

The Tuareg, according to Bernus, saw a unique migration episode whereby, perhaps for the first time in modern era, Tuareg were leaving southern regions in large numbers. This was especially true when hundreds of Tuareg including families with their children and women left their homes behind them and run from the economic nightmare (149). As mentioned before, how many Tuareg women left, at that time, nobody knows, but what is quite certain is that the Sahelian new policy after Mali and Niger attacks in 2013 that was mainly fueled by instability, the closing borders had disastrous effects on the economic and Tuaregs' lives.

The transit also should be understood under the umbrella of economic switch from socialization to privatization. Although, in Sahel, the transit to liberalized market has moved smoothly, it deprived the employment ladders from skilled and handmade jobs replacing them

with wage earning sectors. As Hamouchene explained, “This process of liberalization and transition to the market economy was accompanied by the destruction of the theoretical and practical know-how, resulting from the liquidation of institutes specialized in strategic sectors such as energy, steel, and textile industries” (n. p.). Tuareg who are handcrafts used to work in skilled jobs with raw materials “One of the significant sources of income for the Tuareg in far southern regions is selling their art and handicrafts. This art is mostly in the form of jewelry, leather, and metal saddle decorations, as well as beautifully crafted weapons, which include two-edged swords, sheathed daggers, iron lances, and leather shields” (Nourhan). Now, they had to live elsewhere in different countries and cities for wage earning jobs. In northern African countries for example, the unskilled low-income jobs such as, cleaning, farming and constructing are usually remained to illegal migrants from Mali and Niger males. Yet, Tuareg females are usually found in smaller textile factories and restaurants usually as cleaners, waiters, cook assistants, of course, the distribution will be guided accordingly with the rate of acculturation¹⁵ they can show along their services.

Keeping with the same economic context, Tuareg of Sahel were mainly famous for tourism. However, during 1990s, Sahel’s military regime, in an effective coup d’état, annulled the country’s democratic elections that would have brought to power the world’s first democratically elected Islamist government. The coup led to the start of Sahel’s ‘dirty war’. Almost overnight, the Sahelian Tuareg’s lucrative tourism industry came to a halt (Keenan 153).

Tuareg minority who are pastoralists have depended on the water supply, but now with climate change, drought made pastoral lifestyle ease unreachable. This atmosphere established by the climate factors created a situation of famine, insecurity, and intensive among Tuareg women in the Sahelian southern regions. The locations they used to belong stood against them. “The Sahel

is known for its dangerously capricious climate, variable rain patterns, and droughts—a situation worsened by climate change and the southern expansion of the Sahara” (Nourhan). However, the severity of drought has been made even worse during 1970s and 1980s reaching its climax during 2000s when droughts fuelled internal conflicts and diminished resources for the Tuareg. As Merise stated “although the Tuareg were once experts in withstanding the harsh and unpredictable desert environment, internal migration to other regions from wherever they pleased was no longer an option. Thousands of Tuareg and their livestock died” (3). Ultimately, continuous movement is the final resort for Tuareg who faced limited and subsequent degradation of water supply and land available for pastoral activities.

The deportation of many Tuareg men in the period following Mali and Niger’s attacks hence produced crumbled Tuareg families especially that were gradually disintegrating by losing in most cases their families’ male heads. As a matter of fact, Tuareg especially those with an immigrant background experienced a state of mass confusion and indecision because of the loss of the familial stability that could potentially have dramatic effects on their individual lives socially and psychologically as well as on their families’ livelihood (ibid). Consequently, the adrenaline rush generated among Tuareg women in the aftermath of recent border states’ conflict (2007-2009) was essentially satiated by the issue of Qaeda terrorists and illegal economy: trafficking and counter bounding. “Launching the Global War on Terror the Tuaregs’ Prague Spring lasted barely four years. It was cut short in February 2003 by the kidnapping of 32 European tourists in the Sahelian Sahara by members of Sahel’s *Groupe Salafiste pour la Prédication et le Combat* – which would in 2006 change its name to Al-Qaeda in the Islamic Maghreb (AQIM)” (Nourhan). Government military being encouraged and authorized by government authority, gained greater power to search

private homes and businesses, sift through financial records, and indefinitely detain “suspected smugglers” (Keenan 156).

The guilty until proven innocent standard that provided for a massive wave of detentions and escape particularly of Tuareg men among whom were prominent and respectable figures of their respective communities (159), led many of them in some cases to voluntarily quit southern Sahelian regions looking for alternative way of life elsewhere in the Algerian map. However, the northern African population negative stereotype historically associated with Sahelian Tuareg in general was essential in generating a highly incendiary environment for this minority to live in. The next part has a primary objective to unearth Tuareg women’s suffering in post-migration episode.

1.2.1. Stereotypes of Tuareg Women of Sahel: Persistent Images in the World

The following title looks into the plight of Sahelian Tuareg after an external migration to different neighbouring countries even to an internal Sahelian cities and towns, as well as the conditions they have to live within the eventual societies which are characterized by prejudice and alienation. However, prior to analysing those suffering and creating the correct context for it, it is necessary to include an examination of an in-depth look at the Sahelian stereotypes of Tuareg, its origins and implications. In other words, it is noteworthy to highlight and answer the question of how Tuareg in general and Tuareg women in particular are perceived in the “outer groups” view, more precisely the non-Tuareg populations.

1.2.1.1. Sahelian Tuareg Women in the Literature

Literature and media are essential parameters through which the stereotypical oppressed Tuareg woman and other similar deep-rooted images can be comprehended. Analysis of literature as well as journalist was carried out by some European writers and even other Arabs and African

scholars who made the construction of the Tuareg as the “Other”, the focal point of their studies. In his article entitled “Why the Tuareg have been demonised”, Keenan stated “writers and other Journalists invariably spoke of Tuareg in almost demonized terms as merely terrorist nomads and the warriors of the Sahara” (151).

Those scholars found out that during different periods from the 17th to the 18th, Tuareg women, in romances and travelogues, were mainly depicted as the “Illiterate”. Usually interested in livestock issues, knowing a little about how to communicate with strangers. They assumed that Tuareg women were portrayed as the personification of desire, being represented mostly as “bizarre” and “naïve” with a focus on jewellery and ceremonies, devilishness and huge inexperienced vision and laziness. Those women, on frequent occasions, appeared decorated and allegedly captive in their tents; the allocated proper place, (Diallo 659). Then, up to 19th and throughout the beginning of 20th centuries, Tuareg women were also pictured as aggressive and vigorous who override men’s power in wars with Christian knights whom they helped to fight against Muslims. “Data about Tuareg women clarifies that Men’s and women’s war experiences undermine existing institutions, consequently enmeshing gender identity in new power relations in other domains” (661).

Tuareg women’s alleged masculinity and devilishness have reduced them to mere objects of matriarch system; an image which finds representation in the 19th century literature and paintings provided by writers who often concentrate on portraying Tuareg men as face veiled and Tuareg woman mainly decorated, and lounging in tents and served by loathsome slave (663).

In addition, literature is a vehicle through which the most stereotypical images of Tuareg has been built. Looking at the importance of Islamic religion within the Sahelian population, yet the most prevailing and common religious presentation of Tuareg groups have been presented as

Christian and atheism (Bernard 125). The latter has dug an oppressed deep-rooted image can be ever comprehended by the outer groups. This particular Sahelian perception of this minority harkens back to earlier episodes in history, even before the distribution of Tuareg among different Algerian cities.

1.2.1.2. Tuareg Women in the Mass Media

Instances of such negative stereotypes in respect of Tuareg women are not only confined to literature and paintings, but find concrete representations in media presentation as well. Insofar as “mass media is an essential means through which meaning is produced and exchanged between citizens of a nation” (Alsultany 225), the already mentioned depictions of Tuareg women in literature are greatly reinforced by mass media which function as a fundamental vehicle through which the public can get, understand and exchange information about Tuareg culture and Tuareg women.

The media are a powerful tool through which meanings and conceptions are presented and transmitted to all society’s members. In his encyclical on the motion picture, Alsulany stated “There does not exist today a means of influencing the masses more potent than the cinema” (226). The power of the motion picture, he argued, consisted in the fact that it spoke by means of vivid and concrete imagery which the mind takes with enjoyment and without fatigue. The Tuareg population are exposed, through documentary, to the same stereotypical perceptions and stereotypes of Tuareg women have been exposed to through films. Turned to American films of Hollywood blockbusters, *Tuareg: The Desert Warrior*, Vicente Escriva and Giovanni Bertolucci, in their film based on the novel *Tuareg* by Alberto Vazquez Figueroa, of the stereotypes of Tuareg Muslim women in the US motion-picture production, emphasizes the fact that more recently Tuareg women have been cast by popular imagery as “primary actor in terrorist activities”.

The stereotypical backwardness of Tuareg woman, for instance, appears in a documentary episode of National Geography in the year 2013; the video shows a lady dressed with silver jewelry all what she could do is playing L'Imzad when returning to her tent or house, the place behind turns to be dirty, primitive and unattractive at all (UNESCO). Such productions have a harmful impact on Sahelian Tuareg population particularly in the manners they view other members of different cultures. They reveal, as well, how deep the stereotypes are rooted, and how they perpetuate from one generation to another.

The motion-picture industry including documentary reports, cinema, and television are the most powerful tools of popular culture, and significantly contributes to fostering stereotypes of Tuareg women through several vilifying presentations. The power of media can play an important role in fostering a nation's views and attitudes. Newspapers, magazines and TV news, collectively referred to as news media, has contributed a great deal to propagating the fixed images of Tuareg and Tuareg women already existent in the African psyche. To unveil such stereotypes and prove their perpetuation through the Sahelian and African press, the anthropologist and documentarist Jeremy Keenan carried out a study of the National Geographic Magazine through an examination of the magazine's photo coverage of Muslim areas of the world for over a century from 1888 to 1988. In his report *The Tuareg: The Blue-Veiled Desert Warriors*, Keenan traces images of Tuareg females and identifies many consistent themes and stereotypes among which the unattractive, and undereducated, the veiled and the primitive woman are the most prevalent (Tracks).

1.2.1.3. A New Stereotype

The well-established images of Tuareg in the people's mind pave the way for identifying their persistence, and their adjustment in a manner that produces new stereotypes or consolidates traditional ones that suit the new atmosphere established in the aftermath of the 2003 attacks, or to

be more accurate the atmosphere set from the last decade of the 20th century onwards. During the post-2003 era, the stereotype of the Tuareg as bomber or terrorist has emerged on the global perceptual landscape. “It was in early 2003 when 32 European tourists were kidnapped in the Sahelian Sahara and taken hostage to Mali. At that time, it has been the spread of jihadism following the French military intervention, especially through Iyad ag Ghali¹⁶, that has given the Tuareg a bad name and led to their further demonisation” (Keenan 10).

For instance, the Stratford TV news, “conversation: the long history of female terrorists” (2016) presents Tuareg females as other females from Jihadists in Muslim world move to launch nuclear missiles (Rane). The eventual standard stereotype of Tuareg as terrorists is repeatedly and concretely featured in recent fictional programs and internet publications. “Today, their traditional reputation, albeit slightly exaggerated and romanticised, has virtually gone. Instead, Tuareg are now being demonised in much of the Western and regional media as terrorists and jihadists” (Keenan).

Evidence that the ancient caricature of Tuareg women of Sahel is still anchored within the world perception until the recent days. This perception and others will pave the way to a fertile ground that generate a concoction of various underestimation, marginalization and discriminatory situations against Sahelian Tuareg women who decided to live elsewhere out of the Sahelian map and far from their own regions.

1.2.2. Stereotyping: The Effects on Tuareg Women of Sahel

The issue that deserves to be spotlighted in this context is the effects of such constructed negative stereotypes, in other words, clarifying the repercussions that brought out and still induce, particularly, the non-Tuareg Algerian Tuareg population, to form such vilifying images about

Tuareg. The construction of Tuaregs as the “Other” has positioned them (Tuareg) as inferior and backward, not only for Arabs majority but also for other Amazigh minorities. Further, this part will also analyze, specifically their (stereotypes) essence consequences of Human capitals of the targeted minority: education, jobs and income and life stratification.

1.2.2.1. Dressing

What makes the gender jeopardy obvious, in this corner of the study, is the dress of Tuareg females which made them apparently distinctive. The dress is one of the most apparent aspects of one’s personality and which can sometimes display the person’s ethnic affiliation confined to a particular group “Covering of the body among *Imuhar* (Tuareg) nomads is subject to social and cultural norms” (Fischer). Tuareg is one of the ethnics in which female wear some kind of dress in order to affirm their identities, generally long covering of the body made of cotton. The female dress is being referred to by various and different terms in Tamahaq including *Tesirnest*, *Roba*, *Elhaf*, *bukar* and other names usually determined by the region they originated. “A *Tesirnest* is piece of cloth, approximately 2 x 5 m. which the woman ties this cloth across their shoulders by applying a special knot, then the woman wraps it around her body, including the head” (ibid).

Taking into consideration their outside looks or the way they dress as a criterion of categorization, it is quite possible to group the Tuareg female population into two distinct categories: The “*Tesirnest* wearing” and the “non- *Tesirnest* wearing”. The former group consists of those women who wear the *Tesirnest* that makes them conspicuous within the Sahelian society, whereas the latter group (very few) consists of those women who do not adopt Tuareg dress as they have chosen to blend in the Sahelian social fabric, but they can be easily spotted by other features.

Table 1. Tuareg Women' Acculturation Level

Acculturation practices	Always	Rarely	Never
Arabic language/dialect use	10%	30%	60%
Ethnic interactions			
Visiting non-Tuareg women	15%	35%	50%
Celebrating with non-Tuareg speaking women	18%	25%	57%
Dressing <i>Tiseghnest in public</i>	95%	5%	0%

As statistics figured in the table above show, 95% of Tuareg women report always wearing traditional dress whenever they are out in public. 0% of them say they never wear the *Roba*. Wearing *Tesirnest* is most common among those with the highest levels of ethnic proud and sense of belonging. Nearly 95% of women who are highly attached to their dress say they wear *bukar* all the time compared with 5% of those with medium use. Overall, more Tuareg women say they wear traditional clothing in most of Sahelian cities (countries).

1.2.2.2. Education

Tuareg females in the mother countries have faced discrimination in the field of education due to their already constructed marginalization image. In Mauritania for example, these girls have sometimes been subject to school failure and school leave. It is noteworthy, in this context, to mention that in Mauritania the right to education granted by the Constitution is protected. However, the real-life practices towards Tuareg at school is not as strongly protected as many one people expect and believe.

In Nouakchott city, for instance, Maghlaha who is Tuareg female enrolled second-grade middle school student, Nouakchott in 2013, two months after the move from Mali, the twelve-year-old- girl began to receive verbal assaults, alienation as well as labels from classmates in

school. After having received repeatedly the same kinds of incidents, she showed more reluctance to proceed her studies and from time to time she tried to tell school officials about her problem. After many breaks she did, she was told that her absenteeism violated the school code. Accordingly, the student was suspended from school twice because she continued to come to school unconscientiously (Rasmussen 659).

Tuaregs were vulnerable to discriminatory situation by alienating them from certain extracurricular activities such as sport activities. As sport team is usually built upon fusion between athletes and players, it is hardly for a socially excluded individual to find a room of belonging in such kind of parties. In 2015, Makdoussa, an 18-year-old-student, was a victim of ethnic discrimination by her basketball head coach of high school team who refused to allow her to participate in external exhibition with other high school competitions. After Makdoussa's story was discussed with school officials, her coach commented on her capacities, and hearings from other players who responded as she was lacking background and experiences of basketball within her old high school. Thereupon, out of negative feelings, she decided to quit the team. What's more, the impact of perceiving discrimination was so devastating as later she left entirely the school (Rasmussen 660). The magnitude of Tuareg bigotry that has manifested, it had harmful impacts on Tuareg women's education which might in many cases influence on their educational attainment and redirect the course of their future as provided by statistics below.

Tuareg females mirror an adverse picture of the Sahelian general population in terms of education. As it is indicated by Mariam Saleh in African ethnicity reports, about 7% of female students are currently college enrolees, and about a 3% of all Tuareg women have a college degree, including 10% who have gone to primary school. Those numbers, when compared to the Sahelian general public, tend to be quite far, with no exception when compared, however, to other ethnic

communities. Tuareg women are considered, according to the Research Expert covering North Africa, specializing in the socio-economic environment of Sahel, Libya, Tunisia, and Morocco, Meriem Saleh and colleagues argued that the least educated ethnic community is Tuareg in comparison to other Sahelian major ethnic groups. Tuareg females, yet, unlike the aforementioned women, are statistically as likely as their male counterparts to say they have no college degree or no higher education. Disproportionately, Tuareg women are relatively less educated than their all-Sahelian counterparts whatever their ethnic identification is.

1.2.2.3. Job and Standard of Living Dissatisfaction

Working Tuareg women in all Sahelian cities have encountered numerous forms of discrimination and harassment in the workplace and have even been subject to wages curtailment or sometimes firing.

Figure 2.



Stereotype Impede Sahelian Women's Access to Employment

Source : Bouchama, N. et al. (2018), Gender Inequality in West African Social Institutions, West African Papers, No. 13, OECD Publishing.

Although women's work in Sub-Saharan Africa (59.3% according to the International Labour Organization in 2017) is allowed and rated highly in the recent era, the stereotypical vision (states in previous lines) that the world has been perceived towards Sahelian women in general and Sahelian Tuareg in particular put a majority of women, of the same origins, to work in the informal economy. According to Bouchama, "In the eyes of the community, women remain under the guardianship of their husbands or, if they are not married, that of their brothers or eldest sons... they have only a subsidiary role in relation to household responsibilities and are relegated to the side-lines when it comes to community-based management" (2). The Sahelian patriarchal society interprets the statistics granted in (figure 2) where 17% of West African men think that it is unacceptable for women to work outside the home and 21% would prefer that the women in their families stay home rather than work at paid jobs.

In both the economy and in the face of crises, Sahelian women play a central role, while their social position remains marginal. Many reasons were culture-related. As it has been spelled previously, during the internal and external migration, Tuareg women had been oriented toward laboring kinds of jobs which most of the time held no officialness basis. In Morocco, Libya and Algeria, unofficial statistics revealed that that this group tended to work at restaurants, as cleaners, cook assistant and waiters, at factories and at houses as maids. Although these kinds of jobs tended to be more susceptible for personal based issues, Tuareg appeared to have lower wage on both daily and weekly earnings in comparison to other workers of the same jobs.

The following are some examples among so many others of work-related discrimination against Tuareg women at the workplace. One of field-related work case which can be inserted as an example of workplace discrimination. A Tuareg family who work at one of the fields in

Morocco town for over three years. Shortly after, when they decided to move to other field where the payment is rather high than the current one, the boss ignored their right to pay them (Rasmussen 461). Another example of work discrimination, the company had previously granted Makdoussa permission to go to Mali to visit her grandmother, but when she came back, the employee denied her right to vacation. Because her Arabic language was so weak, Makdoussa could not discuss negotiate her options and complaint. It may be among one of the limitations of this work, is that these stories are until now, verbally transmitted, yet, no tangible complaints of unlawful employment discrimination against Tuareg employees has been found was (ibid).

According to the 2021 World Bank in Sahel in *Minority Rights Group International, World Directory of Minorities and Indigenous Peoples Survey*, family income among Tuareg is least to that of the large Sahelian population with 41% of Tuareg adults reporting an annual household income of CFA 24.000 or less. However, the survey points out that Tuareg women are far less affluent than are non-Tuareg ethnic groups. As far as economic gender is concerned, the same survey finds out that among Tuareg population, there is no large difference in the lower-income bracket between men and women as they both suffer from a remarkable economic disparity.

According to The World Bank in Sahel, about six in ten Tuareg women report having no job; a number that represents a percentage of 59% among Tuareg group. Among the other significant findings of World Bank, 69% of Tuareg women report that they are not satisfied of their standard of living unlike their counterparts among others groups and Sahelian general public who tend to report high satisfaction with all the things they can buy and do. Moreover, the poll indicates that one in six Tuareg women living elsewhere in Sahelian regions are field-employed with their husband counterparts and one in six of all women have a laboring jobs including: cleaner, waiter, home maids. Based on this, it can be argued Tuareg women like men are alienated from the total

Sahelian society the situation that put them to economic unease. Although there was an immense governmental aid by Algerian officials in helping Tuareg of Sahel, Sahelian Tuareg women's economic, educational and social status reflect their hard integration in Algerian mainstream society. It can be assumed that the vast majority of them are not integrated into the mainstream, and they are generally headed to the same type of labour.

1.3. Mexican Women's Provenance in the US: Migratory Determinant of Discrimination

Whether being a melting pot, salad bowl or multicultural society, throughout the United States history millions of people around the world have left their homelands for a chance to start a new life. This amalgam of races, ethnicities and cultures is an amplification of its inherited principle "Nation of immigration".

With or without a profound examination of its ethnic composition, the US depicts a society rich of ethnic diversity. According to Current Population Survey [CPS], (2016), from the top ten largest immigrant groups, Mexicans ranked the first minority group of the whole population by (23.0%). The following minority groups according to the same source are: Asians (25.3%), rest of Latin Americans and the Caribbean (20.9%), Europeans (14.2%). and others (7.5%). Obviously, immigrants of Mexican-origin are the largest ethnic group where women form another focus group within that minority circle, and this remarkable position gives a researcher strong potential to tackle it as an area of interest. Actually, this significant number of that group does never reflect their social ease since their early presence.

1.3.1. Indigenous Mexican American Women

The story of Mexican blood is not the only one conducted through the theory of immigration yet it is the strangest tale that puts a significant part of population into a questioned faith. That

faith makes in doubt their identity, their culture and their language in a split second. Within different setting and time, ironically the aliens were those American expansionists who invaded Mexican northern territories without legal documentations. In their book *Immigration Law and the U.S-Mexico Border* Johnson and Bernard portrayed clearly the scene as they state:

We are familiar with newspaper headlines sounding the sensational dream “Illegal Alien Invaded Texas”. In this case however the headline would have been in Spanish, Texas would have been spelled Tejas and the year would have been 1830 and the undocumented foreign nation would have been the Anglos moving south in Texas territory belonging to the nation of Mexico. (28)

Leaning on this historical picture, American history is conducted on a chronological record of significant events; each event has reason behind and at the same time has a subsequent effect on another one.

Thus, coming back steps in history, the story of Mexican indigenous initially started during the early age; an epoch where expansionism and exceptionalism ideologies were at their peak. Those ideologies resulted in two other major events: Manifest Destiny and the Mexican-American war; each of them helps the emergence of the Mexican indigenous.

1.3.1.1. Manifest Destiny and the Mexican American War

Manifest Destiny³⁵ marked the first reference point in this part of the study. The entire concept was first created by a *New York Times*'s journalist John. L. O'Sullivan³⁶ who wrote: “The fulfillment of our manifest destiny was to overspread the continent allotted by providence for the free development of our yearly multiplying millions” (qtd. in “History.com” n.p). This claim made Americans connected with a proud position and mission to expand their Anglo- Saxon civilization and their institutions across the breadth of South America. In the Mexican context,

however, the doctrine depicted the pure greed Americans had for the hopes of acquiring more shared territories with their neighbour. The term at that time was used to justify the action of securing Organ territories, California and more Mexican's lands in the southeast ("History.Com" n.p).

Mexico and the United States is a book that clearly details the different actions that resulted in the eventual existence of the Mexican indigenous. According to Lee Stacy, the United States annexed the territory of Texas which was a Mexican northern land through the treaty of Velasco.³ The treaty was signed only by the Anglo-American settlers who rebelled against the Mexican government over the issue of slavery as those rebelled citizens surmised that the action of signing the treaty would be the best way to recognize their independence from the Mexican government. However, from the part of the Mexican government the Velasco Treaty was totally denied and spurned since the agreement lacked its righteousness and officiants (44). Under these circumstances, the US seized the opportunity to propose the idea of annexing Texas under the name of Manifest Destiny.

Nevertheless, the proposal gained two opposed stances. Proponents who were purely expansionists, considered the action providing compound interests. According to them, Texas annexation would oppose British interference over the tariff issues, accelerate the labour force and overcome the problem of urbanization and the population overgrowth. On the other hand, the opposing side, the anti-slavery, perceived the annexation as an opened gate for slavery where according to them the US western expansion would bring a parallel to the equation side of slavery (45). Consequently, the eventual outcome was with the proponents' side, and Texas became part of the US territories in December 1845 under President James Polk's rule who was an advocate of the Manifest Destiny concept (Lusk, Staudt and Moya 7).

Another way of capturing the indigenous people of Mexican descent is by looking at the upshot of the Mexican-American war. Although the doctrine of Manifest Destiny had been already coined during Texas annexation, American public opinion was firmly attracted to the ideology of territorial expansion. The situation that prompted many US governors to claim that Texas borderline ended at the Nueces River. Ultimately, the conflict transferred to the Mexican-American war³⁷ that from its start was the US strategy to acquire more Mexican lands whatever means necessary.

To begin, tension mounted as Mexico rejected the US proposal to purchase Mexican northern territories. In an effort to intimidate the Mexican government, the US began to take more active role by sending troops in the disputed lands. Consequently, the Mexican government took an aggressive step forward to block further American troops into the Mexican lands. The action was very much welcomed by the US governors as it gave them justification for declaring war against Mexico. Less than two years later Mexico signed the Treaty of Guadalupe Hidalgo that ceded almost one-third of Mexican territory to the US. The territorial expansion includes California, Arizona, Nevada, Utah, Wyoming, Colorado, Oklahoma, and New Mexico (Feldman 15-18). This land acquisition opened equal opportunities for US investors who were looking for higher prosperity. Yet, did this acquisition open any equal right for its land-owners?

1.3.1.2. The Guadalupe Hidalgo Treaty: Racial Categorization and Citizenship Violation

Beyond the territorial gains, the treaty established pattern of rights to an estimated 75000 to 100,000 Mexican families who were seized along their lands as well. Ostensibly, Article XI of the Treaty secured the right of Mexicans for citizenship, liberty and property as it proclaims:

Incorporated into the Union of the United States, and admitted as soon as possible according to the principle of the federal constitution, to enjoyment of all the rights of

citizenship of the United States. In the meantime, they shall be mentioned and protected in the enjoyment of their liberty, their property, and their civil rights now vested in them according to the Mexican laws. With respect to the political rights, their conditions shall be on equality with that of the inhabitants of the other US territories. (qtd. in Johnson and Bernard 43)

Based on the above legislative regulation, the act authorized completed right for those Mexicans, and granted them an absolute ownership to their lands. Yet, the ability of Mexican individuals to rely on these rights depends on whether the article's principles would be later on enforced by serious applications throughout different domains.

This point of history serves to highlight two fundamental realities of Mexican race. The first which is very worthy in this point of study describes the very notion of indigenous Mexicans. In other words, if immigration process is the act of physical movement from one place to another so how can we consider the move of those Mexican families in their own lands? Weber in this context issues ironically "Mexicans never really left their home behind ... Thus, ten thousands of Mexicans metaphorically crossed the border in their sleep" (2-3). Moreover, the sense of indigenusness is perfectly depicted in through the actions of the lately acquired Mexican populations. To clarify, even when those Mexicans had been granted the US citizenship, they preserved every single symbol of their Mexican culture. Knowing a little of what was going on in the US, many Texas-Mexicans sent their children to Mexican schools, they brought newspapers from Mexico, they spoke in Spanish, and they used Mexican currency (Orozco 21).

The second reality that the Guadalupe Hidalgo Treaty³⁸ embodies between its lines is the violations that Americans held against those Mexicans. The latter marks the foundation of the subsequent types of discriminations Mexican ethnicity in general and Mexican women in

particular can ever experience.

This part tries to link the line thought of the next part of the thesis where the broad context of discriminations is laid out. To offer a parameter of analysis through which the formation of discrimination paralleled with the early existence of Mexican race, it is important to highlight briefly the US racial categorization and how this categorization affected the thirteen annexed states' inhabitants.

The US racial categories have always been described as a fluid and circumstantial system rather than fixed appropriate organization. To clarify, in so far, census concerning racial classification has drawn four main facets in which each phase reflects the racial classification to a given point of time. For example, the first census of 1790 questioned the number of the free males and free females' categories: the category that reflects the slavery institution, however, the second census includes and for the first time the use of the term 'race' that reflects the various immigration waves that coincided with the large empirical position. Yet, the third census emphasizes the white Anglo-Saxon superior purity as the period was largely influenced by the eugenics movement that persuaded the Anglo-Saxon race as the cleanest race in the social categories (Tiffany 31-37).

Coming back to the historical context of the signing of the Treaty of the Guadalupe Hidalgo, during this period Anglo-white congressmen's initial disputes were not over territorial extension but over the Mexican race within the newly acquired regions. Among historians who dealt with the subject is Gutiérrez in his book entitled *Walls and Mirrors: Mexican Americans, Mexican Immigrants, and the Politics of Ethnicity* where he declared that an underlined pessimism infused other American about absorbing hundreds of thousands of racially mixed Spanish-speaking

people as they believed that the action would help create a new potentially disastrous race problem in the US society (31).

This fearful and gloomy stance toward the Mexican race could also be obvious when observing the All-Mexico movement⁵ that had just appeared before the signing of the Guadalupe Hidalgo Treaty. In this issue Lee Stacy stated that the All-Mexico movement separated two stances about the Mexican inhabitants who settled in the annexed lands: the advocates who supported the entire acquisition of Mexico, and those who stood against the claim (45). Nevertheless, the second group's argument in the matter of the acquisition stands as another justification that depicted the early racist behaviour. In that time co-existing with the same political union seemed to be an impossible idea for white-Americans who had already developed an antipathetic racial feeling toward Mexicans (46).

Latino Facing Racism: Discrimination, Resistance and Endurance is another work example which explained deeply how the initial context in which the Mexican population was put in the American society affected their current status as Feagin and José state "The oscillating racial classification applied by Anglo-whites to Mexican Americans since the early 19th century will help illuminate the past and the present Latino positioning in the US racial adder" (130). Practically, the Treaty of Guadalupe Hidalgo represents a platform in which the newly Mexican Americans were granted all their rights as American citizens. However, the fact of sameness between Mexican Americans and Americanism³⁹ is strongly linked to being white. In addition to that, the idea of sameness under the treaty was also doubted by the frame of justice. Many judges in this era were also affected by the eugenics movement.⁴⁰ Accordingly, when cases related to Mexicans vs. Americans especially over the land issues, they proclaimed Mexicans as non-white neither technically nor scientifically, and consequently this misjudgment created long standing

confusions in the categorization of Mexicans in their current society (131). Even if the actions were constitutionally prohibited, they continued to describe the discriminatory attitudes toward these individuals in one way or another.

To restate what has been stated in so far, Mexican women's presence is embedded in their Mexican race that had initially emerged through an inverted process in comparison to the current migratory system. In other words, the aliens were the Americans who invaded the large Mexican territories under the conceptions of Manifest Destiny or the divine mission that was given to the US in order to spread their ideals throughout the southern American continent. This justification resulted in two main historical events: Texas acquisition and the Mexican American war each of which helped capturing the Mexican race before the real act of immigration.

Besides capturing the story of Mexican indigenous, the two former events repercussion was the Guadalupe Hidalgo Treaty. This governmental arrangement on the one hand declared that the newly acquired population would have the American citizenship; an equal right to that of Anglo-white Americans. Nevertheless, when the treaty was put within the context of American racial categorization, the Guadalupe Hidalgo agreement was totally denied under the perception of whiteness that shadowed the full right those Mexicans would inherit in the new citizenship. The situation is taken within these lines to highlight the fact that the early social position the Mexican race was placed into is considered as a foundation where an upcoming accumulation of discriminatory pillars will be put upon.

1.3.2. Legal Mexican Immigrant Women

The process of immigration covers millions of Mexicans to form the current huge community; a community where female portion represents a lion's share. Therefore, understanding the immigration system is the best way to accentuate the Mexican female presence. Nevertheless,

over the course of history especially the early years of Mexican international migration, they were characterized by male-dominated process where young economically motivated males' pervasiveness overshadowed female presence. Kossoudji and Ranney in their article entitled "The Labor Market Experience of Female Migrants: The Case of Temporary Mexican Migration to the US" explained the reasons behind the absence of Mexican immigrant women in literature especially at the early era. According to them there are two main causes that help explaining the fact: "The first is the belief that the number of female labor migrants is relatively small...the second is the assumption that women are primarily follower to men in migration process" (1120). Moreover, studying the Mexican immigrant, the work is influenced by the neoclassical theory of push and pull factors.⁴¹ Despite its importance, this method appears to neglect the voice of women in the process of immigration especially in the early years.

In an effort to reconsider the role of women played throughout the history of immigration, some dearth of scholarly works came up with a new concept that could update the amount of information devoted to examine their presence. By incorporating the add-women and stir theory,⁴² the concept primary objective is to reconsider the role of women in the process of immigration they played along with their male counterparts into different chronological stations.

The first wave of these women was in the late 19th century or the period of time followed the treaty of Guadalupe Hidalgo till the period of 1900. Even though during that time the treaty concluded that 2000 miles border region stretched from the Gulf of Mexico on the east to the Pacific Ocean on the west, became part of the US, and the new borders would be an international border, Mexicans kept moving back and forth across the border without regard to border immigration policies. Orozco stated that after the US-Mexican war, most south Texas residents continued to see Mexico as their homeland and he estimated the population of Mexicans around

1800 to approximately 1850 persons...They outnumbered the European Americans 2,500 and the Indians who counted for just hundreds (19). Moreover, the era also witnessed a great upheaval in several sectors, the fact that drew many Mexicans to immigrate. From 1850 to the end of the century, this period prepared fertile ground to pull huge number of Mexican labor force in the US. The prosperous trend in this epoch was persuaded by the discovery of Californian gold and agricultural expansion in Texas all of which augmented the demand for foreign workers (Hoffman, Blum and Gjerde 101).

The two above mentioned reasons coincided with very disadvantageous social positions that Mexicans experienced under Porfirio Diaz⁴³ whose rule pushed many Mexicans to flee across the US border. Ruiz denotes "Between 1875 to 1910, the Mexican birth rate soared resulting in 50% increase in population, food price also spiraled...while the Dictator Porfirio Diaz has been credited with modernization of Mexico, his economic policies decimated lives of Mexicans" (31). Furthermore, the misfortune of the Chinese population had from the US immigration policies opened a large scale of profit for the Mexican immigration at that time as Mexican immigrants were the remaining choice for low-skilled and low wages jobs in the southwest economy especially when congressmen passed The Chinese Exclusion Act⁴⁴ and the Gentlemen Agreement⁴⁵ which left no door in front of employers but to hire Mexican labors (Gutiérrez 32).

These reforms in immigration policies that were implemented to bare Asian immigrant labor from entering the US made Mexicans as the core of US industries. In the same context, the consequent fact of being the remained low-wage workers option created another positive event that could also promote the number of Mexican immigrants in the period under study. In other words, in a time when the US society was crowded with xenophobia and the sense of nativism that of the Anglo-Saxon race, the scene put strong pressures on Congress which eventually passed

more restrictive laws that concluded to head taxes and literacy tests. However, Mexican immigrants were not subject to these restrictive revisions. By passing the literacy requirement and entry fees, were necessary to issue strategy that granted special applications for Mexicans from those red tapes (Gonzales114).

Applying add-women and stir theory,most of the presence of Latinas in this era was based on the law covertures.⁴⁶ Joan Fitzpatrick in his article “The Gender Dimension of US Immigration Policy” insists: “Under this law a wife had no longer legal identity of her own, it was derived from her husband. Immigration law traditionally viewed women’s immigration status as a derivative status of her husband’s ones” (114). Consequently, the historical narratives of Mexican depicted women as purely followers to their husbands who took the active role in the process of immigration. Historian works like *From Out of the Shadows: Mexican Women in Twentieth-Century America* narrates exactly the life of those women: “As farm worker mothers, railroads wives and miners’ daughters negotiated a variety of constraints with economic, racial and patriarchal are at the heart of the narratives” (7). Though history revealed some instances when women took an independent decision to immigrate at that time without men accompanist; fleeing the patriarchal society left behind in Mexico, however, there was a particular immigration policy at that time which affected women and men differently.

Although the Mexican immigration flow was welcomed for both men and women, there was an exception case for women. Taking the Records of the Immigration of Special Inquiry as a pillar of her study, Ruiz declared that migration inspectors were ordered to stop immigrants who would become a public charge. Thus, they routinely stopped *solas* and single mothers as they scrutinized their passports applications and conducted special hearings to determine these women’s eligibility for entrance into the US (8).

The Mexican Revolution⁴⁷ was another standing station that forged the contemporary large Mexican community. As a matter of fact, the nature of this revolution made it impossible to meet the needs of Mexican population. The aftermath of the revolution concluded to mysterious conditions that conducted great number of Mexican immigrants in which individuals' primary need was fleeing violence. Although there was no actual practice of the term "refugee", this Mexican movement performed the very sense of the term at that epoch. As Mexican women were the most vulnerable bodies toward war violence, they found the US as home of refugee. Ruiz in this context inserts the story of violence behind the voice of Elsie Gonzalez a vital example of the early Mexican women refugee: "Marauders and soldiers raped and kidnapped young women. Elsie Gonzalez recalled how her grandmother had protected her sister from soldiers by throwing a wicker hamper over her and setting on the top of it until the men had left". The case touched all the Mexican women in all social stratifications. Although Senor Araiza was a Mayer of Guadalupe I, Calva, Chihuahua, he decided to send his wife and children to the US as refugees (7-8).

This movement captured also in the 20th century immigration patterns when two hot wars took place. Nevertheless, Americans maintained their opposition toward migration, the economic conditions during the war forced the continuation of the opportunistic laissez-faire policy to meet the manpower shortages which at that time only the southern border could meet this labor requirement. As Johnson and Trujillo clarify: "During world war one, substantial labor migration from Mexico to the US filled the labor shortages...with the start of world war two the United States once again experienced an increase in the demand for labour and thus for immigrant workers" (34-35). As early explained, the era was also marked by the male predominance in the labour arena and a total ignorance of Mexican female participation in the American labour force.

The claim can be well proved in the article “Female Predominance in Immigration to the United States since 1930: A First Look”:

Although female newcomers to the US have annually outnumbered their male counterparts since 1930, their numerical significance has been referenced only occasionally, and it remains virtually analysed. This is thus not surprising that the conventional wisdom that the typical immigrants are a young motivated male has been the policy debate of recent immigration. (Houston et al. 909)

In an attempt to reconsider the role of immigrant Latinas in this age and to circumvent the paucity of information related to this minority, the coming lines try to compare Mexican women and Mexican men’s attraction toward American labour force.

Two main domains were brought because they absorbed exclusively immigrants of Mexican origin. In doing so, the study highlights the presence of women along with their male counterparts in an era that shadowed their major roles and participations in labour market. This epoch opened largely the door in front of male Mexican labour force who replaced American workers who served in the military services the time Americans became directly involved in the struggle; thousands of the US workers were conscripted into military services creating a vacuum in agriculture and other sectors. Consequently, the government created the Braceros Program⁴⁸ under which millions of Mexican males were granted legal entry to access the American labor arena (Johnson and Trujillo 34-35). In contradiction to braceros, the Mexican maids entered labor market in response to the phenomenon of globalization. To explain what this phenomenon brought with, Michael stated that there were tremendous demands for foreign care workers especially during baby boomer generation⁴⁹ era. This care workers deficit augmented as the needs arose to fill in the role of US women who chose to participate in the labour force (3). In other

words, women's working in the developed countries surged the needs of family care that would be provided by women from the developing countries.

Mexican maids like braceros decided to migrate as a result of perceiving opportunities in the new society with the consideration the precious world within which they would acquire better job opportunities than those available in their country of origin. Michel and others in their report entitled *Women, Migration and the Work of Care: The United States in Comparative Perspective* where clarified the immigration, regulation and care labor market that care workers chose in order to escape jobless in their mother countries as they are attracted by job opportunity and labor choice availability in the host country where they were already been identified (5).

One side of similarity and contradiction at the same time was the contract since both bracero and maids held contract that permitted them to work in in the newly society. However, beyond those similarities this working stream differs in another significant way. As a matter of fact the Braceros Program is viewed as an official arrangement between the United States and Mexican government whereby young male peasants would work for period between six weeks and six months at a time and return to Mexico after fulfilling their contracts (Mandee 172). However, maids arriving to America did not require the same official stand by the government officials. As a conference issued under Woodrow Wilson International Center of scholar entitled "Women Immigrants in the United States" points out: "No government department or agency monitors the immigrant domestic workers visa program, no law establishes specific employment conditions of these workers" (85). Nevertheless, the first contract (Braceros) appears official and the second (maids) lacks officiants, both contracts received obvious violation in terms of wage, working hours, and working conditions.

For maids, according to Human Rights Watch and the Institutes for Policy Studies Campaign:

“For Migrant Domestic Workers’ Rights have documented the cases of dozens of such workers who have been abused by their employers...abuse entails non-payment, health and safety violation long working hours, physical, verbal mistreatment and sexual assaults” (85). As maids, braceros’ right violation is well documented. Although payment systems: hourly wages or piece rates were clearly conditioned within the bracero’s contract. Yet, many violations were recorded since employers chose to pay braceros by their own means (Mandee 175). Besides evidence about the presence of Mexican females with their male counterparts in the labor market, the second agriculture program helped the augmentation of Mexican immigrant women in another legal migration category.

The Seasonal Agriculture Workers Program SAW created basic Mexican male network through which Mexican female accessed legal entry visas under the family reunification⁵⁰ preference as complementary to the domestic civil right. Aravena declares: “After the 1965 amendment, many Mexican women migrated with US visas to reunite with their families” (3). Nevertheless, the act traced the beginning of the family reunification category that it is still endured in the present days within the US migration policies. The process of immigration also held chained events that created the whole nowadays Mexican community where Mexican women were studied within many historical reference points, and along with their male counterparts since their separate migratory movement was hardly referenced.

1.3.3. Illegal Mexican Immigrant Women

The illegal status of this minority is a result of two types of US policies. The first type includes policies that were designed to change the composition of immigration stock and decrease the amount of immigrant flow. These kinds of regulations enhanced the flow of both males and female’s illegal status. However, the second type includes gender-bias immigration policies and

regulations that were not influenced by gender-related matters if considerations take the fact that the process of immigration affects men and women distinctively. As such, prominent body of research on illegal immigrant women share the same agreed schema in which the US immigration laws' shortages regarding these women's needs in the process of legislation lacked the unforeseen negative consequences, resulted in unlimited number of illegal status among them.

To offer a knowledgeable thought in which the absence of gender orientation in immigration policies can affect the legal status of Mexican immigrant women, it is worthy to stress on the Immigration Reform and Control Act of 1986⁵¹ and the 1990 Immigration Act⁵² that play prominent examples and two important cases of study within this part of analysis. Equally important, this analysis disassociates this group of women from the large scale of illegal female by creating limited scope of scholarly works devoted to analyze only those gender blind policies toward them. To grant such limitation, the study forms paradigm in which only this minority can fit the conditions where IRCA provisions enhanced their illegal status.

1.3.3.1. The Gender Impact of the Immigration Reform and Control Act of 1986

One of the most prominent gender biased immigration policy example in which the enhancement of illegal immigration took place is the Immigration Reform and Control Act of 1986. The act encompassed three major provisions: legalization, seasonal Agricultural Worker Program and Employer Sanctions. Each of these provisions resulted in the feminization of illegal immigration from Mexico.

Trying to contextualize a framework of legalization, even though the visibility of female in the immigration landscape was progressively obvious under the efforts of the long-standing rectifications from scholarly works, immigration policies did not stress women immigrants' needs and could not address them with high voice in the place where policies were enacted. The

context under which this ignorance appeared was due to the failure of the feminism stand to book large place in the congress' tables where white-male legislators formed the overwhelming majority in the passage of the IRCA legislation. Arp and his colleagues claim: "It is worthy to introduce and frame our examinations of the existing data including those legislations established by the congress and the procedure through which the program was enacted" (24). This gives a lens through which a comprehensive thought is formed about the reason behind the lack of women migratory vision in the process of the enactment.

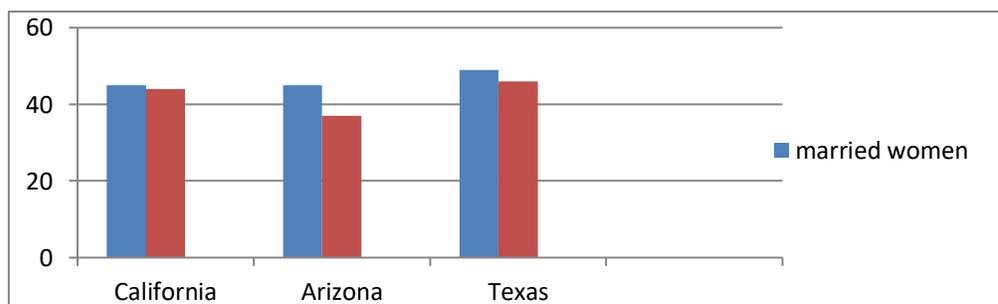
Another contextual reason behind the policy blindness of the IRCA gender-biased policy that was due to the long-standing of male dominance in the immigration process whereas women's passive roles confined to the derivative status has weakened the role of their consideration during the enactment of immigration policies. Joan Fitzpatrick issued that congress preserved the same old paradigm that had been influenced by long traditional immigration patterns from Mexico. This fault line created division within immigrant families, and it created fissure within the process of legalization as well (29).

In order to grant this part of the study its credibility, it is firstly narrowed to specific setting in the US map to fit a Mexican scope of analysis. The strongest argument that gave the work a potential to be linked to the Mexican community in general and Mexican women in specific is the fact that even though the IRCA amnesty was a nationwide program, there were uneven distributions in the number of applications. As a matter of fact, the program witnessed an overwhelming majority of 62, 5% applications situated in the western region. The estimate of Mexican population in the western region during the time of amnesty was enacted is shown in the table below. The statistics provided for the number of applications within three main western states: California, Texas and Arizona. Accordingly, most applicants for legalization were

Mexicans in about 96% of those who applied for legalization in Arizona, as was the case in Texas and California where 87% and 82% respectively of those who applied are with the same group identification (Osuna Juan 28).

The high distribution of the Mexican community in the western region as well as within the number of applications gave strong evidence to the fact that the Mexican community formed the largest portion of illegal immigration in this region, and consequently they presented the target group of the IRCA amnesty program of 1986. Equally important, as the study focused on the gender-blind side the amnesty was carried out, it is worthy to be provided with a number of applicant women under the law.

Figure 3.



Applications to IRCA in the US Western Regions by Sex

Source: “The Immigration Reform and Control Act: Differential Impacts on Women?”

Social Justice/Global Options 17.2/40(1990): 23-39. JSTOR. Web. 10 Feb. 2016.

Even though the data (figure 1) insists on the demographic difference between men and women, it also reveals the number of women applicants under the IRCA program. Unfortunately, though there was no big proportion of difference in the amount of applications under the IRCA between men and women, the immigrant reform and control act of 1986 comprised many provisions that would rise otherwise the differences in the proportion of eligibility between men

and women.

1.3.3.2. The Immigration Reform and Control Act of 1986 Provisions

The obligatory fees requirement was the first burden that imposed an adverse consequence on women's rate of application. In this claim Osuna issues: "Throughout the legalizations program the fees set by the INS have been unfair to low-income undocumented aliens" (192). However, the situation became worse when it comes to undocumented women whose works were under-resourced compared to that of men and they were more likely to be unemployed. Based on statistics provided by Arp and colleagues in which they clarified that Mexican women showed up with position of poverty within their larger umbrella of Hispanic ethnic groups, they were included under 75% of working women who were paid below \$ 3,35 hourly and thus women's wage appeared to be lower compared to that of men (28). This ultimately stood as an obstacle to fill the application accompanied with fees that these women could not pay.

In effect, this disadvantageous economic position has another angle that is viewed as a vehicle of disturbing the chances of women's application for legal status. Being poor household increases the frequency of one's affiliation in the public charge. This may appear on equal term with men and women since both could be a public charge, and both would be ineligible for amnesty. Nevertheless, there were special welfare programs devoted especially to women but men could not have access to. One of these assistance programs is the Aids for Family with Dependent Children (AFDC)⁵³The latter is one of the cardinal welfare programs that provided assistance exclusively to low-income single mothers in the US (Fang and Keane 1). The estimated median wage for Hispanic household was \$ 20,852 contrary to female-headed Hispanic household with an absent husband whose median income was \$ 10,627, the income that accelerated their involvement in the AFDC welfare program (2-5).

The relationship between the AFDC public assistance and IRCA legislation was that the IRCA conditioned the belonging to the AFDC welfare as a restrictive state to the eligibility for amnesty, and as women were the target group of this welfare program, they were disproportionately affected by this requirement. Mirabal and *Laó*-Montes clarified that women's affiliation in public charge made it harder for them to meet eligibility into the IRCA amnesty program but AFDC made eligibility impossible (197).

The other unforeseen requirement under the IRCA that conducted to the massive reduction of the rate of women applications for legalization was the continuous-work documentation. This documentation enacted by the INS service in which an applicant proved continuous five years working in the US. In this point Arp and others clarified three issues deemed to affect Mexican women unfairly: the nature of work, women reproductive role and employer's work vulnerability. The nature of the work of Mexican immigrant women limited them to meet with the INS criteria since they comprised the lion's share of maids. As a matter of fact, maids are employed as cleaners discontinuously for daily, weekly or bi-monthly basis or as nannies or elderly care that their work is usually disrupted by summer month. Thus, it is completely hard for part-time illegal Mexican immigrant women to prove their continuous presence through the employment documentation.

women reproductive role could be another challenge for them to maintain a continuous work presence. The case may be consistent in the women under study who belong to a culture in which the early marriage and high fertility are commonplace. So, pregnancy or childbirth impeded the continuous residence under the regular provision of the IRCA especially for women who decided to give birth to their babies in Mexico (Arp et al. 33).

There are certain jobs in which middle-class women employer occupied could prevent them

to fill in the continuous documentation for their hired illegal maids to validate their continuous working application for amnesty. To clarify, for example female attorney and female Certified Public Accountant (CPA) both acquire very sensitive work positions that require special ethic criteria. For female attorneys, the action of filling in the continuous working documentation to an illegal maid may put them in a cause of being culpable under ethic rules of a state bar association because she defrauds the US government by evading taxes through hiring illegal maids. Equally for a female CPA individual or Certified Public Accountant, credibility heavily counted in her career especially in the tax related services. Even though INS application materials were kept confidential, there were no guarantees that information would not be passed to other agencies when ethical criteria are at stake (33).

The focus on the female employer at this point was important to highlight the gender-bias that committee and subcommittee hearing showed when they heard concerns about employing undocumented workers. In this study evidence revealed that Congress took into consideration men who employed farm worker since the sector was so powerful to the extent that led Congress to issue special provisions to preserve the labor force through the H-2 Visa Agriculture Worker Programs. However, middle class women's concerns in the committee hearing of INS seemed to be denied since their needs for maids were considered as an individual's needs that could not be undertaken as special interest (34). Congress in such case could ultimately meet neither the illegal Mexican immigrants' need for continuous working documentation nor those US women who apply for their special interests to hire an undocumented worker.

The last sub-point in this analysis is temerity; under the legalization provision of IRCA women had to pass special tests. Mexican immigrant women who belong to a culture where they have had special conservative characteristics could not pass them and consequently they would be

ineligible for a legal status. One more example in which the IRCA tests were put with no women's concern in mind was a pelvic examination which many women for different cultural reasons considered it as intrusive as they were reluctant to permit a male doctor to examine them and consequently minimized their rate for legalization under IRCA program (33).

1.3.3.3. The Seasonal Agricultural Workers Program Amendment of IRCA of 1986

The legalization provisions are not the only source of gender-blind the IRCA could hold, but it seems that there is another amendment of the act that has endured the unlawful Mexican immigrant women experiences. The Schumer Amendment Act⁵⁴ established another amendment through which eligibility went to Special Agriculture Worker. More than that, the provisions under such amendment were set with great ease compared to the provisions stated before in terms of time extension, the application period for SAWs as eighteen months rather than one year allowed under the regular provision. This gave strength to the claim that this amendment came to fix up certain mass in the agriculture sector between the farm owners and labor organization rather than granting amnesty to the undocumented aliens living in the shadow of the US society.

Equivalently, Loehr and Stephen in their article entitled "Foreign Farm Worker in the US: The Impact of Immigration Reform and Control Act of 1986" revealed that the early intentions of the bill came to reconcile the dispute between the US growers and the labor organization. The US growers who contended that American workers' reluctance to work in the rural areas resulted in the high demands of foreign workers who also required a legal assurance papers. Labor organization and farm workers worried about the high unemployment rate among domestic farms and considered the first stand as ground for preserving cheap labor farmers (583).

From its name, Seasonal Agriculture Workers put an estimate on the number of eligibility under an amnesty that is more appealing to men than women. The field workers, a nature of work

that men comprised vast majority. It was not surprising then that the vast number of applications went to undocumented Mexican males' share under the bracero program (1940-1964) interpreted their disproportionate vague of applications over their women counterparts (Fitzpatrick clarifies 29). The fact that large proportion of applicants went to men in an inevitable way escalated the number of illegal Mexican immigrant women. The number would reconsolidate if the provision granted amnesty on the basis of the nature of one's work and exclude another one.

SAW provisions hold many repercussions against females to apply for amnesty and legal status. In fact, women of Mexican belonging in the immigration arena have long prevailed under the family reunification patterns but in the SAW provisions there was no consideration for the former migratory pattern. There are three reasons under which the Congress denied to facilitate a derivative family-based status under the IRCA program: Congress restrictive views that tried to minimize the flow of immigration, the policy makers' attitude toward the relative social desirability of persons whose work sustains a major industry at low cost as well as Congress assumed that with non-derivative family status, Mexican immigrants would sustain their circular migratory patterns (Fitzpatrick 29). Thus, an eligible applicant would not have a right to ask for derivative status for his family in order to meet a family reunification as the amnesty program did not confer derivative benefits upon immediate family members of eligible applicant unlike other provisions for lawful immigration (27).

The unlawful status of Latins has strongly relied on the ignorance of derivative family status under the SAW portions. The consequence of such ignorance seems to have a strong effect than the provisions themselves. If the provisions brought a direct distinction in gender qualification and eventually a restriction to the number of women eligibilities under the SAW amendment, the denial of the derivative status from the Seasonal Agriculture Workers program resulted in the

fabrication of upcoming movement of illegal immigrant women who sought to find unlawful ways in order to reunite their recently legalized husbands in the USA. After IRCA was enacted, women began immigrating both legally and illegally into the US in unprecedented numbers to join their husbands in the hope that they too would become legalized. Statistically speaking, before the IRCA, undocumented women were estimated as comprising one-fourth of the Mexican immigrant population: this raised two third after the implementation of this policy (Mendoza 45).

Not very far from the issue of family reunification, SAW provisions have provided substantial evidence in increasing the feminization of illegal Mexican immigrants' entrance. A systematic shortage within the legalization program created unequal amnesty distribution among the same family members that weakened the likelihood parents' application for amnesty otherwise household would lose his family union within the same country. As Arp, Dantico and Zatz declare "Spouse and children of the undocumented workers assumed here to be mostly men will be declared ineligible because they did not engage in agriculture work or were not residing in the US during the period of eligibility" ("The immigration Reform and Control Act..." 31). In other words, in an attempt to minimize the number of applicants under the amnesty program, the legislators set parameters denoting that when a person qualifies for amnesty but his or her family member does not, there were no automatic qualifications to keep the family union.

This schema soars the reluctance of a husband to fill in an amnesty application that would deport his family members. Even after the contemplation from the part of the agency toward the children of a qualified parent, the newly regulation insisted on the deportation of children with one qualified parent as well as the ineligible spouse. The children remained in the US only if both parents qualified under the amnesty application (Osuna 192). The case may be more serious for

Mexican women if the favorable application under SAW provisions headed to male seasonal agriculture workers is considered.

Obviously, these women usually fell in the nature of works that stand as an obstacle in front of their eligibility. In other words, if the informal nature of care labor makes Mexican maids inaccessible to continuous five years working documentation requirement, cannery work has similar complications in this context. Ruiz Vicki within another important work dealt with Mexican immigrant women entitled *Cannery Women, Cannery Lives: Mexican Women, Unionization, and the California Food Processing Industry, 1930, 1950* provided the present study with the exact Mexican women Cannery statistics as he estimated the percentage of Mexican women canning packing workers during the period between 1930-50 was 70% single females and the remaining 30% were married, divorced or widows (14).

Even though the work is an adhesion to the agriculture sector, the INS agency disallowed to give a careful gender dimension when it had decided not to attach cannery workers, which was an agricultural support labor work with the agriculture workers. In the book, *Technofuturos: Critical Intervention in Latina/o Studies* clarifies the point “The special agriculture workers provisions of the IRCA was equally genderd biased in favor of male providing permanent reside to one million agriculture workers but not cannery workers” (Mirabal and Laó-Montes 197). Consequently, the nature of work, even related to the favorite agriculture work provision, exerted a strong influence on women’s status as it reflected the gender-bias these women experienced through the SAW provisions.

1.3.3.4. Employer Sanction of Immigration and Reform Control Act of 1986

The employer sanction provisions are the last provisions of the IRCA which have also a direct impact on the increasing of illegal status of Latino women. This amendment penalizes a person

or entity who for a fee hires, recruits or defers for employment an alien knowing the alien is unauthorized or who employs any individual without complying with the act employment verification system (Amuedo-Dorantes et al. 11).

This law coincides with economic unease that confronted the Reagan administration. The anticipatory plane the president has by this amendment is to minimize the pool of illegal immigrants' work force in the private sectors in order to pump up the domestic employment opportunities for native workers. This restrictive stance that illegal immigrant women faced to roll in factories, textile industries that were previously their domains left the door open just for one informal work which is the domestic works. As Fitzpatrick Joan states "Imposing sanctions on employers who hired undocumented workers making it more difficult by no means impossible for undocumented immigrant to find work in factories...the IRCA has actually compelled more women to look in private homes" (56). This type of work absorbed nearly 62, 5% of illegal Mexican immigrant women since it was the only remained work Mexican women could get without the necessary papers.

Marea Velasco, an undocumented immigrant who arrived in 1988 distinguished the differences between working in company and working as domestic worker. She declared that it was so difficult to her to work in company since the latter would recognize what a real green card looks like or if it is a false one. In contrast, working as maids at homes no one would notice if her papers are fake or not (56).

This trend has reinforced the number of illegal immigrant Latinas from Mexico who were all oriented to domestic services. Nevertheless, security agencies like INS overlooked illegal immigrant women who crossed the border to acquire jobs in domestic services as the kind of work they would get did not present a threat to economy as these aliens would not acquire good

paying jobs (Fitzpatrick 55). Moreover, there were no restrictively deterrent measurements toward employers who hired undocumented maids as those factories who hired undocumented workers. Completing the aforementioned thought, Vellos adds “Many maids’ employers perceived the action as violating an immigrant law but not a criminal law” (22). The ultimate point in these gender gaps policies in the first place was to increase the number of illegal Mexican immigrant women. It also reduced both the working conditions and wages which put them in very disadvantageous position. The latter opened a gate of life discriminatory stories which will be studied in the coming chapters.

1.3.3.5. The 1990 Immigration Act: Unskilled Workers Visas and Clinton Nannygate

With no regard to gender needs, Congress continued to enact policies that had no concerns on women’s migratory issues confronting them to obtain a legal status. One more example of congressmen gender blind that directly affects women of Mexican origin is the 1990 immigration Act. Although the latter encouraged the immediate relatives of the US citizens that would provide a large pool of qualification of immigrant women, the law restricted a large share of low skill visas. At the same time the act was designed to create unlimited visa categories under which high skilled and high educated immigrants were on the top priorities of congressmen. Nevertheless, both provisions had harsh impact on Mexican immigrant women. On the one side, these women cover noticeable share of unskilled workers (maids, care labor, nannies); on the other side, this immigration upheaval towards highly-educated selections does not meet with this category of women whose educational attainment was under the provision’s criteria.

There are three main visas for the third world servants in the USA. All of them comprise low skilled workers. Under A-3 household employee of diplomat can bring a servant yet an employee of international and World Bank agencies can make petition for servant under G-5 visa. Lastly,

American employer, a businessman or an ordinary American citizen issued a request to import housekeepers for nannies, cooks or drivers and gardens on B-1 visa (“Women Immigrants in the United States” 88), the category that Mexican immigrant women generally fall in.

As early mentioned, the 1990 immigration Act came to restrict the number of workers under B-1 visa category and this restriction has not been well considered by congressmen and policy legislators if they take the fact that native women formed a tremendous attribution in the work force and who the demand for labor care and nannies are comparatively higher. The article “A Response to Nanny-gate: Untangling the US Immigration Law to Enable American Parents to Hire Foreign Child Care Providers” justifies “As American women continued to enter professions in increasing number, the demand for child care providers will increase correspondingly” (Delaney 321). Therefore, these blind gender-orientated policies created unbalance among those native workers whose nannies extended being aesthetics need, and those Mexican maids who depend upon B-1 visa to obtain a legal status.

Another point should be mentioned is that the B-1 visa option held many intricacies if an applicant succeeded to gain one au pair from the 10,000 entries of unskilled workers pool. To clarify, the adverse side of the visa is that it contains many red tapes in which it is seen unattractive to many employers i.e. three major limits can be encountered: red tapes in which in itself are composed of three set of requirements: obtaining a labor certification from the department of labor, an employment petition from the naturalization service INS, and a visa from the States department. The second limit was the temporary need requirement. The latter necessitates a test by which an employer has to prove that the work an alien would occupy is on the temporary basis. Lastly, an employer should identify the time length an employee would stay in service (Delaney 307-8).

Moreover, if these intricacies can be overcome by an employer applicant, the backlog would be an insuperable obstacle as Joan Fitzpatrick says “Since the imposition of the IMMACT’s numerical restrictions on the entry of immigrant household workers, the backlog has so increased that an employer filling in an immigrant visa petition for an infant’s nanny might find the visa becoming available the time the infant leaves the primary school” (35). Even though the problem that the law created marked a burden on the presidential administration as the nanny problem was named a Nannygate under the Clinton presidency, there were no real initiatives to solve the problem at that time (Delaney 313). Consequently, both kinds of women, native’s employers and Mexican immigrant would see illegal ways as a final resort to the problem coupled with IRCA and the 1990 Immigration Act.

The Immigration Reform and Control Act of 1986 and the Immigration Act of 1990 are taken as two case studies that underline the gender-blind immigration policies that illegal Latinas fall victims too. Even though there were other gender-bias dimensions in the US immigration policies, the aforementioned examples are chosen as they have particularities toward the targeted group. As such, they permit the study to move from generality to particularity. In other words, these two policies granted a tiny scope where the effects of gender-blind policies on illegal Mexican immigrant women are made clear from the whole illegal immigrant women’s zone.

1.4. Legal vs. Illegal Mexican Immigrant Women in Human Capital Perspective

The presence of Mexican immigrant women has fallen into two main categories: legal and illegal ones. Through the process of studying these women’s characteristics the two mentioned groups have confirmed to be entwined in many disadvantageous social features. Even though several studies focus on the impact of illegal status in determining the social status of immigrants, there are unlimited numbers of research bodies which consider that illegal status per se has no

direct effect on the ultimate social drawback that Latino women live in. The proof permits this part of analysis to combine the two mentioned categories (legal and illegal) in a uniform area of research. It also highlights the multifactor that control the deteriorated social position of this group.

Since both legal and illegal Latinas are attracted to the US labor market, the latter is considered as a consistent factor that limited the examination scope. Moreover, within the US labor market arena, wage marks a substantial element in establishing successful labor participation, and it eventually helps them to step up the social ladder. Therefore, wage will be taken as a measure to confirm that being legal or illegal, the studied minority confronted with same wage disparities during their participation in the same labor markets. The analysis could be reached only with one single model that can perfectly assume the estimation.

1.4. Human Capital Model

According to this model, there are numerous considerations of wage disparities that both legal and illegal Mexican immigrant women fall into. Massey declares “The model was applied to study the wage of undocumented immigrants. Wage rates of undocumented immigrants were determined in much the same way as those of another status, increasing systematically with education, labor market experiences and time in the USA” (240). If Massey in his article “Do Undocumented Migrants Earn Lower Wages than Legal Immigrants? New evidence from Mexico” insisted on Education and labor market experiences in determining wages among immigrants, Chiswick in his article “The Effect of Americanization on the Earnings of Foreign-Born Men” added two more variables: place of residence and country of origin as other determinants of wage in both US market and human capital perspectives. Overall, they are considered as personal characteristics which have a direct influence on earning more than the

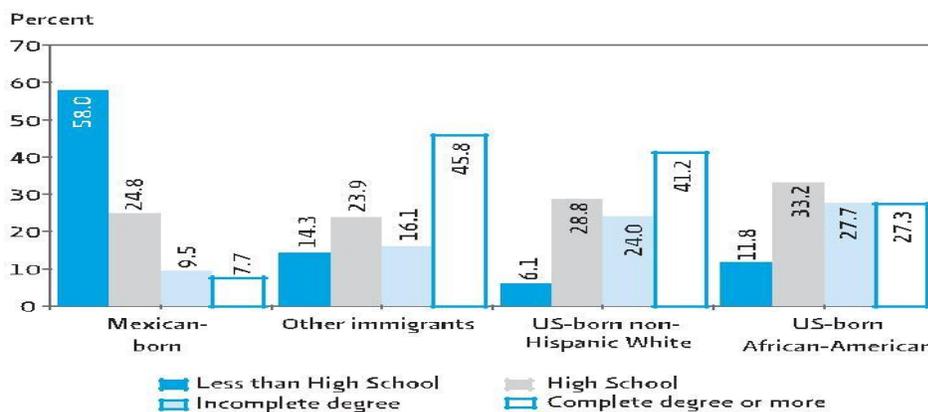
effect caused by illegal or legal status.

Under the umbrella of immigrant personal characteristics: education, place of residency, gender and country of origin are among the main determinants of wage according to human capital theory. When those aspects applied to Mexican immigrant women, they tend to create a disadvantaged social category shared by both legal and illegal women, the case that increased the propensity of their poverty.

1.4.1. Education and Gender Aspects

There are two possible routes through which education can affect the wage. The first route is the low rates of education Mexican immigrant women ranked in the national data sources that will be detailed in the graph below and consequently decreased the earning of both legal and illegal immigrant women.

Figure 4.



Educational Attainment among Women Living in the US by Race/Ethnicity, 2009

Source: Migration and health-Mexican immigrant women in the US CONAPO estimates based on American Community Survey [ACS], Oct. 2010. Web. 28 Nov. 2015.

Although Mexican-born women tend to have a high educational attainment than their male counterparts, compared with other female populations, they are at an obvious disadvantage. The majority 58% have less than a high school education; whereas the proportion of other immigrants,

US born, African American and white women are far less likely to have such a limited level of education-14%, 12% and 6% respectively. The extreme low proportion of Mexican born women with a bachelor's or high degree 8% in contrast with the substantially higher levels achieved by other population.

Concerning the second route, human capital adds another issue in education context which is the concept of transferability. To clarify, even if an immigrant had already acquired some sort of education, skills and work experiences in his/her mother country, the problem of transferability arises since differences in the educational systems, industrial structures and skills that an immigrant learned are less transferable and eventually are less rewarded in the US labor market as it is issued:

All- immigrants were born and raised in Mexico, so education refers only to schooling acquired there; but the data permits a distinction between labor market experience acquired in Mexico and that gained in USA. The latter measure is a proxy of many changes that occur among immigrants as are exposed to American culture and society.

(Massey 252)

The measure certainly attenuated high profit for both legal and illegal Mexican immigrant women who came from less developed country in which education has no equivalence to that of their current position.

The gender aspect within human capital and education spectrum forms another complication for these women. To illustrate, the social and family side in the most developing countries imposes certain gender particularity. Even though the practice decreases almost in both developed and developing countries it still exists that males tend to acquire significant human capital as they are more encouraged to obtain universities than their female counterparts. This

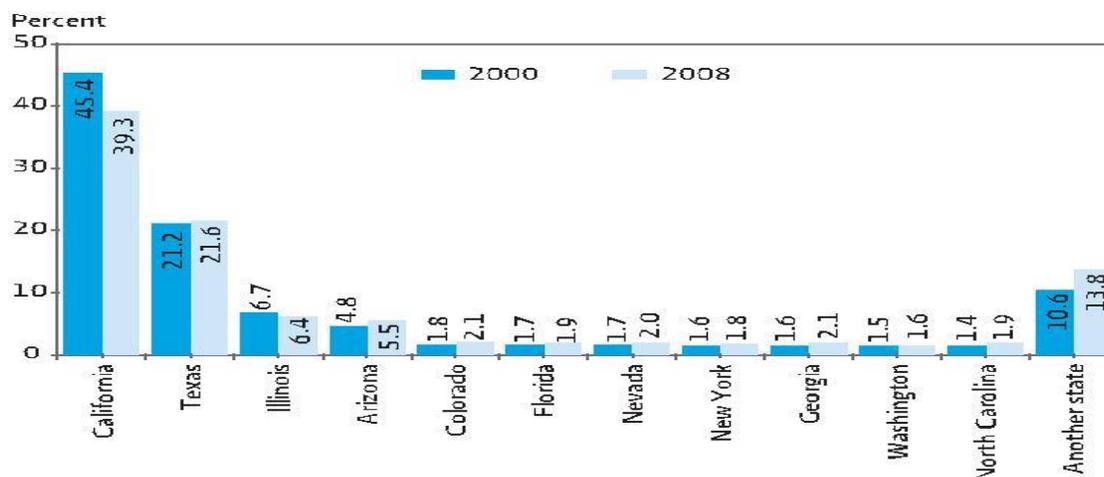
comes from the long persisting traditional rational that orientated daughters to their expected social productive roles or marriage. The government also has a hand in this gender bias explanation. In other words, there are many academic regulations that facilitate sending more males than females to foreign countries to attend universities degrees and return home to head government department and other higher-level officers (Amadu Kaba 7). In this context, and according to the same source recent statistics emphasize the claim where according to the 2011 profile of foreign-born population, there were 9,189 earned doctorates conferred to male temporary visa holders and 5,056 earned doctorates conferred to female temporary visa holders from colleges and universities in the US (7). This gender orientation helps to understand the deteriorated position that Mexican Immigrant women held within the human capital model and it disproportionately helps men to possess unlimited amount of qualifications in the social and career patterns.

1.4.2. Ethnicity-Country of Origin and Place of Residency Aspects

It is often believed that place of residency does affect people because simply living in deprived neighbourhood is associated with many adverse public facilities. In human capital model, regionalism stands as a strong determiner of wage inequality. In this stage, the model helps to examine the US geographical landscape of western regions that is still predominantly rural. In addition to that, Chiswick clarifies “Earning in in southern states areas tends to be lower. A variety of explanations can be offered for the lower earnings including, lower real income due to quality of schooling in rural southern areas” (901). It is learned that property taxes are distributed to public facilities of a given area. However, in the US system property taxes can be tied for example with the subject of education. In other words, individuals who live in very rich areas and who pay very high property taxes are the same people who receive better education facilities

that in turn offer better earning jobs. In contrast, individuals who live in areas with lower property tax are the same people who receive the least education establishment that in turn reduce chances of employment (qtd in Elaggoune's lecture).

Figure 5.



Mexican-Born Women in the US Percent Distribution by States 2000-2008

Source: Migration and health-Mexican immigrant women in the US CONAPO estimates based on American Community Survey [ACS], Oct. 2010. Web. 28 Nov. 2015.

Applying what human model comes with and what Chiswick declares about western region earning, the figure below justifies the distribution of Mexican-Born Women by States as it tries to associate the geographical distribution pattern with earning of these women. According to the 2008 US census statistics, among the twelve US states Mexican immigrant females aged 18-64 continued their traditional presence in the southern states. Forty-five percent to thirty-nine percent of these women concentrated in California from 2000 to 2008. The percentage that creates a huge difference in comparison to Washington where their presence is reported just one point five to one-point six percent respectively during the same period. Although Texas represents the second share of Latinas concentration in the graphic, it witnesses an increase in the number of the mentioned group of immigrants from 2000 to 2008 in about 0,2 %.

Additionally, nevertheless, the data recently reveals a shy distribution of Latino women throughout the main northern states. As statistics indicate, this regional concentration put them in disadvantageous position since they highly integrate into southern industries in which wages are lower than the northern coast of the region.

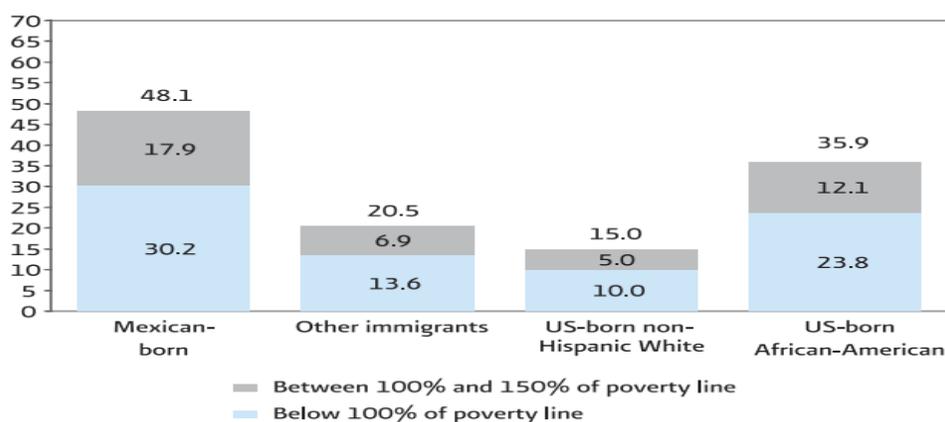
When human capital model crashes with ethnicity, it widens the criteria of the former model as it puts other social considerations. If blacks with other African descent and Mexican immigration ethnic groups are considered, they are both long standing traditional groups in labor arena, and the two groups share the same particularities. In other words, conventionally, immigrants from Europe for example are believed to be well presented for their participation in the high wage positions contrary to that of black and Mexican immigrants who are notorious for their participation in low wages categories. This what George Farkas for example insured when he claimed that it is restricted opportunity structure that limited blacks only to mineral jobs. This structural restriction ensured that upcoming generations of black would develop cognitive skills suitable for this mineral position and confined to the same socio-political status (12).

The same ethnic stratification that puts blacks to such disadvantaged position in the labor presentation shapes a platform in the US market selectivity where Mexican immigrant women were selected accordingly to the already under-waged labor participation which was inherited from Mexican women of previous generation. Based on that, Chiswick confirmed that lower earning of immigrant from Mexico is due to ethnic belonging rather than simply characteristics of first generation Mexican Americans (913). All the components of the Human Capital Model acted negatively against the ethnic under study and put both legal and illegal Latinas in the ultimate social position of poverty. The status will stand as open gates to other adversities face these women during their presence in this society.

1.4.2. Poverty

In this part, it is essential to understand a tripartite relationship between immigration discrimination and the ultimate position of poverty. Though the main reason behind immigration for these women is to chase better life conditions elsewhere, the US government continues to enact immigration policies that operate in the opposite side directions. In other words, this type of policies increase rather than decreasing poverty especially for low skill level immigrant. In this study, it can be assumed that the high percentage of poverty that is displayed in the figure below among this group is not disassociated from the systematic immigration policy that put these women vulnerable to discrimination and to adverse social status.

Figure 6.



Women Resident in US in a Condition of Low Income by Race/Ethnicity, 2009

Source: *Migration and health-Mexican immigrant women*. Web. 28 Nov. 2015.

As it is displayed by the Current Population Survey (CPS), the high affiliation of Mexican immigrant women in low salaries occupations restricted their likelihood to live in satisfactory financial conditions or to meet an acceptable standard of living in comparison to their counterparts from other ethnic minorities. CPS data interprets that a total of 48% of adult women of Mexican belong to families with incomes between 100% and 150% of poverty line. Of this

48%, 30.2% of these women live below 100% of poverty line. The level is considered higher even in comparison to other disadvantaged groups like that of African American who report a percentage of 23.8% of a total percentage 35.9%. However, the proportion doubled for those immigrant women from other regions with 21% and tripled for the US born white women with 15%. In the same manner, the result is noted in the second bar of the graph where 100% below the federal poverty lines presented Latino women at a greater disadvantageous than African American women with 30% and 24% respectively.

Conclusion

The purpose of this historical grounded theory chapter was to provide a historical background of every case, Tuareg of Sahel and Mexican immigrant of the US, including the ethnic composition of each of them as well as the patterns of their migration. Both research setting could be fall into two categorizations; indigenous and migrants. Similarly, each setting embodies precarious conditions that stand as a platform to discrimination. In both cases, migration, be it internal or external should be understood under a global economic structure. In other words, for Tuareg migration from deep Sahara to middle southern and northern neighboring countries, like Algeria, as well as, the migration of many Mexican women to the US. They all fall under the severity of political-economic inequalities and increasing wealth disparities in both microlevel and macro social process, adopted by third world countries like Mexico and Algeria.

In Sahelian Tuareg case, the inescapable influence of political economy adopting a neo-liberal and free market systems that facilitated the devaluation of manual labour, fuelling Tuareg family's needs for high income elsewhere. Similarly, with Mexican immigrant women, unequal trade

between high- and low-income countries, currency gaps, the vicious migration cycle have all increased fundamentally migration from Mexico to the US labour market.

Equally important, Transient lifestyle for both women is responsible for the lack of accountable social networks, which is likely to have exacerbated the exposure to forms of humiliation, discrimination, assaults prejudice, oppressive relationship. Consequently, their presence within the eventual societies has entrenched their social status putting them into adverse economic position. The chapter concludes with settling both groups: Mexican immigrant and Tuareg women into human capital theory which is a model applied in order to unify the deficiencies that women under study have been encountered in the process of catching up education, and life standard ladder within the newly settings. All of which tended to create a deteriorated social category shared among both women, the case that increased the propensity of their poverty.

Endnotes

¹ The modern name of "Libya" is an evolution of the "*Libu*" or "*Libúē*" name from Greek, generally encompassing the people of Cyrenaica and Marmarica. The name likely came to be used in the classical world as an identity for the natives of the North African region, and it possibly derives from Proto-Afroasiatic *labi*?- stands for lion. The name was revived in 1934 to supplant terms applied to Ottoman Tripolitania, the coastal region of what is today Libya, having been ruled by the Ottoman Empire from 1551 to 1911 as the Eyalet of Tripolitania. The name "Libya" was brought back into use in 1903 by Italian geographer Federico Minutilli. "*The World Factbook Africa: Libya*". *The World Factbook*. CIA. 18 May 2015. Archived from the original on 9 January 2021. <<https://en.wikipedia.org/wiki/Libya>>. Retrieved 28 May 2020.

² The Mazices were Berbers of North Africa who appear in classical and late antique Greek and Latin sources. Many variants of the name are known: Maxyes, Mazyes, Mazaces; Mazikes, and Mazazaces. They are all derived from the Berber autoethnonym Imazighen (singular Amazigh). These terms were used both for Berbers in general and for certain Berber tribes. It is not clear if the original Berber term was used to refer to all Berbers or only a tribe or other subset. Anthony Leahy (2001), "Libya", in Donald B. Redford (ed.), *The Oxford Encyclopedia of Ancient Egypt* (Oxford University Press), retrieved 25 January 2020.

³ Lucio Bertelli: *Hecataeus. From Genealogy to Historiography*. In: Nino Luraghi (Hrsg.): *The Historian's Craft in the Age of Herodotus*. Oxford 2001, ISBN 0-19-924050-7, S. 67 ff.

⁴ Numidia, Ancient country, North Africa, approximately coextensive with present-day Sahel. During the Second Punic War, the tribal chief Masinissa supported the Romans from 206 BC, and he was made king of Numidia after the Roman victory over the Carthaginians in 201 BC. After the destruction of Carthage, thousands fled to Numidia, which became a Roman province in 46 BC. Its capital was Cirta (Constantine), and the chief city was Hippo, which was the see of St. Augustine. After its conquest by the Vandals in AD 429, Roman civilization there declined rapidly; some pockets of native culture survived, however, and even continued after the Arab conquest in the 8th century. Britannica, The Editors of Encyclopaedia. "Numidia summary". *Encyclopedia Britannica*, 2 May. 2020, <https://www.britannica.com/summary/Numidia>. Accessed 11 March 2022.

⁴ Herodotus was a Greek historian and geographer from the Greek city of Halicarnassus. He is known for having written the *Histories* – a detailed account of the Greco-Persian Wars. Herodotus was the first writer to perform systematic investigation of historical events. He is referred to as "The Father of History", a title conferred on him by the ancient Roman orator Cicero. *The History of Herodotus, vol. 1* at Project Gutenberg (translation by George Campbell Macaulay, 1852–1915). <Herodotus - Wikipedia> Retrieved 28 June 2020.

⁵ Byzantine Empire, successor state to the Roman Empire, also called Eastern Empire and East Roman Empire. It was named after Byzantium, which Emperor Constantine I rebuilt (A.D. 330)

as Constantinople and made the capital of the entire Roman Empire. Although not foreseen at the time, a division into Eastern and Western empires became permanent after the accession (395) of Honorius in the West and Arcadius in the East. The core of the empire consisted of the Balkan Peninsula (i.e., Thrace, Macedonia, Epirus, Greece proper, the Greek isles, and Illyria) and of Asia Minor (present-day Turkey). The empire combined Roman political tradition, Hellenic culture, and Christian beliefs. Greek was the prevalent language, but Latin long continued in official. Buckler, G. "Byzantine Education." In the collection *Byzantium: An Introduction to East Roman Civilization*. Oxford [1961]. Retrieved 28 June 2020.

⁶Punic Wars, also called Carthaginian Wars, (264–146 BCE), a series of three wars between the Roman Republic and the Carthaginian (Punic) empire, resulting in the destruction of Carthage, the enslavement of its population, and Roman hegemony over the western Mediterranean.

⁷Dedan has several different meanings in the Hebrew Bible. Dedan (now part of Al-Ula, Saudi Arabia) was an oasis and city-state of north-western Arabia. The people of Dedan are called Dedanim or Dedanites. Dedan is also the name of the son of Raamah and the son of Jokshan. Firstly, Seba along with Dedan—sons of Raamah, son of Cush—are descendants of Noah's son, Ham. Later in Genesis, both names appear as sons of Jokshan (son of Abraham). Sheba in the Table of Nations (Gen 10) is the son of Joktan, a descendant of Noah's son Shem. Abarim Publications, *The name Dedan in the Bible*. <<https://pilgrimbobby.wordpress.com/from-armenian-petroglyphs/flood-to-abraham/battle-of-the-books/ethiopia-and-sudan/saudi-arabia/>>. Accessed 7 April 2021.

⁸ Targum, (Aramaic: "Translation," or "Interpretation"), any of several translations of the Hebrew Bible or portions of it into the Aramaic language. The word originally indicated a translation of the Old Testament in any language but later came to refer specifically to an Aramaic translation. Britannica, The Editors of Encyclopaedia. "Targum". *Encyclopedia Britannica*, 28 Apr. 2020, <https://www.britannica.com/topic/Targum>. Accessed 11 March 2022.

⁹ Rif, also spelled Riff, or Riffi, any of the Berber peoples occupying a part of northeastern Morocco known as the Rif, an Arabic word meaning "edge of cultivated area." The Rif are divided into 19 groups or social units: 5 in the west along the Mediterranean coast, 7 in the center, 5 in the east, and 2 in the southeastern desert area. One central group is Arabic-speaking, as are sections of the five western groups. The others generally speak Rif, a regionally variable Berber language, but many also speak Spanish or Arabic. The Rif are Muslims. Britannica, The Editors of Encyclopaedia. "Rif". *Encyclopedia Britannica*, 18 Apr. 2016, <https://www.britannica.com/topic/Rif-people>. Accessed 11 June 2022.

¹¹ A moderate group of the Khārijites, the Ibādīs, avoided extinction, and its members are to be found today in North Africa and in Oman and in parts of East Africa, including the island of Zanzibar. The Ibādīs do not believe in aggressive methods and, throughout medieval Islam, remained dormant. Because of the interest of 20th-century Western scholars in the sect, the Ibādīs became active and began to publish their classical writings and their own journals.

¹² An old consonantal alphabet (tifinagh) has survived among the Tuareg. It relates to the early Libyan inscriptions and the Phoenician quasi-alphabet. Britannica, The Editors of Encyclopaedia. "Tuareg". *Encyclopedia Britannica*, 10 Feb. 2021, <https://www.britannica.com/topic/Tuareg>. Accessed 15 May 2022.

¹³ The Himyarites were concentrated in the area known as DhūRaydān on the coast of present-day Yemen; they were probably aided in the overthrow of their Sabaean kinsmen by the discovery of a sea route from Egypt to India, which deprived the inland Sabaean kingdom of its former importance as a centre for overland trade. The Himyarites (classical Homeritae) inherited the Sabaean language and culture, and from their capital at Zafār their power at times extended eastward as far as the Persian Gulf and northward into the Arabian Desert. At the beginning of the 4th century CE, the Ḥimyar capital was moved northward to Sanaa, and later in that century both Christianity and Judaism gained firm footholds in the area at the expense of the traditional religious practices of the Sabaean. Britannica, The Editors of Encyclopaedia. "Sabaean". *Encyclopedia Britannica*, 11 Jan. 2021, <<https://www.britannica.com/topic/Sabaean-people>>. Accessed 11 March 2022.

¹⁴ Songhai empire, also spelled Songhay, great trading state of West Africa (flourished 15th–16th century), centred on the middle reaches of the Niger River in what is now central Mali and eventually extending west to the Atlantic coast and east into Niger and Nigeria. Britannica, The Editors of Encyclopaedia. "Songhai empire". *Encyclopedia Britannica*, 19 Jan. 2021, <https://www.britannica.com/place/Songhai-empire>. Accessed 15 March 2022.

¹⁵ Acculturation, the processes of change in artifacts, customs, and beliefs that result from the contact of two or more cultures. The term is also used to refer to the results of such changes. Two major types of acculturation, incorporation and directed change, may be distinguished on the basis of the conditions under which cultural contact and change take place. Britannica, The Editors of Encyclopaedia. "acculturation". *Encyclopedia Britannica*, 20 Nov. 2018, <<https://www.britannica.com/topic/acculturation>>. Accessed 1 March 2022.

¹⁶ Aga Khan I, personal name Ḥasan‘alīShāh, (born 1800—died April 1881), imam, or spiritual leader, of the NizārīIsmā‘īlīte sect of the Shī‘ite Muslims. He claimed to be directly descended from ‘Alī, the son-in-law of the Prophet Muḥammad, and ‘Alī’s wife Fāṭimah, Muḥammad’s daughter, and also from the Fāṭimid caliphs of Egypt. Britannica, The Editors of Encyclopaedia. "Aga Khan I". *Encyclopedia Britannica*, 1 Jan. 2023, <<https://www.britannica.com/biography/Aga-Khan-I>>. Accessed 11 March 2023.

¹⁷ The belief or doctrine/ popular slogan held chiefly in the middle and latter part of the 19th century, 1840s, that it was the destiny of the U.S. to expand its territory over the whole of North America and to extend and enhance its political, social, and economic influences. of the It was used by people who believed that the United States was destined by God, some said — to expand across North America to the Pacific Ocean. The idea of manifest destiny The idea of manifest destiny was used to justify the acquisition of Oregon and large parts of the Southwest, including California. ("Manifest Destiny,") 23 July. 2016. <<http://www.dictionary.com/browse/manifest-destiny>>

¹⁸ John Louis O'Sullivan (November 15, 1813 – March 24, 1895) was an American columnist and editor who used the term "manifest destiny" in 1845 to promote the annexation of

Texas and the Oregon Country to the United States. O'Sullivan was an influential political writer and advocate for the Democratic Party at that time and served as US Minister to Portugal during the administration of President Franklin Pierce (1853–1857), but he largely faded from prominence soon thereafter. He was rescued from obscurity in the twentieth century after the famous phrase "manifest destiny" was traced back to him. ("The Manifest Destiny: Creating American Identity,") 29 Jun. 2016. <<http://teachinghistory.org/history-content/ask-a-historian/25502>>.

¹⁹ The "negotiations" also called a secret treaty were concluded on May 14, 1836 when Santa Anna accepted that all hostilities would cease. Santa Anna agreed to work for the recognition of Texas independence by Mexico's new government when he returned home, and most importantly, that the Rio Grande would be the boundary between Mexico and Texas. (Archie P. McDonald, "The Treaties of Velasco,") 2 Jan. 2016. <<http://www.texasescapes.com/AllThingsHistorical/TreatiesOfVelascoAM803.htm> >.

²⁰ A former town of southcentral Mexico, now part of the suburbs of Mexico City. The Virgin of Guadalupe, revered throughout Mexico, is said to have appeared to an Indian convert in this vicinity in 1531, and the basilica erected in her honor is a popular pilgrimage site. (Online Free Dictionary). <<http://www.thefreedictionary.com/Treaty+of+Guadalupe+Hidalgo>>.

²¹. Also was a political movement to expand the United States), so that it would include all of Mexico. It was an expression of Manifest Destiny but it never went into effect. The United States only took the under populated districts in the far North of Mexico via the Treaty of Guadalupe Hidalgo with Mexico following the Mexican American War of 1846-48. 13 Nov. 2016. <https://en.wikipedia.org/wiki/All_of_Mexico_Movement>.

²². Americanism in the patriotic sense "attachment to the U.S." is attested from 1797 first found in the writings of Thomas Jefferson in reference words or phrases to distinct British use 1781, coined by John Witherspoon (1723-1794) <<http://www.dictionary.com/browse/americanism>>.

²³. "Eugenics" comes from the Greek roots for "good" and "origin," or "good birth." The term eugenics was first coined by Francis Galton in the late 1800's who was an English intellectual. Galton's first academic foray into eugenics analyzed the characteristics, such as superior intelligence, of England's upper classes and concluded they were hereditary; therefore, desirable traits could be passed down through generations. In US, the movement started in the early 1900's, and led by Charles Davenport the Eugenics who established the Record Office (ERO) at Cold Spring Harbor Laboratory on Long Island "to improve the natural, physical, mental, and temperamental qualities of the human family" (Laura, Rivard, "The American Hidden History: The Eugenic Movement." Sep. 2014) 2 Jan. 2016 <<https://www.nature.com/scitable/forums/genetics-generation/america-s-hidden-history-the-eugenics-movement-123919444>>.

²³ Push factors are those that force the individual to move voluntarily, and in many cases, they are forced because the individual risks something if they stay. Push factors may include conflict, drought, famine, or extreme religious activity. On the other hand, Pull factors are those factors in the destination country that attract the individual or group to leave their home. Those factors are known as *place utility*, which is the desirability of a place that attracts people. Better economic opportunities, more jobs, and the promise of a better life often pull people into new locations. <<http://eschooltoday.com/migration/the-pull-and-push-factors-of-migration.html> >.

²⁴Porfirio Díaz, whose full name was José de la Cruz Porfirio Díaz Mori, (15 September 1830 – 2 July 1915) was a Mexican general and politician who served seven terms as President of Mexico, a total of three and a half decades from 1876 to 1911. Mexican president Porfirio Díaz is best known for establishing a strong centralized state during his term. Considered a dictator by some, Díaz is a controversial figure in Mexican history. Historians claim that he suppressed the media and controlled the court system, managing to keep his people in a constant state of uncertainty while controlling all aspects of the government from his seat. (Mexiconline.com, “Porfirio Diaz: from Military, Hero to Dictator,”) 23 Nov. 2016. <<http://www.rcusa.org/uploads/>> .

²⁵The Chinese Exclusion Act of 1882 was the first significant law restricting immigration into the United States. Those on the West Coast were especially prone to attribute declining wages and economic ills on the despised Chinese workers. Although the Chinese composed only .002 percent of the nation’s population, Congress passed the exclusion act to placate worker demands and assuage prevalent concerns about maintaining white “racial purity.” <[Http://www.history.com/topics/chinese-exclusion-act](http://www.history.com/topics/chinese-exclusion-act)> .

²⁶The Gentlemen’s Agreement between the United States and Japan in 1907-1908 represented an effort by President Theodore Roosevelt to calm growing tension between the two countries over the immigration of Japanese workers. A treaty with Japan in 1894 had assured free immigration, but as the number of Japanese workers in California increased, they were met with growing hostility. 25 April. 2016. <<http://www.history.com/topics/gentlemens-agreement>>

²⁷ During most of American history, women’s lives in most states were circumscribed by common law brought to North America by English colonists. These marriage and property laws, or “coverture,” stipulated that a married woman did not have a separate legal existence from her husband. A married woman or *feme covert* was a dependent, like an underage child or a slave, and could not own property in her own name or control her own earnings, except under very specific circumstances. (Women, Interprise and Society, “Women and the Law,”) 23 Sept. 2016. <https://www.library.hbs.edu/hc/wes/collections/women_law/> .

²⁸The The Mexican Revolution broke out in 1910 when the decades-old rule of President Porfirio Díaz was challenged by Francisco I. Madero, a reformist writer and politician. When Díaz refused to allow clean elections, Madero's calls for revolution were answered by Emiliano Zapata in the south and Pascual Orozco and Pancho Villa in the north. (Christopher Minster, “The Mexican Revolution” August 22, 2016). 15 Sept. 2015. <<https://www.thoughtco.com/the-mexican-revolution-2136650>> .

²⁹The Mexican American Bracero Agreement was signed on July 23, 1942, establishing the Mexican government as recruiters and the U.S. government as distributors of cheap and expendable labor to help it overcome the wartime labor shortage. The majority of “braceros” were assigned to work in agriculture, though a significant minority, about one in four, were contracted to work on the railroads. (Sarah Hines , “The Bracero Program: 1942-1964,,” April 21, 2006). 16 May. 2016. <<http://www.counterpunch.org/2006/04/21/the-bracero-program-1942-1964/>> .

³⁰Almost exactly nine months after World War II ended, “the cry of the baby was heard across the land,” as historian Landon Jones later described the trend. More babies were born in 1946 than ever before: 3.4 million, 20 percent more than in 1945. This was the beginning of the so-called “baby boom.” In 1947, another 3.8 million babies were born; 3.9 million were born in 1952; and more than 4 million were born every year from 1954 until 1964, when the boom finally tapered off. By then, there were 76.4 million “baby boomers” in the United States. They made up almost 40 percent of the nation’s population (“Baby Boomers Generation”) 13 Dec. 2016. <<http://www.history.com/topics/baby-boomers> >.

³¹In the United States family-based immigration is dependent both on the immigration status of the sponsor and the familial relationship of the prospective immigrant to the sponsor. The immigration of “immediate relatives” of a United States citizen (USC) is not subject to any annual visa numerical limits. Immediate relatives are defined as: (1) spouses and minor (under twenty-one years of age), unmarried children of a USC; (2) parents of USCs who are “at least 21 years of age”; and (3) widows, widowers, and children of deceased USC “Family Reunification Law”. July 2014, 17 Sep. 2016. <<https://www.loc.gov/law/help/family-reunification/us.php.pdf>>.

³²The 1900 Immigration Law was enacted with accordance with the already existing preferences immigration admissibility set under the Hart-Cellar Act of 1965 with a major objective to increase the number of legal immigrants allowed into the USA each year. It also created a lottery program that randomly assigned a number of visas. This was done to help immigrants from countries where the United States did not often grant visas. The modifications also removed homosexuality as a ground for exclusion from immigration (Warren R. Leiden and David L. Neal, “Highlights of the Immigration Act of 1990,”) 28 Mar. 2016. <<http://ir.lawnet.fordham.edu/il>>.

³³IRCA is Public Law 99-603 (Act of 11/6/86), which was passed in order to control and deter illegal immigration to the United States. Its major provisions stipulate legalization of undocumented aliens who had been continuously unlawfully present since 1982, legalization of certain agricultural workers, and sanctions for employers who knowingly hire undocumented workers, and increased enforcement at U.S. borders. (“Immigration and Reform and Control Act of 1986,”) 16 Mar. 2016. <<https://www.uscis.gov/tools/glossary/immigration-reform-and-control-act-1986-irca>>.

³⁴Aids to Families with Dependent Children (AFDC) was established by the Social Security Act of 1935 as a grant program to enable states to provide cash welfare payments for needy children who had been deprived of parental support or care because their father or mother was absent from the home, incapacitated, deceased, or unemployed . 23 Jan. 2016. <<https://aspe.hhs.gov/aid-families-dependent-children-afdc-and-temporary-assistance-needy-families-tanf-overview-0>>.

³⁵ See *Ronald Reagan and the Politics of Immigration Reform*, 182-83

Chapter Two

Structural Discrimination: The American and the Algerian Healthcare Systems

While several researches have been conducted on discrimination as a determinant of social disparities toward racial and other minority groups, there is limited knowledge concerning the effect of discrimination on health. Thus, if the former questions tried to answer the more noxious form of discrimination over the other, this part attempts to demonstrate the effect of discrimination on health, in the context of ethnicity.

A common limitation found in the field of studying this association usually uses a single item measure of perceived discrimination which cannot capture the multidimensionality of such adverse effect. Regarding this issue, Paul Farmer in his article entitled “On Suffering and Structural Violence: A View from below” tried to accentuate the importance of meta-analytical approach in tackling the broad effect of discrimination on health as he issues: “Anthropologists who study the pace of discrimination, study the larger social matrix in which it is embedded in order to see how various large scale social forces come to be translated into personal distress and diseases (261).

Accordingly, this chapter is organized as follows: in measuring discrimination, Farmer’s larger social matrix is paralleled with the structural discrimination. However, the latter encompasses many sub-institutions, and as the focus of this area of research is on health, structural discrimination is viewed from the corner of the healthcare system as well as the institutions that are consequently intertwined. This part of thesis scrutinizes both the US and the Algerian healthcare systems as well as the socioeconomic systems in order to underscore their different discriminatory elements that put the health of both Mexican immigrant women of the US and Tuareg women of Sahel at stake.

2.1. Structural Discrimination

Structural discrimination is a notion that derived from an innovative concept of structural

violence that Johan Galtung came about to reveal the hidden ways where discrimination can be approved all over the world. Under the broad spectrum of discrimination lies the concept structural discrimination which in itself occupies a large space in the center of discrimination as it appears when the entire network of rules and practices of a given society disadvantages less empowered groups meanwhile serving the dominant group. Johan Galtung defines “The term refers to social, economic, political, legal, religious and cultural factors that stop individuals, group and societies from reaching their full potential” (qtd. in Farmer et al. 235). The definition opens many features to be detailed.

The word structure when associated with discrimination is used to refer to its concrete meaning that of arrangement which refers to structural organizational systems that allocate social privilege to certain groups of society and systematically marginalized others. As Sahu in her article that questions “What is structural violence” stated that the concept structural in this sense is not a material thing, but rather an unobservable regularity in human social activity that has become so firmly entrenched (in habits), social relations, economic arrangement, institutional arrangement, institutional practices, law policy and so forth (2). These structures are neither natural nor neutral, but are instead the outcomes of an adoptable political, economic and social constructs.

Structural discrimination has one more explanation that of deepness. That is to say, it is always more difficult to identify discrimination since the organizations or the systems deeply implemented rules upon which their institutions work that serve to discriminate and perpetuate disadvantages services against specific groups i.e. no specific person can or will be responsible. This is not surprising because this type of discrimination is a historically given process that conspires to constrain individuals to access progressive social and scientific fulfillment (Burtle

4). These characteristics of structural discrimination are appropriately addressed within the whole structure of the healthcare system; the institution that continues to hold deep-seated ethnic disparities. Therefore, examining these organizational rules and practices through the lens of structural discrimination divided the study into two sections: the social determinant of health that encompasses socioeconomic status, and the institution level that captures the mono-cultural variable of healthcare system in three cultural components: language barriers, stereotype.

2.2. The Social Determinant of Health: Socioeconomic Variable

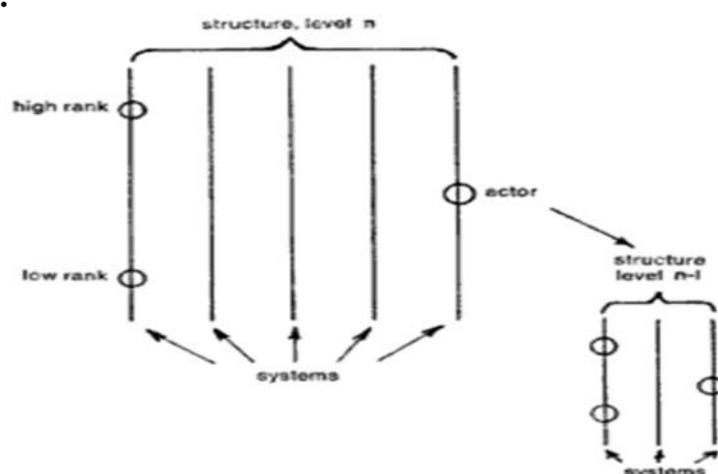
If the subject of health disparities is taken as a product of an overt form of discrimination, the claim would be caricatured as the purpose for ridicule. Williams Richard Allen in a book entitled *Healthcare Disparities at the Crossroads with Healthcare Reform* issues “Overt racism and discrimination apartheid beliefs (consciously experienced and acted upon) about the relative respect and regard owed to white is part of the healthcare history” (6-7). As such, this part of research tries to link the issue of health inequality with structural discrimination. In doing so, it helps the analysis to reach the association between health and discrimination in a new critical version of reality.

In current version, discrimination can be measured by other factors like social class and power which considered the main structural components of a given society. Meaning that, if someone lives in a society where there are extensive structural norms differentiate individuals with the same society as the upper social class where people exert privilege and best social chances, and those with bottom status who live in limited social power, in this case, there would be a loss of human lives. It is the same social ladder that Galtung described in the figure below when he spelled out the concept of structural discrimination.

In figure 5, social split is shown. Yet, in order to understand the interpretation of this social

split with health, William confirmed that along the US history, there has never been a period in which African American, American Indian, Latino and members of many Asian subgroups were in equal status or even approximate to white Americans in terms of health (7). Neither has been a period in Sahelian society in which Tuareg group has been in equal health status or even approximate to other minority in terms of health status (Ali 25). These differences are widely proved within every single survey and/or data comparing the above-mentioned groups' health status.

Figure 7.



Social Order

Source: “Violence, Peace, and Peace Research”. Web. 28 Nov. 2016.

<<http://www.jstor.org/stable/422690?refreqid>>.

Additionally, the figure depicts that structural discrimination is composed of institutions which intersect within each other. It is mainly because systems are tied in as social construct and they maintain enchained consequential relationship (Galtung 173). Equally important, the intention aspect is another characteristic of institutional discrimination. As Galtung argues: “The fifth definition to be made is between violence that is intended or unintended; this distinction is to be decided, since the concept of guilt has been tied more to intention” (“Violence, Peace, and

Peace Research” 182). In other words, and practically speaking, Feagin, Ekberg and Galtung referred to the institutions, the systems, and the organizations. However, the intention is embodied inside the rules and the practices upon which the institutions operate.

Nevertheless, trying to approximate the notion “social construct” to the practical meaning of institutions; occupation, income, education are organizations that operate upon rules that they undoubtedly intersect with one another. Ultimately, these rules are structured and worked to serve for preparing certain conditions to facilitate the possibility of the loss of certain human lives. The latter is manifested through unequal life chances, unevenly distributed resources, heavily skewed income, unevenly distributed literacy and education, and unequal medical services existent (183).

At the conceptual level, beside proving the way of addressing structural discrimination in the context of social structure, the above scholars also set the components of such inequalities that are distributed over three crucial notions (income, occupation, and education). Many expressions have been mentioned to describe adverse situations in the living and working conditions of individuals households such as: social class, social stratification, socio-economic position, socio-economic circumstances, deprivation, in order to analyze poverty conditions and clarify what poverty parameters we are measuring. The study based on the definition provided by Krieger:

An aggregate concept that includes both resource-based and prestige-based measures, as linked to both childhood and adult social class position. Resource-based measures refer to material and social resources and assets, including income, wealth, educational credentials; terms used to describe inadequate resources include “poverty” and “deprivation”. Prestige-based measures refer to individual’s rank or status in a social hierarchy, typically evaluated with reference to people’s access to and consumption of goods, services, and knowledge, as linked to their occupational prestige, income, and education level.” (345)

These components are commonly defined as socioeconomic status, socioeconomic position and/or socioeconomic circumstances which refer to the total household access to resources through combined social status measured by income/or wealth, education, occupation respectively. Nevertheless, the gap among the above definitions and others confined to the words; status, position and circumstances. Some scholars choose the word “status” others use the word “position” and “circumstances” (Psaki et al. 2). In this chapter, the word status, position and circumstances will also take their literary meaning that of position. Thus, place of residency is also included to measure the adversity of isolated areas in widening health disparities.

Importantly, Donald Barr is the one who allocates the word socioeconomic status as social determinant of health and frames the analysis of this part within the lines of his book entitled *Health Disparities in the United States: Social, Class, Race, Ethnicity and Health* where he argued that it is being a member of the disadvantaged class that makes one more likely to experience the sense of isolation, powerlessness, and foreshortened time preferences that leads directly to lower level of education, with resultant lower occupational status, and lower income referring to this causal cascade as the social determinant of health (49).

SES as a health determinant has more and more come under consideration as the latter is being a socially constructed determinant rather than a natural one. Consequently, it gives the present researcher a clear path in order to approach health inequalities among Mexican immigrant women of the US and Tuareg women of Sahel. As this part suggests that with each little step down on education, occupation and income ladder comes an increase exposure to different health illnesses and early visit to grave (William 36). Studying the structure under which the US healthcare system operates as well as the shortages of Algerian healthcare institutions reveal that SES acts as a constant determinant that cannot be detached from the structure in which the system itself

exists. Definitely, as SES functions heavily in categorizing ethnic differences, it continues to operate the same in widening health disparities.

However, other observations appeared at the gender level where the feminist historical medical evolution has also dictated SES as a new dimension in defining women's health, the fact that paralleled the emphatic orientation that highlights the inextricable relationship between ethnic and gender in this area. In other words, it emphasizes the double jeopardy of disadvantageous SES on both gender and ethnic affiliation along the whole lines of this chapter.

2.2.1. The Confrontation of Ethnic Affiliation and Socioeconomic Status

Even though the constitution of the world and health organizations claimed that health provision is one of the standard principles of human right all over the world as the enjoyment of the highest attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition (Niels 7), health attribution seems to be guided by other social norms where certain groups of society enjoy privileges over others.

Socioeconomic variable has been recognized to have great importance in studying ethnic health disparities. First of all, in the course of studying the effect of SES on health of ethnicities, it is necessary to overlap thoughtful approach with the mechanism under which these studies are developed throughout the time span. The pioneer movement that studied the scientific relationship between SES and health dates back to the beginning of the 19th century, the time when researchers tried to investigate differences in health among poor people. However, researcher like Alvin Taylor had organized a conference that resulted in the publication of his volume entitled "*Pathway to Health*" in which he called for departure from the single paradigm of SES that considered poverty as the only component of socioeconomic status since the latter

transcended to other extreme adversaries (Adler et al. 16). Even though the very components of SES (income, education and occupation) were not well determined, they were called gradients. Consequently, the period of 1985-1995 in this context was called the decade of gradients.

Then, an upcoming movement came as an upheaval to the previous one as it examined the bidirectional way in which SES could affect health and vice versa. For example, long term fluctuation in health status appeared to reduce income. Therefore, the casual direction tested the other way connection that examined how far could the health status affect or contribute to adverse SES, suggesting that treating SES and health within one single pathway should be readjusted (18).

Another illustration that spilled much ink in the SES and health arena is the population variable. This kind of study attempted to answer the question of whether SES gradient affects health in the same manner across all populations. Depending on their claims, Cutler, Adriana and Tom argued that the gradient between SES and health could operate in any industrial country but the strength of their association was not uniform. That is to say, the gradient was shown to be slower within egalitarian countries where population enjoyed approximately linear social stratification. In contrast, other countries like the USA, the differences, sharpness, and strength of the gradient was due to race and ethnicity (7).

Lastly, the 1995 onward period is the modern era of mechanism which addressed another point that mediates between SES and health since it figured out the mechanism through which SES can get under the skin to influence health. In an endeavor to determine the direct mediator between SES and health, this type of studies analyzed social, physiological, and behavioral mechanism that according to them can clarify the direct mediator between SES and health (Adler et al. 7-11).

These approaches have been applied into wide range of ethnic groups all over the world and

through multi psychological and physiological health illnesses. Many of these researches, prove that socioeconomic status as the most fundamental of the social determinants of health. In addition, it has been identified as a major reason for why some ethnic minorities have higher rates of poor health (Graham 11). Bringing evidence support the existence of an intersection between SES and mental health in general, and with psycho-specific illnesses such as depression, anxiety in particular.

The first example among others is the case study held recently which lists depression as the illness that most disproportionately affects those of lower socioeconomic status. Proving that depression is more prevalent for males and females living in low SES, the study goes even far to measure the healing duration between those with higher and lower SES in comparative way. The work concludes that individuals with lower socioeconomic status are 2.5 times less likely to receive a diagnosis than those of higher socioeconomic status (Brown, 540).

According to the US national Institute of Mental Health, low SES is a specific risk factors for all anxiety disorders. The claim based on measuring the emotional and environmental stressors resulting from persisting duration living in low SES in wide range of ethnic minorities. These poverty-related stresses are undoubtedly behind the onset of many psychological illnesses such as anxiety and post-traumatic stress disorders. On the other hand, Wolff, Santiago, and Wadsworth published a meta-analytical study examine the physiological risk factors that arise from, post-traumatic stress and anxiety disorders with findings indicating a strong relationship between poverty related stresses and many physiological disorders among minorities with low SES (175).

As it is mentioned before, the term status in the present research, takes its literary meaning that of actual location. The measurement in these lines exceeded the parameter limit to add place

of residency as another factor in studying health disparities among ethnic minorities under study, along the whole chapter. Rural areas have been found to be regions with high concentrations of poverty and low in socioeconomic status.

Rural remotes rampant exists in both US and Sahelian maps. In 2020, the United States Census Bureau's Annual Social and Economic Supplement (2014) conducted the American Community Survey, which estimated that nonmetropolitan areas had a poverty rate of 18.1%, while metropolitan areas had a poverty rate of 15.1%. These high poverty rates in nonmetropolitan regions have been consistent since the beginning of official recordings of poverty rates in the 1960s. Likewise, in Sahel, based on the United Nations Population Division's World Urbanization Prospects 2018, rural areas face higher rates of poverty in comparison to urban areas and are still experiencing alarmingly high rates of low SES as well as and inequality in major life facilities.

2.2.1.1. The Mexican Immigrant Women Case

At the ethnic level, due to socioeconomic status, Mexican immigrants as an ethnic group in the US has undergone a long persisting health disparity in comparison to non-Hispanic whites and other minorities. In actual side, the US very early history associating SES and health was most common with African Americans in which the disparities saga began, yet these historical events of African American health disparities are directly responsible for the eventual healthcare partiality that other minorities are witnessing in the current era (Alden 47). Ultimately, what Mexican immigrants experienced, in the recent period, is the social construct of structural discrimination captured by SES variable.

2.2.1.2. The Sahelian Tuareg Women Case

Indistinguishably, whenever and wherever Tuareg minority exists, there has never been a

period or a place where this group enjoyed an equal position in terms of SES as other group members or even in comparison to Saharan nomadic tribes. For example, deteriorating economic status as well as a strong feeling of marginalization among Tuareg groups in Mali's northern Azawad region, put them into the least categorized group in terms of health status (Benjaminsen 820). As for Libya, insecurity and attacks made the national SES deteriorated, and the gap of health disparities has been made even wider when pre-existing discrimination against ethnic minority groups such as Tuareg persist creating additional barriers to their access to healthcare. In the Sahelian context, SES has been considered as a driving factor putting Tuareg minority's health in the least position in comparison to other Sahelian ethnic groups ("Libya: Historic Discrimination Threatens Right to Health of Minorities in the south").

2.2.2. The confrontation of socioeconomic status and Gender Differences

The correspondence between socioeconomic status and adverse health among ethnic minorities has been widely spelled, but gender disparities as connected to socioeconomic status and health, have not been enough illustrated. In health arena, gender plays a cardinal role in defining gender-specific illnesses as men and women have different health needs, health risks, (e.g., Breast cancer, postnatal depression, gynecological diseases, ovarian and cervical cancer).

At the gender level, like other movements that women fought throughout history including suffrage, access to high education and equal payment, women's health movement also came against the traditional medical model that treated health and diseases with the same course in men and women, and against models that ignored other social and cultural determinants of health except women's reproduction concerns. This restrictive vision spread during the 20th century when women's health was traditionally interpreted to merely reproductive functioning, and pushed health arena to address primarily the reproductive health system (Weisman 178).

Lately, women covered various positions in the social spectrum such as government, academia, professions, women's health advocacy, plus interest groups. This existence helped women to play an informative role in highlighting gender inequalities in health, the fact that made women's health in recognitions (179). Women's health has finally made great booming achievement in the turn of the millennium, the shift to the spotlight has largely occurred in the last 100 years. This movement came against many limits that were considered vital to women's unique health needs.

The basic upheaval of the term women's health began during the 19th century when it was clearly identified on the basis of a sole dimension which is the capacity of women to give birth; women's reproductive organs were concerned as the center of their mental and physical conditions and any other social determinant would revolve around as maternity is considered the only social function, morale purpose, and women' need" (Weisman 179). Additionally, limiting women's health only to the reproductive side has had another political sight. That is to say, until the Progressive Era (1890s-1920s), public policies legislatively prohibited the use of contraception and abortion in order to control the maximum laws and facilities that would enable women to employment outside home i.e. they tried to preserve the gender role that confined women toward their maternal role ("Changing Definitions of women's Health..."180).

The third remarkable requirement of this movement was the inclusion of women in the health arena. This call came against the predominance of male-dominated medical professional authority within women's medical sectors like the control of women's reproductive lives, contraception and managing hospital-based childbirth. The stance could enable women to complete access to health information since there were considerable limitations on the information about the risk of drugs and medical devices such as oral contraceptive, DES

intrauterine device, in one-step biopsy and mastectomy breast surgery (181). These practical achievements were translated into actions through many implemented statutes.

Number of reforms initiated reflecting this movement through the Women's Health Equity Act¹ and, the Breast and Cervical Cancer Mortality Prevention Act of 1990.² Yet, the most pivotal achievement was the redefinition of women's health. Ultimately, women's health has expanded to encompass not just reproductive function, but it covered the totality of women's experience throughout life. This means due focus was given to women-centered conception of health in which the influence of social factors on women's health are particularly well understood (180-3).

Borgelt, and other researchers in their book entitled *Women's Health Across Lifespan: The Pharmacotherapeutic Approach* define women's health as: "The definition of women's health has been evolving overtime, from biomedical model focusing on the reproductive health to bio-psycho-social model taking into account the biological, and social influence on women's health across life span" (4). At the core of this definition lies the foundation of this part of the gender analysis as it clearly accentuates the SES aspect of women's health within the social context and permitted the study to tackle the subject of socioeconomic status from the ethnical and the gender perspectives.

Framing the aspects of women's health definition within socioeconomic structure tended to extract health disparities that disproportionately harm females than their male counterparts. There are particular life conditions women went through making them highly vulnerable to stressors such as, natal and postnatal stresses, childcaring stresses, financial strain, home and work stress, and inadequate living conditions. These risk-related gender specificities interpreted the reality of different health outcomes for women in comparison to men. Whereas, the situation aggravated

when counting for adverse socioeconomic status among women who live in the aforementioned gender-related stressors.

Beginning with psychological illnesses, according to the National Center for Health Statistics, Postnatal depression, a mood disorder faced by 1 in 8 women, has been found to be more prevalent in low-income mothers when compared to high-income mothers (Ertel, Rich-Edwards, & Koenen, 2011). In a similar way, females in general are more likely to be diagnosed with depression during their lives. Yet, depression has consistently been found to be much more common in low-income areas (Brown, 2012).

As psychology provokes physiological disorders, considering socioeconomic status, there are some gender-specific illnesses that are widely prevailed among women in comparison to men such as, hypertension, obesity and diabetes. Unlike other physiological disorders, the extensivity of hypertension is studied comparatively between men and women throughout three periods of lifespan. In young age, men and women experienced the same rate of hypertension incidence. However, the rate of incidence shifted noticeably in middle age for women higher diagnosis. But, the percentage increases sharply in old age 55-onward where the highest percentage goes to women diagnosed with hypertension (Carroll, 2011).

Obesity is also considered one of the physiological disorders which is predominantly high among women considering gender differences. However, obesity has been studied relatively with the poverty line levels. As such, SES determines radically the body mass of women with low-income level. Ogden and colleagues revealed 42% of women who had income below 130% of the poverty level were considered obese, whereas, 29% of women with income that is at or above 350% of the poverty level were considered obese (425).

Likewise, diabetes, in the process of studying the gender differences in health outcomes

between men and women living in low SES status, wide range of supports held the claim that females and males of disadvantaged socioeconomic status disproportionately experience diabetes, as health issue with majority fell within women living in the same poverty conditions (Johnson-Askew, & Story, 2010).

Linking the line thought of these studies with groups under study, Both Mexican immigrant women of the US and Tuareg of Sahel suffer the ill-effects of structural discrimination on the basis of ethnicity and gender aspects. Highlighting SES adversities among those groups requires to analyze the widthway effects of SES components on health. In doing so, this part tackles the direct as well as the indirect impacts of each these components.

It is worthy to note that in order to study health partialities in the context of ethnicity, it is essential to put both groups in comparative parameter with other ethnic groups who exercise power and privileges each of its own society. Thus, in the US, Mexican immigrant women will be compared with other non-Hispanic groups as well as African American counterparts. In Algeria, however, Tuareg women of Sahel, in some situation, and according to data availability, will be compared with other ethnic minorities like; Algerian Tuareg and Arab majority groups.

2.2.3. SES and Health: The Direct Causation

To start with direct effects, education will be studied through health literacy aspect seeking how far groups under study master all needed comprehensibility to manage their health status. Secondly, occupation is going to be measured through the extensivity of hazardous environments held putting employees into health disparities. Place of residency is going to be tackled through the subject of rurality where transportation and healthcare providers' shortages have a directly impact on health partiality.

2.2.3.1. Education

Education gradient is a substantial factor in dealing with SES when looking at the central role it can play in mediating between SES and health. The scope of education's impact on health has two edges: the economic and the comprehensibility ones. Beyond evidence of causality between education and health that derived from the economic rationale, there is another pathway by which education affects health. An individual without educational attainment in contrast to a well-educated one is exposed to higher rate of ambiguity and discordance in every single concept in his/her world. In terms of health arena, education refers to the ability of one individual to read, understand all the complicated health and medical information, engage in conversations with physicians, and negotiating health insurance (Mead and Bower 53). This incomprehensibility and/or comprehensibility are generally referred to as health ill/ literacy.

As a term, "health literacy" launched out during 1970s when health education has considered it as a social urge (56). From that time, studies on health literacy have been raised seeking; its appropriate definition, adequate way to include it into practical usages, and importantly to define its measurement parameter. Two decades later, health literacy came into implementation in large healthcare spectrum all over the world. Yet, researchers advocating the implementation of health literacy were firstly on the brink of failure since it was so difficult to manage measurement of tests that meet human differences throughout the globe. Therefore, it is issued that although tests on health literacy at first did not define reliable measurements, they put the project into practical sense as many healthcare physicians and patients had become sensitized to the importance of health literacy as a social policy (Frisch et al. 5).

Even though health literacy comprises many other aspects, scholars usually tie health literacy to patient's education level. However, this correlation corresponds with a limited view about health literacy since it refers to the educational level in which is in turns treated as proxy for

socioeconomic status (Shaw et al. 439). It is at this level that education is considered as a strong predictor to one's adequate health literacy.

As such, measuring instruments in health literacy tests firstly seek to evaluate the following patient's literacy level: reading and writing skills in the clinical situation, read and writing multiple instruction and information forms in clinic-related tasks like; comprehend appointment slips, understanding instruction forms and following up prescriptions as well as completing medical insurance and Medicare forms (Chinn, et al. 8). These tasks are fundamental in obtaining adequate access to health care facilities.

As the objective of these early health literacy assessments was to evaluate what reading level patients administered, early tools were of basic level. The Rapid Estimate of Adult Literacy in Medicine (REALM) and the Test of Functional Health Literacy in Adults (TOFHLA) were developed with that primary goal starting to assess the capacity of patients to read and write various instruction. As for the required tools, according to the aforementioned health literacy measurements are generally test in which a patient needs to "answer in written form, to "fill in the gaps", or to "match with the appropriate answer", (usually multiple choices are granted in these kinds of tests) (Andrus 290). Because they were assessments based on patient's primary level, both REALM and TOFLHA literacy tests were related to traditional educational reading assessments through readability scores. Examples of REALM and TOFLHA tests are as follows:

Cloze Method -multiple choice where the patient is asked fill the gaps:

The X-ray will ----- from 1 to 3-----to do.

- | | |
|---------|-----------|
| a. Take | a. beds |
| b. View | b. brains |
| c. Talk | c. hours |

d. Look

d. diets.

However, the aforementioned literacy tests evaluation can be more distinguished by Gloria Mayer and Michael Villair's book entitled *Health Literacy in Primary Care*, where they detailed the parameter which guides the process of health literacy at the patient level. Accordingly, to define health literacy as the ability to read and write or as a patient's general educational attainment is quite limited. In other words, they assumed that assessing health literacy to the ability to read, and understand one's native language in both written and spoken forms alone is the broad scope of definition that may exclude other health literacy criteria.

Yet, health literacy can be distinguished from any kind of literacy as it refers to how one applies a broad range of literacy skills in the context of healthcare. Therefore, health literacy refers to the context where ranges of literacy skills are oriented only to health issues, and those skills required covering various needs in the healthcare environment such as performing basic readings and functioning numerical tasks (2). The authors meant by the word constellation, in this sense, to gather one's scattered and independent abilities in one focus picture from which patient reads the label on prescription bottle for the first time, or the ability to use this information to make decision that affects health in a good manner (3).

In recent studies of health literacy researchers work in ameliorating health literacy, claimed that individuals with limited health literacy fare worse than health literate ones. Even more unsettling is that minority racial/ethnic groups, individuals who are socioeconomically disadvantaged, and immigrants are disproportionately limited in their health literacy. Low health literacy exacerbates poor health outcomes associated with other factors such as limited language proficiency (Sherine 4).

The World Health Organization (2010) ultimately redefines the concept of health literacy to

include ethnic and linguistic measures as well as to uphold an intermediate level in tests that are required to evaluate comprehension of health materials, health numeracy, media literacy, and computer literacy. Overall, the concept is widely defined as the cognitive and social skills which determine the motivation and ability of individuals to gain access to understand and use information in ways which promote and maintain good health.

From the above illustration, it can be assumed that health literacy is one of the crucial components of healthy behavior and adherent to treatment. At the basic level, health literacy refers to the ability of patient to read and write. At this stage, health literacy may represent an obstacle to individuals with less educational attainment, and this is considered one component of health disparities among the ethnic and racial groups. The idea that may be agreed upon by many scholars who argued that health literacy maintains inequalities in health contribution especially among members of population with poor reading skills, limited mastery of language of the welcoming states (qtd. in Mayer and Villair 93).

The positive association between inadequate health literacy and immigrants' adverse health outcomes is well documented. Such positive relation caused unlimited chain of diseases. According to the Agency for Health Care Policy and Research people with low health literacy often lack not only the ability to read well, but also knowing about the body, its functioning, and the nature and the causes of different type of diseases (Chen et al. 3).

2.2.3.1.1. The Mexican Immigrant women Status

Upon the given data, when health literacy is applied to Mexican immigrants in this study, Luque and colleagues' primary focus is to examine knowledge and beliefs about cervical cancer and these women screening behavior in the US. In response to an open-ended question about what they had heard about cervical cancer, many women answered that they knew that cervical cancer started in

the genital area, and five or (13%) of Mexican immigrant women mentioned the HPV vaccine or the pop test as prevention method. Twenty-seven (69%) Mexican immigrant women said that they did not know or know very little about cervical cancer. Twenty-two (56%) women had heard of HPV, and eighteen of them (46%) believed HPV caused cervical cancer (710). This lack of knowledge is one primary task of health literacy that led those Mexican women to under screening behavior.

2.2.3.1.2. The Sahelian Tuareg Women Status

It is not different from Tuareg case; in an attempt to shift the research from specificity to generality, the present research concentration is to analyze comprehension and general knowledge about diabetes management among this group to measure how far do these women understand about their diabetes. At the measurement level, brief demographic accounts of Tuareg women are included. Also, the part adopted both The Rapid Estimate of Adult Literacy in Medicine (REALM) and the Test of Functional Health Literacy in Adults (TOFHLA) at the basic level, especially that overwhelming majority of women under study show up with low educational attainment (see the appendixes).

To free the work from dim areas, it is important to mention that in this investigation, language represents the biggest obstacle as Tamahaq in Sahel is spoken only among Tuareg ethnic minorities. To put REALM and TOFHLA health literacy test in which a patient requires to answer with her own language in written form: “to fill in the gaps”, or to “match with the appropriate answer” related to educational reading assessments. It is so challenging to test health literacy among Tuareg women with Tamahaq because it has been considered as an endangered language which loses its creativity in response to all areas of activity such as health, education, mass media and so forth. Thus, it lacks the needed vocabulary found in health literacy.

With a primary goal to assess their basic information regarding their diabetes knowledge, Tuareg women were inquired to respond to Arabic-written health literacy questionnaire about what they had known about diabetes. More than half of Tuareg interlocutors (47%) replied that they knew that diabetes happens after eating too much white sugar. When asked about diabetes and overweight, (9%) of them issued that weight is natural state of body. Whereas, when inquired about their insulin management, (13%) of Tuareg women mentioned taking insulin would lead to dialysis and amputation. Twenty-seven (12%) Tuareg women said that they did not know or know very little about insulin types. Twenty-two (19%) women had heard of insulin and diabetes pills are preferable. Ultimately, education level is a primary element which directly impeded Mexican immigrant women and Tuareg women to adequate health and preventive healthcare care seeking behaviors. This positive causation has been identified through health literacy tests proving that individuals with low educational attainment are at risk of adverse health status.

2.2.3.2. Occupation

Occupation and income are complementary at the extent that they may appear the same, yet they cannot be interchangeable if other components of occupation that positively affect health such as occupational class categorization and occupational environment are considered. Research studies on how occupation differences affect health have initially concentrated on the occupational measure of rank. For example, the most prominent examples were two Whitehall studies of British servants in which examination made comparison between the higher and lower civil servant members to reach an intentional purpose that improves the high mortality rates among civil servants with lower rank than among those of higher position (Adler et al. 18).

When the same measurement is applied to both US and Algerian workforces, occupational prestige, qualification, reward, and other working characteristics appear to have complex variables

as it coupled with various ethnic groups whose occupational rank notoriously fell into lower status jobs. These characteristics can impact their health negatively, and they mediate toward many complicated psychological illnesses. Consequently, occupational environment has another level of provocation as it is directly linked to lower status jobs. In other words, ethnic employees with lower status jobs are more likely to be exposed to under-ranked works; works that carry higher danger of occupational injuries, toxic substances, job strain and lack of nearer health center. These conditions cause both physical and health disparity among ethnic groups (Niels 64-5).

Hypothesis

Based on the tables below, data shows higher rate of both Mexican immigrant and Tuareg women of Sahel concentration in hazardous jobs, each in their own setting. The following hypothesis is obtained: There is potential for developing multi-health problems within kinds of jobs with high exposure to stress, sunlight, chemical substances, physical overload, and within high unsafety jobs.

The figure displayed below highlights the multi hazardous jobs that Mexican immigrant women exercised and how such hazardous situation has direct effects on their health. According to data presented, Mexican immigrant women concentrated in almost the most vulnerable jobs including: farm leveling, and classifying 50.1%, domestic employees 58.9%, cooks and food prepares 58.7%, manual packers and textile workers 74%. All of which they considered unskilled jobs in which workers are required to make physical and exhausted efforts that can directly affect their health. The situation becomes more vulnerable when counting the second side of health insurance that these kinds of jobs do not offer.

Figure 8.



Concentration of Mexican Female Workers in Hazardous Jobs

Source: *Migration and Health, Mexican Immigrant Women in the US*: CONAPO, 2021. Web.13 Sept. 2016. <http://www.asph.sc.edu/cli/word_pdf/migration-health>.

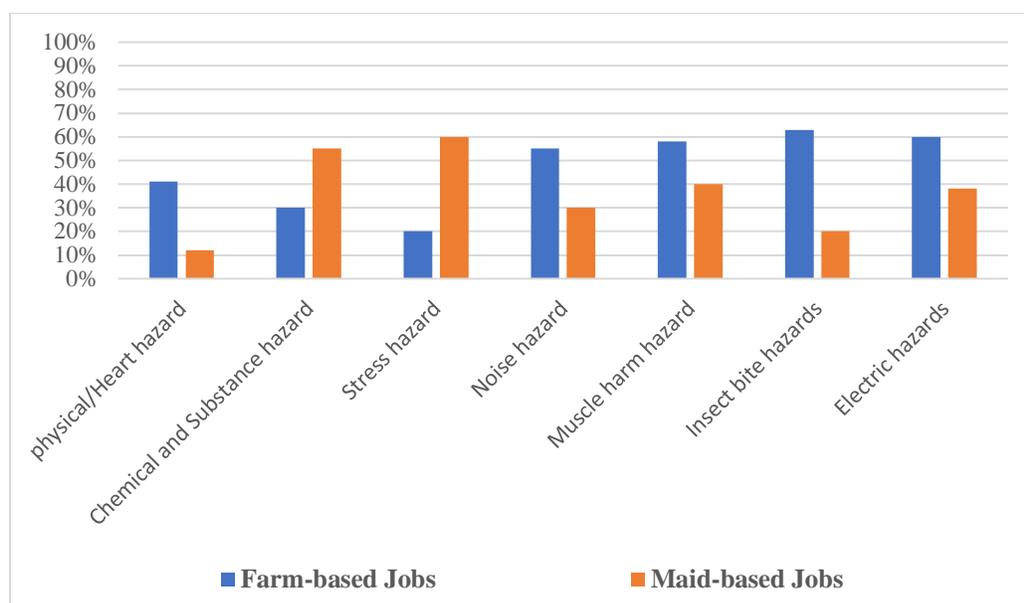
2.2.3.2.2. The Sahelian Tuareg Women Situation

The second figure showed the multi hazardous jobs that Tuareg women work for, in association to the type of hazard that each of it handles. As data shows, Tuareg women are concentrated into two main job categories; farm-based and domestic based ones. According to data displayed, Tuareg women concentrated in almost the most hazardous jobs including: Farming, crops collecting, seed processing. In the next domestic maid category, they form large participation as caretakers, cleaners and as cooks’ assistant and food preparers. In not difference, Tuareg women also fall in unskilled occupation categories that required extensive physical and manual efforts which in turns have direct effects on health.

In data below shows the direct effects of both farm-based and maid-based jobs on health. Starting with Farm based-jobs, this category displayed a high percentage of the association with

physical/ heart hazards 42%, Noise hazard 55%, Muscle harm hazard 58%, insect bite and electric hazard 63% and 60% respectively. Whereas, the maid-based category showed up with high percentage of its association with chemical and substance hazard 55%, and stress hazards 60%. Although the aforementioned percentages represent the highest percentages in this kind of jobs, the other associated hazards like insect bite, muscle, electric hazards also showed up with considerable percentages that increase the possibility of their associations.

Figure 9.



Concentration of Tuareg women Jobs in Relation to Types of Hazard

Source: Healthcare providers and Physicians in Public Health

To examine the hypothesis, the study interviewed six public healthcare physicians distinguished according to their majors as follows: Neurologists, dermatologist, emergency healthcare physician, orthopedist and as gender factor is predominant in this paper, emergency gynecologists in public maternity clinic is also consulted. They provided the present study with expected disorders from the previously mentioned hazardous jobs. The data is summarized within the following table.

According to neurologist, Fotia Mouhammed, persisting exposure to high pressure of stress can be a major factor to both psychological and neurological disorders. To clarify, stress triggers are the factors that cause stress whereas stress response is how the body respond to stress triggers on an emotional, biological, or cognitive level.

Table 2. Hazardous-Work environment in association to Expected Health Disorders

Physicians	Factors	Expected disorder
		Cardiovascular disorders
Neurologists	Physical stress-related disorders	Ulcers (stomach ulcer)
		Depression
Psychologists	Psychological stress-related disorders	Post-traumatic stress disorder
		Anxiety
		Skin color changes
Dermatologists	Sun-exposure related illnesses	Loose, irregular skin
		Actinic keratosis
		Skin cancer
Orthopedists	Physical upload related disorders	Osteoarthritis
		Rheumatic
		Lack of preventive care behaviors
Gynecologists	Natal-related disorders	Out-hospital birth
		Post-natal sicknesses
Emergency-healthcare ph.	Safety related disorders	fall, injuries, fires, bruises, sprains, fractures, impaired vision/hearing

Source: Healthcare providers and Physicians in Public Health

In measuring stress, the psychologist Belhadj Houria, tends to compute triggers and responses throughout a given period to test stock of the major life changes they have been through. There are three main stress measures in health arena: brainwaves electroencephalography (EEG) and Heart rate variability (HRV). The latter involves recording the variation in time between consecutive heartbeats. In other words, it doesn't just look at how fast your heart is beating, but how the time

period between heartbeats changes. Yet, brainwaves electroencephalography (EEG) measures brainwaves responses to life-span triggers. The aforementioned methods to measure stress seek particularly to measure your stress as they look at your body's physiological responses recording stress biomarkers such as your heart rate and brainwaves in order to assess how stress affects your body. The third manner how stress is measured is through hormonal testing because when human body is stressed, your body will produce adrenalin to give you energy to handle your stressor. It's a part of the fight-or-flight response, and it's why you might feel restless when anxious. Therefore, two hormones are test by blood checkout for both adrenalin and cortisol (Chrousos 1245).

Stress has both physiological and psychological effects. The psychological ones translated into psychological disorders ranging from depression, post-traumatic stress and anxiety which may lead to other physiological disorders too. However, the examples of the direct physiological harms of stress is wide. As neurologist, highly exposure to stress is a linking factor to neurological disorders mentioning that stress effect can spanned into other illnesses such gastric and cardiological illnesses (1252). Thus, individuals with higher exposure of pressure and stress at workplace are at higher risk developing cardiovascular diseases, neurological disorders and gastric sicknesses (Healthcare provider interviewee).

For dermatologists, Baroud Smail, sun exposure is a two-edged behavior. Positively, slight exposure to sunlight is triggering of D vitamin. Hazardous occupations can affect into two major ways: due to continuous exposure to sun many sun-related skins disorders appear such as Erythema⁵, photosensitivity⁶ which represent acute events, whereas photoaging⁷ and carcinogenesis⁸ are long-term consequences. The average of sun exposure for both dark and light skinned individual to maintain healthy skin is 10–30 minutes of midday sunlight.

The second way through which a hazard occupation can harm the skin is when employees are

frequently exposed to chemical substances which lead to developing skin-related diseases mainly skin cancer. To explain, dermal absorption happens when a chemical goes through the skin and travels into the body. Many chemicals used in the workplace can damage organs if they penetrate the skin and enter the bloodstream causing skin cancer. Examples of these chemicals include pesticides and organic solvents.

For emergency healthcare physician, Tedjandjna Amina, occupational injuries in general have two main reasons. The first is caused by human factors usually due to the existence of several types of work activities that have a high enough risk in doing them, as such employees tended to do the task by wrong action, not in accordance with what should the task has been done. It generally occurs because of physical imbalances in the workforce and lack of education.

Besides to human errors as one of the leading causes to work incidences, certain jobs conditions often create health disparities among employees as they filled with harmful conditions like: chemical substances, in the form of pesticides, organic solvents, smoke, gas, steam, dust, fog, smoke, clouds, liquids, and solid objects; physiological factors, such as machine construction, improper equipment, and unsafety devices that do not meet the standards; and psychological mental factors, including the composition of work, the relationship between employees or employers, work maintenance, and work remoteness. These two causes can explain the high rate of occupational accidents that public health emergency has received (Sedarmayanti 7),

To further analyse the phenomenon and put it into the research's target minorities, by definition, work safety is a safe condition afford by employers to employees against, damage sufferers or body loss at work. Safety risks are aspects of certain kinds of the job environments that can cause fall, injuries, fires, bruises, sprains, fractures, impaired vision and hearing and so forth. Whereas other types of job are work healthy one structured with work environment that is free from

physical, mental emotional or pain disorders caused by the environment (Kaynak 142). Consequently, in the first hazardous jobs, occupational safety and health system needed to be extensive for a safe work environment so that, can guarantee the safety and health of workers and other people who are in the work environment.

In Algerian work arena, work safety and health are practices that guarantee the application of safe working conditions, managing physical and mental erosions at work that aims to reduce and avoid the risk of work accidents. In working, employees have the right to work safety and health whose implementation is based on Law no. 88-07 of 26 January 1988 concerning the security and health within manpower (*Algerian Constitution*) states that every worker/laborer has the right to obtain protection for: a) work safety and health, b) morals and decency, c) treatment in accordance with human dignity and religious values. Work safety is the protection of employees from injuries caused by work-related accidents. While work healthy is a condition that is free from physical, mental, emotional or pain disorders caused by the work environment.

At the same manner, in the US constitution, under 738/2002 occupational safety and health Act, working environment and working conditions are proved in order to ensure and maintain the working capacity of employees as well as to prevent occupational accidents and diseases and eliminate other hazards from work and the working environment to the physical and mental health, hereinafter referred to as health, of employees. (US Occupational Safety and Health Act)

Although work safety according to the above constitutional acts is guaranteed, both Mexican immigrant women in the US and Tuareg women of Sahel are distributed highly in unofficial workplaces: family farm laboring _farming, seed processing, watering, crop collecting, pasturing. Domestic maids_ cleaners, waiters, cook assistants. It is crucial to mention that the hazarding side of these jobs confined to their lack of officialness. Situated in far remotes, in addition to the

hazardous forms of these kind of jobs, many Tuareg farming families work on a conventional basis with the farm owners. Meaning that, indicators of work safety is not necessary watched out.

For Mexican immigrant in the US, and Sahelian Tuareg migrant to Algeria, the documentation status would be another prevention for most of them to access official contract (Massey 271). In case of any work side issues, the case would have been kept secret as checking for healthcare may be a leading force to deportation. In the case of legal migrant, work arena conventionally orient Mexican immigrant towards certain kinds of jobs which have long been associated with the aforementioned hazardous labor sectors in which both legal and illegal fell in, and are the same jobs which lack health care insurance (272), though the later will be well detailed under upcoming titles; the two components are hardly separated.

Maintaining with the same context of occupational harms, it is possible to identify a different pattern of health dipartites based on gender vulnerabilities. Gynaecologist, Menana Rachid, assumed that kinds of job with far remotes and hard physical upload are predisposing factors to out-of-hospital birth. Death incidence is increasing due to both out hospital birth, and among mothers who gave birth prior to arrival at hospital. In addition, the same gynaecologist assumed that women who received care provided by out hospital midwives and doulas are more likely to develop pos-natal health complication if death incidents are to be avoided.

In this part it is suspected that the aforementioned occupational environments may interpret data reporting the prevalence of cardiovascular problems, gastric ulcer illnesses, cervical cancer disorder, dermatological problems, rheumatism and osteoarthritis diseases, occupational injuries, out-hospital birth, pre-and post-natal deficiencies among Tuareg women of Sahel and Mexican immigrant women of the US.

2.2.3.2.1. Data Application on Sahelian Tuareg Women

According to the Algerian nation health report 2018, there are eight common diseases in which Sahelian Tuareg women fall in respect to gender differences as well as different health needs and vulnerabilities. Tuareg mothers are less likely to give birth on out-hospital birth basis, and they are less likely to receive maternity care from prenatal to natal stage. 2018 national statistics showed that 62 % of Tuareg farmworker women gave birth out of hospital and 32% of them received health care during the last months of pregnancy while 48% did not visit a doctor for post-natal care. In comparison to non-Sahelian Tuareg women, Tuareg women reported accessing weak prenatal care checkout services early on in their pregnancy 67%. 2018 report assumed also that (42%) than other non-Tuareg women (67%) tend to follow preventive care during their whole natal period.

Osteoarthritis and rheumatics illnesses are predominantly spread among Tuareg women of Sahel. Two out of every ten Tuareg women reports that they suffer from rheumatism and osteoarthritis disorders. Associated symptoms ranged from severe long-lasting or chronic pain and lack of balance to the loss of physical functioning.

Gastric ulcer represents a majority among the above health illnesses that Tuareg women suffer from. More than half of Tuareg women of Sahel (58%) claimed having gastric ulcer in comparison to Sahelian women from other ethnic affiliations. Although chronic stress is highlighted as the most common cause of ulcer, physicians in the same report assume that to self-medication is another predictor as such this gastric disorder may specifically harm Tuareg women, who are more likely to have herbal and traditional cure.

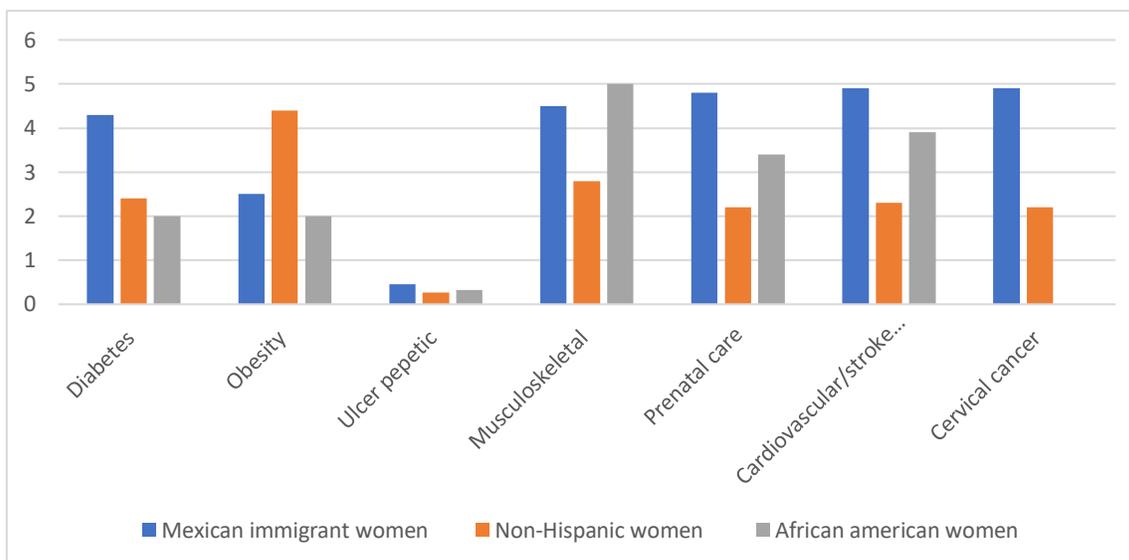
Tuareg of Sahel are registered with high rate of occupational risks in comparison to non-Sahel Tuareg minority (69% and 31% respectively). The percentage increases when the variable of transition from their home-wilayas is considered. Occupational injuries ranging from fall, fire, electric current fears, cuts, bruises, sprains, broken bones, loss of vision and injuries.

Cardiovascular is considered one of the fatal diseases among the whole Sahelian population, especially stroke which is the leading cause of death for many Tuareg women. The risk of stroke is 2.6 times higher at ages 35-64 than for non-Tuareg women. Additionally, Tuareg women are more likely to develop dermatological sicknesses in general, particularly those caused by sun exposure and/or chemical. Together with all non-Sahelian Tuareg women, they are far more likely to suffer from disorder related to being exposed to sun (64% and 79% respectively). Unlike other sedentary-based work, Tuareg female are more prone to physical laboring such as farming where chemical hazards are usually used.

2.2.3.2.2. Data Application on Mexican Immigrant Women

According to the US national health report 2014, Castañeda and colleagues in their paper highlighted the main prevalent diseases among Mexican immigrant women in the US. Among all, diabetes and obesity rank the most prevalent ones. Diabetes is particularly common among Mexican immigrant women (9.1%), compared with the prevalence among non-Hispanic whites (5.7%). Though both diseases are interrelated, Overweight/Obesity Mexican-born women are more likely to be overweight or obese than other immigrant or U.S.-born white women. Together, Mexican immigrant women with U.S.-born African-American women, are far more likely to suffer some disorder related to being overweight (74% and 79% respectively).

Figure 10.



Health Status of Mexican- immigrant Women in the US

Source: Castañeda, X., Nemeh, M., Chatzimpyros, V. (2014). “Health Status of Mexican-Immigrant Women in the US”. (Fact sheet). Health initiative of the Americas. University of California Berkeley, School of Public Health

Cardiovascular Disease, including stroke, is the leading cause of death for Latina women. Among Hispanic Americans/Latinos, the risk of stroke is 1.3 times higher at ages 35-64 than for non-Hispanics. As for Prenatal Care, Mexican-born mothers are less likely to receive prenatal care since the first trimester of pregnancy (59%) than other immigrants (67%) and U.S.-born whites. 7% of Mexican immigrant women that gave birth only began receiving health care during the last months of pregnancy while 3% did not visit a doctor during their entire pregnancy. These figures are lower among other immigrant women, 5% and 1% respectively and 4% and 1% among U.S.-born whites. In a 2010 study, only 42% of migrant and seasonal farmworker women (the majority Mexican) reported accessing prenatal care services early on in their pregnancy (within the first 3 months). Compared with the 76% of women who access early prenatal care nationally.

For musculoskeletal disorders, nearly one out of every five Mexican immigrant women reports

that they suffer from musculoskeletal disorders, usually associated with intense pain and the loss of physical functions, causing them difficulties in their everyday activities. Peptic ulcers, Mexican immigrant women are more likely to suffer from peptic ulcers: nearly half (46%) reported suffering from some type of ulcer, whether gastric or duodenal, in the 12 months prior to the interview. This proportion is much higher than for non-Hispanic US-born white (27%) or African-American women (33%).

To sum up this part, occupation has directly affected groups under study through the extensivity of hazard in which they were put. Low-income jobs are the ones with high level of dangerous environments which in turns widened health disparities among these groups. Within these lines, the study hypothesized that hazardous occupational environment is the leading clue to the high prevalence of certain disorders among Mexican immigrant in the US and Tuareg women of Sahel. After interviewing with six public healthcare physicians, they all expected occupation related disorders that can interpret the prevalence of certain types of diseases among Mexican immigrant of the US and Tuareg women of Sahel such as diabetes, obesity, ulcers, skin related illness and cardiovascular diseases.

2.2.3.3. Ethnic Residential Accumulation

Urban areas have been defined as all territory, population and housing units in urbanized areas whereas rural is all territory population and housing units not classified as urban. The rural designation is also subdivided into rural farms and rural nonfarm population. Meanwhile, countries have been classified into metropolitan and nonmetropolitan based on whether the country has large city suburbs, and how economically integrated peripheral regions with their surrounding metropolitan unit (Kidder 8).

In addition to city, state and zip code, urban, rural residency, metropolitan countries are

counted in terms of how many people reside in a given region. A small metropolitan country inhabits less than one million people; all other countries are considered non-metropolitan (rural) with distinction whether or not the country has a city with population of 10,000 residents or more (Borgelt Laura et al. 41). Hence, metropolitan area in itself is defined as a core area containing a large population along with a set of adjacent communities that exhibit a high degree of economic and social integration (ibid 42). The distribution of a given ethnic group into rural areas may disproportionately create unequal life chances at all level, the disparity is even severing when it comes to health care provision.

Historical migratory accumulation of different migrants and even transited groups, which form later on minorities in the welcoming society, produced residential pattern that has developed over time to depict a new community's regional distribution. The residential patterns which devolved by Mexican immigrant in the US as well as Tuareg in Sahel, seemed to function more in farm rural areas than in urban affluent regions.

In the case of Mexican minority, the border land's approximate helped in creating amalgamate of Mexican communities concentrated in the southeast lands. The concentration can also be interpreted as Mexican inclined toward regions with shared cultural, linguistic or/and may be with the same religious identification (Borgelt et al. 58). The same historical accumulation functions with Tuareg from far Sahara who inclined to accumulate in southern rural areas reflecting their nomadic practices that of transit. Even though, when Tuareg of Sahel had preferred to alter a nomadic way of life, they tended to concentrate in middle Saharan wilayas like: Ghardaia and Ouargla. Their amalgamation depicts the importance of Sahara as a priority of residential selection (Ali 5).

Moreover, labour-driven concept exhibits an important determinant of rural concentration for

both Mexican immigrants as well for Tuareg minority. Driven into the US labor market, Mexican immigrants were generally headed toward communities in which an already interpersonal connection based on employment needs existed. Identically, Tuareg minority tended to transit in wilayas where Tuareg of Sahel community have already been settled, generally their labor concentration played in rural ranches and very remote farms.

Land ownership is another factor promoting the concentration of minorities under study within rural areas. That is to say, minorities' regional accumulation reflected also the attachment of the targeted minorities to their lands that have been acquired throughout their long presence within the welcoming societies. Land and home owning constituted to be a resource that could not be transported or easily duplicated if sold (Probst 1695). Taking the instance of Sahelian Tuareg of Ghardaia region, land and house ownership functions largely with under-constructed remotes which Tuareg have bought at a knockdown price once arrived, and which have no official buying treatment. As such, displacement from their first localization to another seemed to impossible.

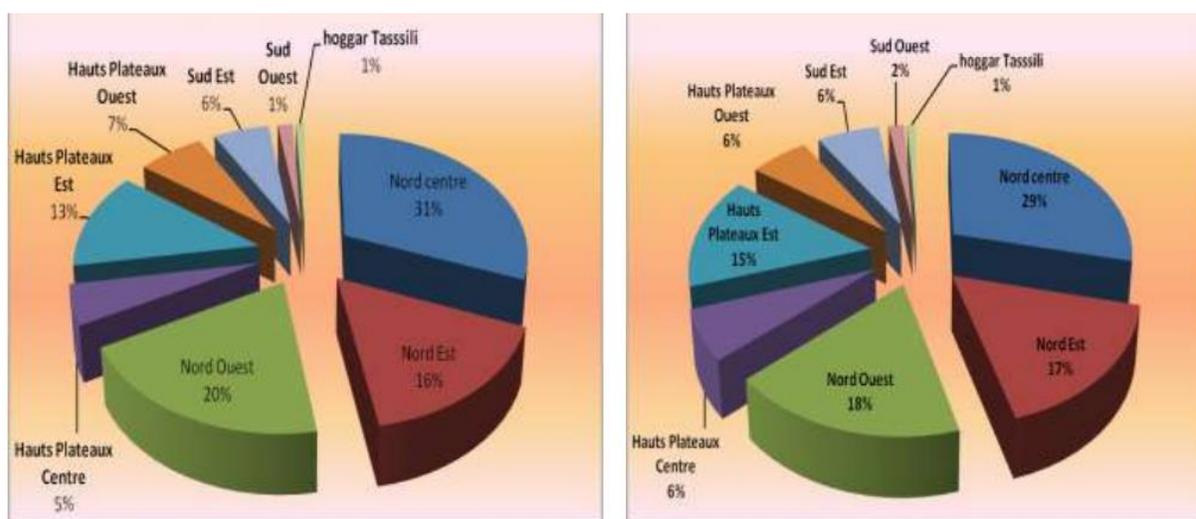
The mentioned factors are referred to in literature as the theory of cumulative causation which means that specific-migration streams have origin-to destination built in momentum (via network) that can occur quite independently from the growth of job opportunities (Lichter 4). However, the question that poses itself here is whether this residential accumulation mediated to favorable situation that serves the tackled minorities health or will put other intricacies on them.

Applying the cumulative causation theory on the tackled minorities, data from Mexican Migration Project revealing that the principal mechanism of cumulative does not function in large urban settings but if found to prevail within small cities, rural towns and villages (Fussell and Massey 151). In a similar manner, for Sahelian Tuareg minority, data in the figure below showed the distribution of urban regions in which southern regions represent only 6% to 9% of urban

locations by 1998 and 2011 years respectively. It is of great importance to mention that in context of rurality, the severity of rurality in eastern, western and northern areas are not identical to the one of southern Sahelian regions if taking into consideration, the brittleness and fragility of this part of the southern society, added to the fact of an unfavorable climatic conditions, the deplorable situations of life and extreme cases of poverty.

As such, Sahelian Tuareg rurality accumulates in large under constructed far remote mountain areas where this remoteness is more likely to be so far from the least life's facilities. Connectedly, living in rural locations has been found to be a barrier to adequate health i.e. Healthcare facilities in rural areas tended to be under staffed and difficult to access. Even more, these areas seem to be less attractive to healthcare providers who find it hard to be recruited, live and work in remote rural counties (Borgelt et al. 40). Therefore, rural location from urban centers widens the health gaps for Mexican and Tuareg ethnic groups who are mostly rural residents.

Figure 11.



Distribution of Urban Units According to Territorial Programming Spaces during 1998-2011

Source : La Direction Technique Chargée des Statistiques Régionales, l'Agriculture et de la Cartographie, ONS 2011

In this part, dichotomous rural and urban areas comparison is a necessary task to provide an empirical evidence on how rural residential accumulation forms another component of structural discrimination. Challenges range from transportation shortages to healthcare providers' shortages; these combinations are emphasized to highlight profoundly health disparities among the tackled minorities.

2.2.3.3.1. Transportation

The importance of transportation doesn't only lay to owning a means to transit from one place to another. However, it is a leading factor to social identification, self-fulfillment, social participation/isolation. Meaning that, firstly, having a means of transportation facilitates to a person for better education choice and workforce participations. Secondly, transportation is a determinant for an individual to be socially interacted or socially isolated because it encourages participation in different social events. Also, having a car is a way to reach self-relief and self-fulfillment as it encourages for out-door leisure activities such as sport, shopping, holidays. But more importantly, transportation is considered to create health disparities thorough healthcare access aspect.

Contextualize the concept of Transportation shortage into healthcare sphere, Pyrialakou defined the lack of any means of transportation: car, bus, train, subway as transportation disadvantages as he defines "the disadvantage of a specific group of individuals that results from a difficulty accessing transportation (lack of mobility), opportunities (lack of accessibility), or both" (6). Also, as a phenomenon, lack of transportation is always concentrated into a large number of groups, as such it is referred to on the basis of gender, unemployed, shift workers, immigrants and ethnic transportation disadvantaged (ibid.).

Transportation disadvantaged in the context of ethnicity spilled much of researches' inks who

reveal that transportation, in particular, is as a problematic to reach different life necessities especially healthcare access. The latter is widely defined as “the timely use of personal health services to achieve the best health outcomes” (Lucas 108). These lines discuss the multi-ill facets of rurality from the corner of transportation, on the assumption that disadvantaged ethnic minorities (Tuareg of Sahel) and (Mexican immigrant women in the US) are largely concentrated in rural areas where access to transportation exacerbates the burdensome to healthcare access.

Transportation is considered one of the constant obstacles in front of patients in rural areas. All over the world, transportation is a vital component of any place, transportation has been noticed as a healthcare barrier for many regions. In the US, although it has been classified as a developed country, millions of Americans are transportation disadvantaged that is why; the success of rural communities across America is conditioned to the implementation of well-planned, efficient transportation system (Ben Kidder 10).

In the Sahelian Tuareg case, transportation is considered as a big problem confronting individual with, far geographic proximity to healthcare centers, as it is indispensable in guaranteeing the timely delivery of healthcare services. Transportation deficiency and geographic isolation have been reported as key limitations on Sahelian people’s access to healthcare and their participation in preventive healthcare practices. Despite the efforts and resources, the government has put into improving healthcare access, transportation remains a problem encountering rural inhabitants (Zehnati 12). Disproportionately, there are many factors contribute to the lack of transportation among rural residents ranging from low incomes, unemployment, having no driving license. which are factors unifying the groups under study.

Even though the subject of transportation seems clear, it holds many measurement patterns to deal with when it is related to health. The first corner tackles the effect of transportation on rural

residents through the severity of illness. That is to say, although transportation availability has a strong effect on health, the rate of severity from one illness to others exacerbates the effect of transportation. For instance, the lack of transportation may lead a cancer patient to forgo treatment needed especially that the nature of illness exerts repeated visits for radiotherapy and chemotherapy on either an outpatient or an inpatient basis (Guidry et al. 364).

The second angle in this subject is the means of transportation itself. To clarify, transportation access refers to either owning car or having access to car through public transportation, family members or friends. Those who had driver's license had 2.29 times more healthcare visits than those who used public transportation, family members or friends who could provide them transportation. The latter marks only 1.58 times of healthcare visit, and those who depend on public transportation, they have 4 times visit per year more than those who did not have access to the same public means (Arcury 35). Having access to car through taxi or clandestine transportation is an impeding factor as the cost increases accordingly with the length of distance.

Distance and travel burden in the context of rurality has another relationship with health disparities in which it proves that long driving distance from ones' home and physicians is related to deteriorated health. For example, the association between driving distances from home to the site of primary care was linked to poorer of Glycemic control in the population of older in rural subjects (Strauss et al. 379). The context of rurality issues also the burden of safety. Rural inhabitants, especially those who live in far remotes, and those who has no transport means access concern more about security or fear of crime while traveling (Pyrialakou et al., 2016). As such, in context of rurality transportation is considered another structural barrier to adequate health in three main issues: distance from health center, severity of illness, and the means of transportation.

2.2.3.3.2. Health Care Provider Shortages

Healthcare provider insufficiency and unavailability is another structural hindering in accessing fruitful healthcare services in rural areas. This causes a serious challenge for rural residents to access an equitable health delivery as the relative shortages of physicians in rural areas are ones of constant in any description of medical care system (Rosenblatt and Hart 348). Reading about healthcare physicians' shortages in rural areas, the literature reveals three main reasons behind the shortages of doctors in far proximity. The factors stemmed generally from: Attractive human resources in urban areas, specialty and work competition in metropolitan areas, cultural and personal attachments, and gender variable preferences.

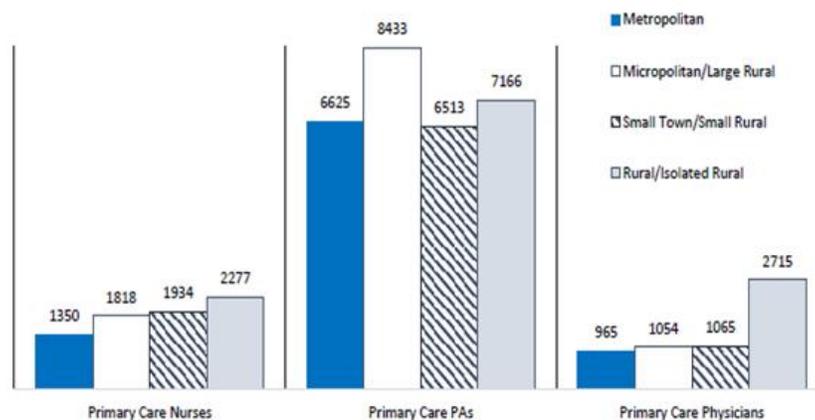
In general, healthcare physicians both primary or specialists are highly attracted by high net income and social amenities provided by the headed workplace although the percentage is even higher among health specialists. Another determinant of physicians' location-related decision is working competition. Although both Algerian and US recent policies have stepped miles away to encourage the distribution of physicians in semi-urban and urban areas through rising income and rewards (Zehnati 242), rural medical market tended to be uncompetitive. As such physicians are able to induce their demand for economic rewards, and they can continue to work, in very competitive and even saturated regions to ensure an income that cannot be reduced by competition. Also, physicians are more likely to be attracted by the same well-endowed wilayas (departments) in order to create a career network (246).

Cultural and family attachments is considered as a determinant of urban-concentration for healthcare physicians. A microeconomic survey of a sample of 68 private specialists shows that family attachment is a major factor in the location choice for 50% of doctors. The same study revealed that 28% of them cited personal reasons and 13% economic reasons (affordable rents and cost of living). Finally, 9% of respondents chose their location based on the opinions

of their colleagues. These results demonstrate the importance of family and cultural considerations for healthcare physicians in choosing location of their professional practices location (ibid).

Also, in this area the gender aspect appears to be influential in the other part of the equation; that is to say, as Rosenblatt and Hart declare “physician women in the most recent graduate cohort are much less likely than their male counterparts to locate in rural areas, and the disparity is greatest for smaller and more remote communities and may still pose a problem for the future recruitments of rural physicians” (349). What is more, the shortage of women physicians raises another limitation in front of female patient as physician male-attribution opens the door in front of many health inequalities will be dealt with in few coming pages.

This part uses two sets of data to examine this topic of rurality for both the US and the Algerian cases. Firstly, in the US context, in comparing the healthcare provider availability between the two areas, rural and urban ones, the figure below provided this part current status of rural health in Minnesota state. According to this study, the issue of the rural workforce is that physicians are not distributed uniformly across the country. As seen in Figure 7, the density of physicians whether primary care physicians, primary care PAs, or/and primary care Nurses per capita parallels the density of the population. For example, for primary care, the ratios of the supply in rural area are 2715 by population where the percentage decreases in regard to metropolitan areas by almost three times. The same with primary care assistants where ratios of this share existence are 4483 and 6625 by population in metropolitan with large rural area and metropolitan area respectively. Consequently, the current data from MRHA comes to ensure Rosenblatt and Hart claim who referred the matter of healthcare providers in urban areas to long-term process extending to the present healthcare system (348).

Figure 12.

Population to Primary Care Provider Ratios

Source: “Minnesota Department of Health Workforce Analysis Unit”. MRHA, 2017. Web. 6 Aug. 2017. <<http://mnruralhealth.org/content/assets/MRHA-pdf>>.

Secondly, concerning the shortages at the level of healthcare provider specialty, the snag is the outcome of social disadvantages that continue to be unattractive for many physicians who are reluctant to launch professional career in isolated district where rural populations tend to be older, poorer, and less insured than their urban counterparts” (Hart 7). According to Rural Health Center Researchers and National Rural Health Association Policy Brief, the income that physicians receive in rural centers is lower from that of urban ones. This difference is not considered as wage disparities but a social condition that derived from the decrease of recruitment level, higher rates of uninsured population which in turn affects the demand for physicians. Additionally, healthcare shortages interacted with the specialty choice variable. That is to say, the more highly specialized the physicians, the less likely he/she will settle in rural area (Rosenblatt and Hart

348). This proved to be the outcome of other elements appears at the medical education system i.e. the student from rural origins has the tendency to enroll in primary care and return to work in the same rural. The figure below shows the rate of healthcare specialist in urban and rural areas.

Table 3. The Rate of Health Care Specialists in Urban and Rural Areas

Occupation	Providers per 10K, Rural Areas	Providers per 10K, Urban Areas
Psychologists	3.0	6.8
Counselors	8.4	9.9
Social Workers	14.4	17.4
Dentists	3.6	5.9
Pharmacists	6.4	8.8
Physician and Surgeons	13.1	31.2
Physician Assistants	2.3	3.4
Occupational Therapists	2.0	3.0
Physical Therapists	4.4	6.5
Registered Nurses	85.3	93.5
Licensed Practical and Licensed Vocational Nurses	31.8	20.6

Source: Distribution of U.S. Health Care Providers Residing in Rural and Urban Areas, National Center for Health Workforce Analysis, 2014. Web. 17 Sept. 2016.
<<https://www.ruralhealthinfo.org/topics/health-care-workforc>>.

According to this report, differences between the available specialists in the rural areas and urban ones are largely noticeable, yet there are other differences which occur even higher. For example, the number of psychologists provided in urban areas is 6.5% of the urban workforce compared with 3.0% of the rural workforce, the percentage that accounts for the double. In remote rural areas, the number of surgeons is 13.9% compared to that of urban areas 31.5.6%, the figure that appears to exceed the double and reveals the urge of recognition at this level, and permitted the study to figure out the cause behind health disparities.

Trying to apply the above pieces of evidence (rural transportation and physicians' shortage) on Mexican minority, they appear to be adequate to Joe Blankenau and Boye- Beaman's study in their article entitled "Health Care Utilization and the Status of Latinos in Rural Meat Processing Communities". The study conducted in two Nebraska communities where two hundred twenty-one Latino in which 48% are of Mexican descents. The answers to the rural health issues are summarized in the table below, equally important the axis of gender in this area witnessed to intertwine since the worse situation is shared among them.

Table 4. Barriers to Health Care

Barriers to health care (respondents answered "yes")	(f)	(%)*
<i>Financial</i>		
Cost too much/can't afford.	140	61
I do not have insurance.	147	64
<i>Organizational</i>		
I don't know where to go for help with my problem.	125	54
I don't have transportation.	120	52
The Doctor's office/clinic too far away/poor location.	73	22
The office/clinic hours are not convenient.	92	40
I have to wait too long to be seen.	93	40

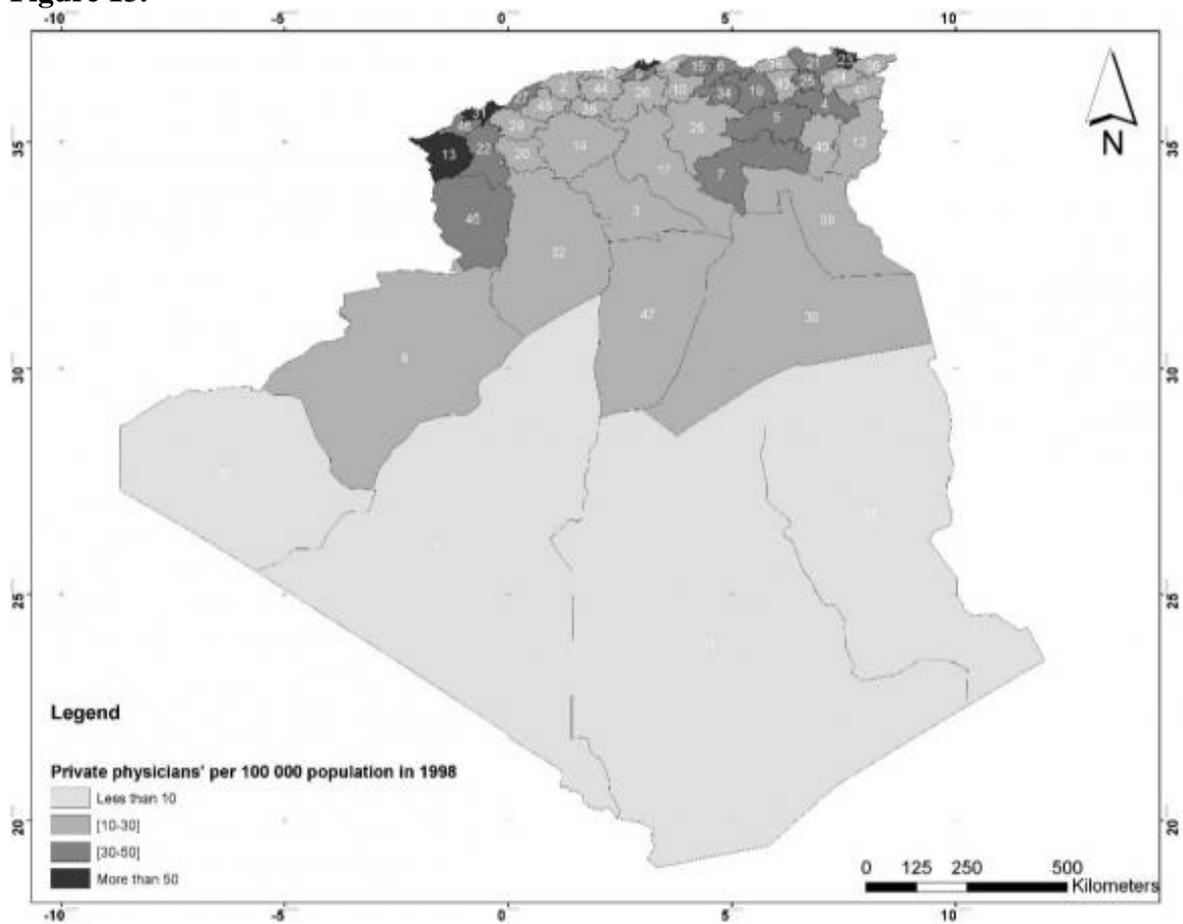
Source: "Health Care Utilization and Latinos in Rural Meat Processing Communities."

Great Plains: *Natural and Social Science*, 2010. Web. Sep. 2016.

As the table shows, there is a noticeable share of respondents (52%) who declared that transportation represented an organizational health barrier to adequate health delivery. In the same organizational obstacle, doctor's office location stood as a hinder for 22% of the interlocutors in this study. Yet, other respondents (40%) considered waiting hours as big

challenge in rural healthcare. This may be a result of healthcare providers' shortages in rural districts. What is also observable in this table that financial barrier has a lion's share; 61% of the respondents could not afford the cost of health fees at the same time 64% of the participants did not have health insurance at all. This financial intricacy may again reflect the disadvantageous economic level in rural locations.

Figure 13.

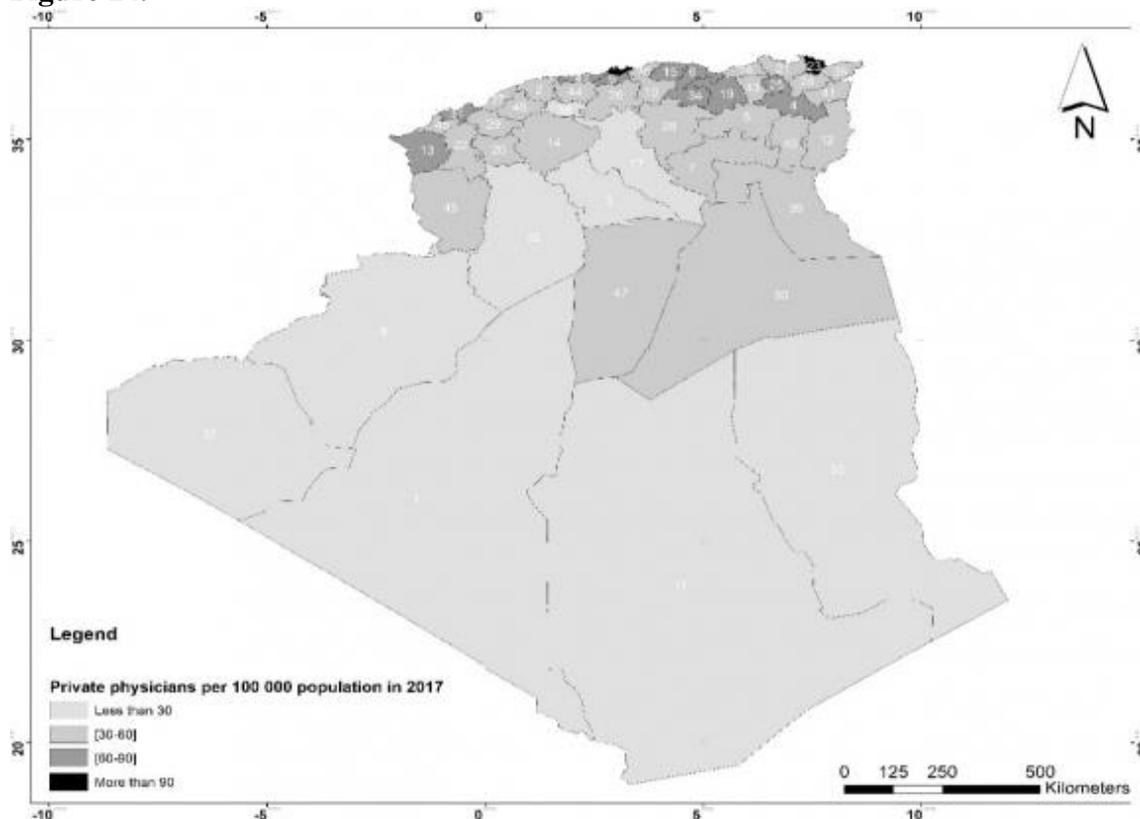


Private Physicians Density per 100,000 Population in 1998

Source : Zehnati, Ahcène et al. “Public-private differentials in health care delivery: the case of cesarean deliveries in Sahel.” *International journal of health economics and management* vol. 21,3 (2021): 367-385. <doi:10.1007/s10754-021-09300-x>.

The second set of data examines the Algerian healthcare provider shortages as well as the situation of adverse transportation within rural remotes where Tuareg represent an over majority.

Figure 14.



Private Physicians Density per 100,000 Population in 2017

Source: Zehnati, Ahcène et al. “Public-private differentials in health care delivery: the case of cesarean deliveries in Sahel.” *International journal of health economics and management* vol. 21,3 (2021): 367-385. <doi:10.1007/s10754-021-09300-x>.

The two maps highlight the distribution of healthcare private physicians along forty-eight wilayas of Algeria from the period 1998 to 2017. The same maps provide the overall number of healthcare physicians within the same periods permitting the study to illustrate the maps in parallel way with the subject of rurality where Tuareg of Sahel is concentrated.

Algeria is a developing country which like many other developing counterparts suffers from health resource shortages and an inadequate basic health infrastructure for many of its thirty-two million inhabitants. It has a shortage of doctors in about (1 per 1,000 people) and hospital beds (2.1 per 1,000 people) (Library of Congress, Federal Research Division 2006) because, the geographical span made it even worse to manage (Zehnati 369). However, it is not deniable that there are uplifting reforms that Algerian health arena has witnessed since 2004 in which their positive results can be shown through the second map. Data indicates that the number of healthcare physicians has increased constantly during the period 1998-2017 as the coverage ratio of the population is steadily improving. It went from 0,85 doctors per 1000 inhabitants in 1998 to 1,59 doctors in 2017. The improvement in coverage ratios is due to the combined effects of the creation of new jobs in the public sector within the health system development program and the dynamics of private doctors' location (Zehnati 325).

Disproportionately, the statistics presented above conceal disparities between the wilayas in terms of doctor's attribution where the density of private doctors per 100,000 inhabitants per regions is displayed. From the maps above, two phases can be illustrated. The first phase refers to 1998 period when the national average density was 33 physicians per 100,000 people, the median was 28 and the standard deviation 12.83. Three southern wilayas: Illizi, Tamanrasset, and Adrar have the least distribution of doctors less than 10 doctor per 100.000 inhabitants whereas the highest density was recorded by the capital Algiers with 59 doctors per 100,000 inhabitants. 33 wilayas had a density lower than the national average, 2 wilayas coincided with the national average, and 13 wilayas had a density higher than the national average.

According to the illustrated data, Algeria is divided into four groups. The first group is represented by the four wilayas of the great south. The private physicians' density is less than 10

doctors per 100,000 inhabitants (medical deserts). The second group concentrates twenty-seven wilayas belonging to different regions of the country with a density between 10 and 30 doctors per 100,000 inhabitants. The third group comprises thirteen wilayas. Six of them are headquarters of university hospitals. The recorded medical density is between 30 and 50 doctors per 100,000 inhabitants. The fourth group is represented by four wilayas located in the north of the country where the density is higher than 50. The increase in the number of trained doctors has improved the general level of densities. However, the geographical imbalances observed in 1998 continued. It is still the same wilayas that continue to attract new doctors.

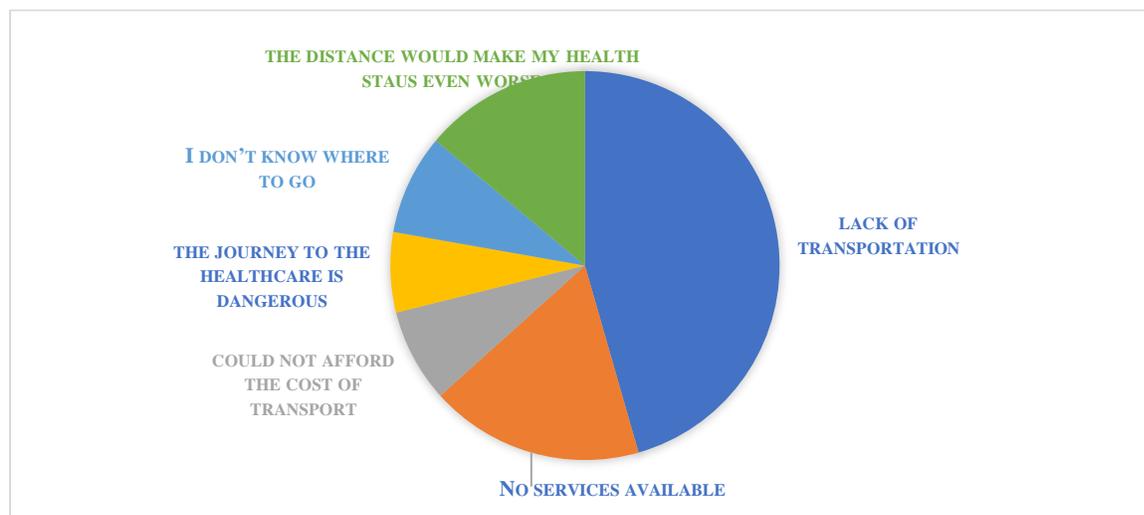
The second phase refers to 2017 period when the national average densities are 56 doctors per 100,000 inhabitants, the median is 41 and the standard deviation is 24.98. The highest density was recorded by the capital Algiers with 132 doctors per 100,000 inhabitants. The lowest density was recorded by the wilaya of the far south (Illizi) with five doctors. 35 wilayas have a density lower than the national average, and 13 wilayas have a density higher than the national average. The fourth density group in 2017 is not very different from that of 1998. The first group has expanded to 9 wilayas with densities of less than 30 doctors per 100,000 inhabitants. The second group concentrated 28 wilayas with a density of between 30 and 60 doctors per 100,000 inhabitants. The third group represented 10 wilayas located mostly in the north of the country. The fourth group is made up of two wilayas: the capital Algiers and Annaba, located in the far east of the country.

To illustrate, in Algeria, both primary healthcare physicians and private physicians are more likely to choose large metropolitan settings than rural regions, generally those affluent regions settle much more in the northern region wilayas like: Algiers, Annaba, and Oran than in the rest of southern regions such as: Tamanrasset, Illizi, and Adrar. This misdistribution is considered as

one of the facets of structural disparity enlarging health inequality among Tuareg minority who form over majority in the previously mentioned southern wilayas.

Like it has been done with the US context, in order to free this part from over-generality, the study requires to put the ethnic under study into a unified study in which both aspects of rurality will be examined: healthcare shortages and transportation disadvantages. According to Bouledroua, the misdistributions of both primary healthcare provider and specialists affect Tuareg migrants in terms of adequate healthcare within southern regions of Algeria. Yet, this structural barrier is the leading force to another structural hinder which is transportation. Although in the Sahelian health system, the patient has complete freedom to access a healthcare provider, whether public or private elsewhere in different wilayas: Ghardaia, Oueregla and Laghouate usually Sahelian Tuareg headed to. Access to the public sector is free conversely, the private sector is for-profit and access to it is chargeable. However, transportation represents strong barrier to healthcare access when one's look at the cost Tuareg has to pay, the distance has to take, and the danger has to encounter to access health in different wilayas.

Figure 15.



Perceived Barriers for Accessing Health Services among Sahelian Tuareg with Disability

in Four Algerian Southern Wilayas

Source : Bouledroua, Abdelkrim. A. L'accès Aux Soins En Algérie Eléments Pour Une Problématique Sociologique Du Fait Sanitaire. *Revue Des Sciences Humaines* 21.1, 07-16. 2010-06-30. Web.

As the figure illustrates, a lion shares of this study (46%) goes to participants who perceived lack of transportation as obstacle in front of health care access whereas (18%) of respondents proclaim that in the headed hospitals there is no services available. (8%) of participants indicates that they could not afford the cost of transport, (7%) of interlocutors assumed that the journey of the healthcare is dangerous, a percentage of (8%) goes to participants who said that they don't know where to go to seek for better healthcare, the share of the answer "distance would make health status even worse" represents (14%). From this study and others, this part of research deduced that living in rural locations exacerbated the gap in health disparities among rural inhabitants who their home wilayas provided less for healthcare infrastructure, and who by fair means would seek for appropriate health access in the nearby wilayas. However, lack of knowledge, orientation and sometimes the cost may impede them for adequate access elsewhere.

To restate what has been detailed in so far, adequate health for rural residents is restrained by many structural conditions among them transportation and healthcare providers' shortage. Even though the two mentioned points are considered important in accentuating health barriers between urban and rural localities in which Mexican immigrant women of the US and Tuareg women of Sahel present an overwhelming majority, there are additional structural variables that deemed attributed to such disparities including sophisticated medical machinery and sport centers all of which can help understand these structural barriers toward adequate health among rural resident.

2.2.4. The Indirect Effect of SES on Health: The Health Care Access Variable

Indirectly, income, education, occupation and place of residency have been melted into one concept that of healthcare insurance coverage. In doing so, the study measures the coverage criteria among both Mexican immigrant women and Tuareg women of Sahel in respect to differences that exist between both healthcare insurance systems.

SES has a strong independent correlation with individual's health status as they help access to healthy life and/or increase the frequency in the access to health care. Also, satisfactory income increases the likelihood of participation in good health habits like sports as long as nutritious food (Niels 62). In addition, SES correlated, indirectly, to affect health as they determine access to insurance coverage. Though the pillar of health care insurance builds upon the broadest notion of social security, paradoxical laws, under the insurance institutions, work to create unequal health care access among the least disadvantaged groups within both the US and Algerian insurance systems.

2.2.4.1. The US Healthcare Insurance

The history of insurance system in the US dated back to 1752 when the Philadelphia Contribution-ship, co-founded by Ben Franklin in 1752. It was firstly settled to cover risk under fire as most of Philadelphia's houses were built of wood. Later on, Franklin was also instrumental in getting the first life insurance company in the U.S., in order to enlarge automobile insurance and other types of coverages. The second noticeable foundation of insurance in the US was determined in 1935, when the social security act had been put into practice by which more governmental regulations were imbedded to govern fraud and dubious practices. Consequently, the power of the major insurers swelled. However, in 1944, the US insurance's main concern was which governmental sector would hold power over insurance industry. Hence, insurance regulations swung between federal and state powers. For, the

Supreme Court's stand, the power of insurance regulation had to be ruled at the federal level, instead, Congress passed the McCarran-Ferguson Act in 1945, returning oversight to the state level. Regulatory control remains mainly at the state level to this day (Beattie).

Regardless of the wide evolution made by the US government concerning healthcare insurance plans, the issues of accessibility and affordability have surrounded health insurance since its inception. The reason behind this issue is due to U.S. capitalist rational. To explain, persistent wealth disparities are the outcome of long mixed economic policies that swing among policies which were implemented in order to reduce poverty among ethnic groups and other policies that were simultaneously implemented, yet they were proved to act in contradictory manner i.e. they helped in prevailing poverty among the already disadvantaged groups meanwhile offered more advantages to affluent families.

Taking two examples of such cases, the first exemplar that can clarify a case of mixed legislations is the Progressive Tax of 1913³ along with its rectified versions. "A progressive tax involves a tax rate that increases (or progresses) as taxable income increases. It imposes a lower tax rate on low-income earners and a higher tax rate on those with higher income" (Kagan). However, the latter was enacted simultaneously with many government economic reforms that would persist poverty among the already disadvantaged groups. For example, the expansion in the percentage of white-collar labor force, which stands in contrast to blue-collar workers, who traditionally wore blue shirts and worked in plants, mills, and factories. Also, local financing education budgets are policies enacted at the same time all of which created highly affluent districts where already rich families live (ibid). Thus, the spit between poor district education and rich district education is still persisting within the US social scheme.

Another contemporary instance that is suitable for this argument was the introduction of the

Earned Income Tax Credit⁴ which raised the income of poor families, yet simultaneous welfare reform cut the stipend (fixed regular income) level of poor recipients and increased rewards of highly skilled and educated workers that have pushed the Earned Income Tax Credit to countertendencies (Adler 61-3). These redistributive policies, and others, though enacted to raise the income of working families, they preserved the same rate of resources distribution, the contours of wealth disparities and consequently unequal to insurance accessibility.

The criteria of the US health insurance coverage reflect the economic trends in this society; that is to say, unlike other industrialized nations, the US doesn't have a national health policy. Stakeholders such as American Medical Association, employer's companies have successfully mobilized to defeat national health insurance (*Race, Ethnicity and Health of Americans*⁷). This lack of a universal health insurance program caused unevenly distribution among different groups. Therefore, this reliance on employment-based health insurance in the healthcare system instead of the national health system depicts a duplicated disadvantaged picture; the same individuals who participate in lower labor market positions, are at the higher rates of disadvantages in terms of health insurance coverage. This equation can be extensively doubled in regards to American minority groups among them Mexican immigrant group who represent a unique deteriorated position in every single data-based figure.

Health insurance is a means of financing a person's healthcare expenses. the coverage according to the Current Population Survey Annual Social and Economic Supplement (CPS and ASEC) refers to health insurance that covers basic health needs. This definition excludes single services plans such as accident, disability, dental, vision or prescription medicine plans. Moreover, putting insurance within categorizations, they are classified into private insurance⁵ and governmental or Medicare insurance. Private insurance is defined as a plan provided through

an employer or a union and coverage purchased directly from an insured company or through an exchange.

However, government health insurance includes federal programs such as Medicare,⁶Medicaid,⁷ the Children's Health Insurance Program and Medicaid Program of the Department of Veterans and the Military (Barnett and Marina 1). As a whole, these types are interpreted practically in statistics as follows: approximately 71% of the insured population has private coverage, and of those 63% are employed sponsored plans. For those without private coverage, the federal government program is the last resort. In this portion, 13% of the insured Americans are covered by Medicare and additional 11% receive Medicaid. The military and other resources cover a relatively small fraction of the population (R. Angel J. Angel and Laura 623).

2.2.4.2. Algerian Social Insurance

The history of insurance in the Algerian spectrum has not traced its root as old as the US, but since 1830 to 1962, there were insurance laws applied when Algeria was an integral part of France. However, the first Algerian legislation in the field of social insurance initiated from 1962 to 1970, the period after Algeria gained independence; some regulatory decrees were issued under law No. 62/157dated 12/31/1962. At first stage, the new law has been widely criticized since it was considered as extending the validity of the French legislation, and it only included a provision for the continuation of work in accordance with the laws and decisions passed in war time contrary to national sovereignty. However, the law was rectified on December 31, 1964 relating to the establishment of the National Fund of Social Security Act, which put effective regulations to manage work coverage and work accident for all activities.

As far as the structure of insurance institutions, in Algeria, the social security system is made up of two insurance schemes, a scheme for self-employed workers, managed by the national

social insurance fund for self-employed workers (CASNOS) and a scheme for salaried workers, made up of three insurance funds: (the national social insurance fund for salaried workers (CNAS), responsible for managing the branches of social insurance and work-related accidents and occupational diseases. - The national pension fund (CNR), which manages the pension branches and early retirement - The National Unemployment Insurance Fund (CNAC).

As for funding, the system is contributory based with a fee that involves workers and employers, whose contributions represent 96% of the resources of the system. The contribution of non-active categories is borne by the state, which thus “theoretically” preserves the contributory nature of the system. From a doctrinal point of view, the social security contribution is a socialized wage intended solely to cover the expenses of social benefits. In fact, the state collects the contribution and pays it in the form of a socialized benefit.

2.2.4.3. Ethnic vs. Gender Affiliation in Insurance Coverage Access

The two systems: the Algerian and the US ones are largely different reflecting the economic rational of each country. This part illustrates the intricacies of both capitalist stand of the US, and the social principle of the Algerian health insurances.

2.2.4.3.1. The Mexican Immigrants Case

At the ethnic axis, the study “The Health Care Safety Net for Mexican Americans” represents a significant research data as it firstly tries to cover the whole Mexican-origin odds in terms of healthcare coverage by understanding challenges in three different age groups: children, adolescents under eighteen, working-age adults and elderly persons from 65 and over in the table below. Data reveals that 75% of non-Hispanic white children are covered by a parent’s employer sponsored plan; only about half of non-Hispanic black and Cuban Americans are covered by private insurance. Forty-five percent of Puerto Ricans and only 39% of Mexican Americans

children are covered by their parent's plan.

In the absence of employer-based coverage, Medicaid represents the most obvious alternative, and thus, the four minority groups display high rates of use of this program. Despite the relatively high rates of Medicaid coverage, the result shows that substantial percentage of minority children do not participate (4). It also depicts the severity of the problem children and adolescents over 26% of whom have no insurance of any sort.

Table 5. Selected Type of Health Insurance Coverage by Race and Hispanic Ethnicity

Under 18 Years					
Type of Coverage	Non-Hispanic White	Non-Hispanic Black	Mexican American	Cuban American	Puerto Rican
Employer	75%	51%	39%	52%	45%
Medicaid	15%	38%	35%	27%	42%
None	7%	14%	26%	18%	11%
Total (in thousands)	44,378	11,227	9,314	270	987
Aged 18 – 64 Years					
Employer	65%	58%	43%	57%	49%
Medicare	---	---	2%	4%	5%
Medicaid	5%	14%	8%	8%	22%
None	13%	24%	45%	25%	23%
Total (in thousands)	100,450	20,640	11,700	700	2,000
65 Years and Over					
Employer	36%	29%	17%	15%	17%
Medicare	97%	93%	91%	92%	97%
Medicaid	7%	20%	22%	31%	37%
None	.03%	2%	5%	3%	.04%
Total (in thousands)	27,973	2,801	992	311	213

Source: The US Census Bureau, *Annual Demographic Supplement*, 2010,

Web. Oct.2014<<http://www.academia.edu/20538770/>>.

The second panel of the table considers the percentages of coverage among adults aged between 18 to 48. Non-Hispanic white adults report an overwhelming majority affiliation in employee-based insurance coverage (65%). Yet, this percentage decreases in regard to Puerto Ricans and Mexicans with 49% and 43% respectively. In addition, the Mexican-origin's percentage in this category represents the least point of all other ethnic groups' numbers displayed in the table such as Cuban Americans and non-Hispanic Blacks.

Although public funded healthcare insurance is basically issued to make up coverage missed in private insurance, rather certain conditions stand against qualifications among them premiums that should be added for uncovered costs. Consequently, large proportions of these groups report receiving less-affiliation in both Medicaid and Medicare programs. The worst of all, neither public funded healthcare programs nor employer-sponsored insurance can offer adequate coverage for Mexican-origin adults in health service, the situation interpreted numerically as follows: forty-five percent of Mexicans report receiving no coverage, the figure that also represents the highest among Cuban Americans with 25%, non-Hispanic Blacks with 24% and Puerto Ricans with 23%.

Data for adult aged 65- and over is displayed in the third panel. Although substantial fraction of Mexican Americans reports affiliation in this category; 90% in Medicare and 22% in Medicaid, rather in this category the rate of coverage is normally full in comparison to the first and the second panels. Therefore, the last column reveals that difference remains even in this category where 5% Mexican-origin adults over 65 report having no coverage in this category in comparison to non-Hispanic blacks with 2%, and non-Hispanic whites with .03. This difference can be referred to other considerations. Additional premium for certain medical cares which these adult members can't offer mainly because they already retired from low-income jobs which place

such coverage out of reach. Also, as public funded programs permitted coverage for certain illness and disabilities, Mexican-origin members may fall, at the elevated, risk into disabilities which are not provided in these programs the fact that impedes this group to qualify.

2.2.4.3.2. The Sahelian Tuareg Case

In Algeria, several reforms have been undertaken to develop the national health security system, the aim of which is to improve the quality of services, modernize and preserve the financial balances of social security institutions. Thus, the CHIFA system is part of the modernization of social insurance management procedures based on the use of technology such as the CHIFA smart card. The card concerns all employees affiliated to the CNAS and self-employed CASNOS, (retirees, students, apprentices) as well as special categories, namely needy and disabled people (cnas.dz/, 2021). It is a system that exempts the insured from paying pharmaceutical costs and allows the chronically ill to buy their medicines free of charge.

At the ethnic level, the percentage of insurance coverage among the whole Tuareg of Sahel ethnicity in terms of CHIFA is deteriorated. As their labor participation falls generally into unofficial types of work (previously explained), Tuareg of Sahel affiliation in employer-based coverage, (CNAS/CASNOS) represents only 23% of national applicants for CHIFA card. However, the present group displays slightly high percentage rates of use of the special categories (31%) generally as student applicants (cnas.dz/, 2021).

Data can be explained as follows: the low participation of Tuareg of Sahel within official kinds of works put them at high level of having no CHIFA card. This shortage is not compensated by self-employment plan sponsored by CASNOS neither is it balanced by CHIFA card for individuals of special category plan. Even though the aforementioned category represents the highest affiliation of Tuareg, the problem of ceiling remains obstacle in front of minority under

study. To explain, the Algerian healthcare insurance offered the case of active insured persons or persons belonging to one of the special categories that offer pharmaceutical sponsoring for any prescription whose amount equal to or less than 3000 dinars for or the same beneficiary during a period of three months. When the amount of the prescription is greater than 3000 dinars or when it is the third prescription, for the same beneficiary, the insured person will have to pay the additional premium.

Secondly, the CHIFA system does not offer programs to the least disadvantaged groups as there is no funding plan to cover healthcare physician consultation which represents the big handicap in front of individual in extreme poverty as Tuareg illegal migrants. In addition, structural barrier stands in front of Tuareg insurance plan information as remoteness plays as an actor hindering benefiting from complete information. Tuareg who acquired CHIFA card has also faced the problem of updating healthcare cards in the absence of automatic activation; they have to travel a long distance to do so. To this end, the necessary measures must be taken to ensure that far rural practitioners are properly informed about their insurance status.

Part of Sahelian Tuareg minority has not acquired the necessary identification documents to issue CHIFA card. In turns, the Algerian health insurance system has not met the problem of identification. Establishing a network between doctors and the CNAS, is the only way to inform Tuareg about CHIFA card allowing them to regulate their legal status, and to integrate large number of them into CHIFA card coverage.

Focusing on health insurance intricacies, the above part considered mainly two sides of insurance coverage. The individualistic perception stands for human capital rational (education level and other personal characteristics) and the structural perspective which considers the individual's position in the labor market as a strong predictor to ensure coverage. Nevertheless,

both perspectives neglect the gender role in insurance coverage within these categories.

2.2.4.5. The Gender Burden

At the gender axis, marriage and employment are the main sources for women to positive healthcare insurance coverage. Yet, both strategies proved to affect coverage in different ways. For example, in manipulating both roles, unmarried women generally look for full-time jobs as a necessity to offer coverage whereas for married women working in full-time jobs is optional since they depend on their spousal coverage. The action of binding work-choice with family status to preserve coverage is interpreted in literature by two hypotheses: the role substitutional hypothesis and the role accumulation hypothesis. The first proposes that employment and marriage offer the same benefits in terms of health insurance as such they substitute each other (Waldron, Christopher & Mary 225). However, the second hypothesis indicates that marriage role and employment offer the same insurance coverage consequently their combination enlarges coverage in additive manner (Thoits 264). This part tries to separate the two roles: material status and employment in order to highlight a detailed description of main intricacies that women under study face in the process of making choice.

The first variable of material status that can have strong effects on health insurance coverage is marriage. Being married is associated with being healthier for both men and women since material status influences on health include household composition, better economic well-being, spousal arrangement of healthy eating and physical activity, and emotional and social fulfillment (Meyer & Eliza 312). Additionally, for women insurance coverage has strong relationship with being married. Nevertheless, although both Mexican immigrant and Tuareg women of Sahel are more likely to be married, than other minorities, men's human capital and market characteristics do not appear to affect the probability of coverage from marriage which may partly explain the

smaller economic gain to marriage for both of them (as Montez, L. Angel, J. Angel & Laura 272, Lassassi 9).

But it is crucial, in this part, to give Tuareg women of Sahel kind of particularity. In other words, material status for Algerian women in general and for Tuareg females in particular is a strong factor for being unemployed. Although the Algerian government stepped miles forward in regards to the subject of women's work through multi-constitutional articles. For example, in Algeria, the issue of equal rights and non-discrimination between citizens, men and women, was already constitutionalized in Article 32 of the 1996 constitutional amendment. Also, the State encourages the promotion of women to responsibilities in public institutions and administrations as well as at the level of companies. On the issue of sexual harassment, the Labor Code in is considered a serious fault, likely to lead to dismissal without notice or compensation (art. 96 of the draft Labor Code).

However, according to Lassassi within his study of housewives, "*Algerian married women*", the change in marital status, from single to married, leads to a change in status from working to housewife. It should be noted that this proportion increased relatively between 2001 and 2013 (more than 5 points). We can therefore hypothesize that marriage is increasingly a brake on women's participation in working since the choice between getting married and working and remaining single is quickly made in favor of the former. Thus, marriage for both groups seems to offer fewer guarantees for highly insurance coverage.

Being a married woman generates the likelihood of insurance coverage; it is so, only if she preserves this relationship. Thus, divorce or material disruption is another gender complicated aspect in this area. Far from being a stressful event especially during the immediate period, divorce for women is another substantial factor account for health coverage decline (Keene and

Prokos 505). Yet, the situation aggravates when the lines tackle the least disadvantaged women in a given society who tend to marry at earlier age, and who are at higher risk to be non-insured at all.

Also, the gender aspect plays a crucial part in the frequency of health insurance usage since several attributes contribute to women's greater use of health care resources than men. As Borgelt and colleagues proclaim "Women have babies, are more likely to seek medical care, reproduction and menopause care, women have a larger burden of chronic diseases leading to a greater use of hormones, analgesics, and Psycho-therapy medication" (6). This overuse of medication in terms of gender needs added another burden in this sector.

From the corner of employment, in the US context, although women's work opens tremendously an access to independent insurance coverage, there are certain conditions in the US labor market that put this coverage in fluctuated position. Ethnic and structural considerations in employment sectors cluster unequal employment resources among their health insurance. As explained earlier, this structural dimension in distributing jobs impeded Mexican women from reaching full-employment resources as they were already categorized among low-income sectors. Also, though not all of these women are of lower educational level, the problem of transferability tends to put less value on education obtained abroad, and ultimately decreases the chances for these women to acquire full-time and permanent employment which in turns enhances stability in health insurance.

In the Algerian context, again, the constitutional emancipation in favor of women work in general put working accessibility guaranteed for most of the Algerian women. But, the structure of the Sahelian women's work is characterized by major challenges induced by a decade of structural shortages, and by sociocultural factors that have profoundly affected the integration of

women's work and have had impacts on all categories of this group and, more particularly, on vulnerable Sahelian Tuareg women.

The previous lines have shown the main labor participation of Sahelian Tuareg women which fell into non-managerial kinds of work. This does not mean that all Tuareg women of Sahel (100%) are of non- educational attainment. Nor does it mean that, having a higher diploma represents a guarantee for having a stable job. This result may be due to the fact that educated women find it increasingly difficult to enter the labor market. For further explanations, educated women prefer to work in the public sector for several considerations (stability of employment, job security, cultural reasons...) and therefore they temporarily withdraw from the labor market while waiting to find an employment in the public sector. Over time, if they do not find a job in the public sector, they may decide to withdraw from the labor market permanently (Lassassi8).

Motherhood is another trajectory for working women, and it is certain to affect women's employment status. In the US, motherhood associated with lower wage and fewer benefits since childbearing issues remain the big challenge for employed women who are more likely than employed men to reduce work hours or temporarily exit the labor force in response to motherhood requirements. This consequently acts as primary responsible for wage deduction (Montez et al. 1). The dichotomy of full-time and part-time employment promotes health insurance disparities for women. To explain, benefits that accompanied with women employment include: paid-sick days, maternity, or family leave off women are generally received only in large firms and professional and management-related occupations contrary to part-time or low-paying jobs.

According to the US Department of Labor, 22% million working women do not receive sick-day benefits as paid-sick days among them are women who work in retail trade accommodation and food services industries. Data also reveals that even among professional jobs and private

sectors only 8% received paid-family leave to care for newborn (Borgelt et al. 43). This situation parallels with the absence of any federal law that would grant women rights for paid maternity leave to care for newborn or other family members and this may be more influential for poor women who face the dilemma of losing job or caring for newborn at home.

In the Algerian context, the importance of socio-cultural factors in the withdrawal of Sahelian mothers from outdoor work to extra-domestic childcare activities is a commonplace as Sahelian mothers are more subject to social exert. So, in addition to physical ill-effects, such as pregnancy and maternity, socio-cultural leitmotif through family strict (husband, mothers, brothers, family in-laws) and/or by close communities' advice (extended family, village, city), contribute to understand why mothers often give up their jobs or do not seek for job during motherhood period, especially after the birth of their first child. It is worthy to say that religious precept, widely spread through scholarly and neophyte discourse, entrusting the man with the responsibility of providing for the needs of his family and his wife, encourages mothers to quit a professional activity, and devoting themselves to their home and their children.

Statistically speaking, the above analysis is interpreted numerically. In the US statistic provided by Montez, L. Angel and J. Angel Laura study which proved that Mexican-origin women (47.1%) are less likely than non-Hispanic white (80.8%) and African-American (62.5%) women to have private insurance, and this gap is not compensated by marriage nor by public insurance. Meaning that, Mexican husbands are as their wives' counterparts are notorious to work in low jobs which do not offer health insurance. Neither the gap is filled by public insurance since the same works offer medium wage in order to pay out-pocket or the premium in case of Medicare (147).

In the Algerian context, Tuareg women (12.3%) are less likely to acquired CHIFA card from

employment-based source (CNAS), nor they do from family sponsored insurance coverage offered by spousal funded plan (cnas.dz/, 2021). Consequentially, this part concluded that, in managing both material and employment insurances, both Mexican immigrant women and Tuareg women of Sahel are in the most disadvantaged position since both roles cannot book healthcare insurance coverages.

2.2.4.6. The Confrontation of Insurance Coverage with Ethnic Residential

Insurance coverage has proved to be a multi-facets variable in describing the negative effects of the healthcare system toward vulnerable minorities. In this part, health insurance is studied in a way it proves its indirect effects regarding the aspect of residency. To clarify, if the indirect effect of SES on healthcare disparities is tackled throughout the healthcare insurance coverage, this part tries to prove the indirect effect of residency on health disparities by means of insurance aspect.

2.2.4.6.1. Mexican Immigrant Women Adversities

Since Medicaid is a state-managed program, each state changes and improves its own expanding regarding Medicaid coverage and eligibility. This change viewed to be flexible according to state's regulation, policies, and laws that should be adequate to meet state's health insurance marketplace. Current Population Survey (CPS 2015) stated that Medicaid accountable care organization models vary by states reflecting the characteristics of the state healthcare market and stakeholders influence, causing the model' governance structure to differ substantially.

The eligibility criteria depend on how a family or an individual's income is near to a very strict income requirement. The latter is generally compared to federal poverty limit/line or what is so known as federal poverty level. However, this criterion is also changeable as each state has

the choice of whether to expand its Medicaid eligibility or not. Rosenbaum added that even with the extensive initiative to streamline the eligibility criteria, the income fluctuation stands as hindrance as it can cause coverage shift overtime specifically in states where Medicaid eligibility is inflexible (6). The differential of eligibility of Medicaid over states creates another door in counting for health insurance.

Looking at the differences in health insurance by state level creates another chasm between different ethnic groups who are already stretched differently within the US map. This situation necessitates looking at this corner of disparities to grasp every single correlate issue under state administrative differences. Therefore, this part initiates a comparative study among three cities Medicaid program focusing on how Mexican residential concentration has an indirect effect on health care coverage among this ethnic group. This estimation tackled by Ronald J. Angle's study that already focused on welfare reform (Medicaid) among three cities: Boston, Chicago and San Antonio. For the first place, the study compares in a table the gaps among the three cities' coverage associated to the federal poverty level criteria as it is shown in the table below.

Table 6. Selected Type of Health Insurance for Mexican Children

Family income relative to federal poverty	All 3 cities	Boston	Chicago	San Antonio	March 2000 CPS
< 100%	77%	82%	82%	64%	60%
100-124%	58%	86%	59%	30%	42%
125-149%	53%	63%	61%	35%	33%
150-199%	34%	64%	35%	5%	23%

Source: Three City Study

Source: The US Census Bureau. "The Health Care Safety Net for Mexican Americans"

Annual Demographic Supplement, 2009. Web. Oct. 2016. <<http://www.academia.edu>>.

The figure shows the huge gulf between the three presented cities in Medicaid coverage taking into accounts the federal poverty variable in regard to family income, <100% is the eligibility

threshold. Within this box, Boston and Chicago meet with the same coverage percentage that of 80%. Yet in San Antonio the coverage decreases to reach only 64% of family coverage. The table also depicts that Medicaid coverage decreases 64% to 35% in parallel with family income increase of 150-199%. However, for San Antonio within the same case it displays the weakest Medicaid enrollment by only 5%.

In the light of these differences in coverage eligibility among the above three cities, the study cannot be completed unless it proves concentration of Mexican ethnic groups within San Antonio city which appears to cover the least percentages in all the four family income cases by 64%, 30%, 35% and 5% respectively.

Pew Research Center tabulations of 2014 concluded that the concentration of Mexican immigrants in San Antonio city is of great percentage of 90% of the share of Hispanic population and 50% of the total share of metropolitan population. The fact that helps to prove that living in one state may be another obstacle which decreases the odd of being insured and increases health disparities apart from other variables. Also, it is crucial to note that San Antonio is just one example of such differences; the association may also appear in other cities.

Table 7. Largest Hispanic Origin Group among Top 10 Hispanic Metropolitan Areas

2011

Metro area	Largest Hispanic origin group	Share of Hispanic pop.	Share of total metro pop.
Los Angeles	Mexican	78	35
New York	Puerto Rican	28	7
Houston	Mexican	78	28
Riverside	Mexican	88	42
Chicago	Mexican	79	17
Dallas	Mexican	85	24
Miami	Cuban	54	35
Phoenix	Mexican	91	27
San Francisco	Mexican	70	16
San Antonio	Mexican	90	50

Notes: The metropolitan areas shown are the 10 largest by Hispanic population. Among all U.S. Hispanics, 65% are of Mexican origin, 9% are Puerto Rican and 4% are Cuban.

Source: Pew Research Center Tabulations, 2014 American Community Survey. Web. 11

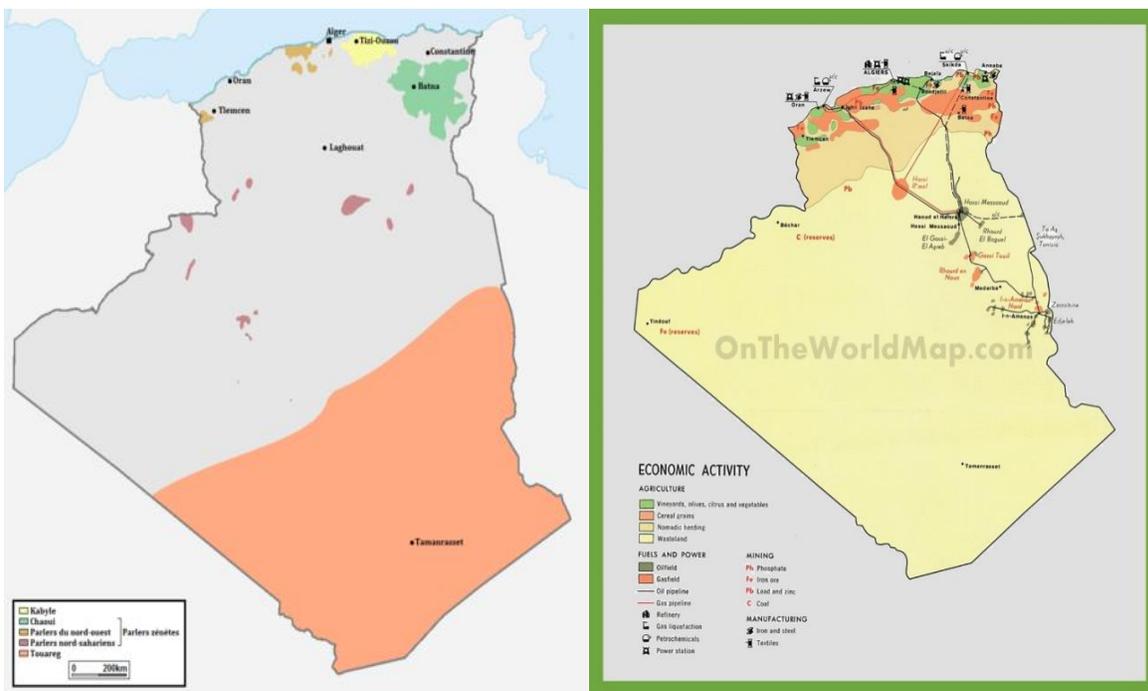
Oct. 2016. <<http://www.pewresearch.org/methodology/demographic-research>>.

2.2.4.6.2. The Sahelian Tuareg Women Adversities

In Algeria, the aspect of residency plays as a negative mediator to bad health insurance participation. To clarify, the concentration of Tuareg minority in less affluent areas with no work chances in comparison to other Algerian regions, drops the likelihood of individuals to affiliate in any employment insurance coverage programs. The map below shows the distribution of Tuareg minority throughout the Algerian map where it is clear that the majority of Tuareg stretched along five major regions namely: Tamanrasset, Djanet, Illizi, Bordj Badji Mokhtar, parts of Adrar and In Guezzam. All of which are situated in the southern region of Algeria.

To illustrate the phenomenon, the distribution of wealth is the way in which the wealth of a given nation is shared equally among its population, or the way in which economy finds programs to distribute the national asset among different regions in at least averaged manner. Algerian economy is based upon the following sectors: Agriculture, fishing, finance and minerals all of which are stretched on the northern line of state.

Figure 16.



Algerian Economic Map per Regions

Source: Ghanem, Dalia. "Introduction." *Sahel's Borderlands: A Country unto Themselves*, Carnegie Endowment for International Peace.

As the economic map displays, agricultural activities are concentrated along the coastal line of the north regions. Although the Sahara land spanned much of the Alerian map, it participated only with (3%) of the country's land as most of its lands are arable. Major crops produced include barley potatoes, wheat and dates are also produced specifically for exporting. The fishing industry in Algeria thrives along the Mediterranean Sea. As for finance, all Public performing loans banks in Algeria concentrated in the capital city as well as nearby wilayas. For Minerals sector, Algeria is so rich in natural resources. Though the southern region of Algeria has rich deposits of iron, copper, zinc, lead, mercury, oil and natural gas, the Algeria government preferred to keep them into future generations reserve funds.

Following the line thought, the concentration of large national economic sectors along the northern line coast of the Algeria map contribute to the decline in working standards among

southern Algerian inhabitants. Although the Algerian economic sector underwent some reforms to enrich the southern economic decline, in southern regions of Algeria, spatial disparity and economic inequality exacerbated the situation. Thus, in 2021 underemployment raised to 12.70%, a 0.15% from 2020, together with the fact that much income inequality stands at 27.7 percent, according to the latest available Gini index of world bank official estimates (Ghanem 3).

Thus, many of the Algerian wilayas situated in the extreme south of the country, on the borderline with Mali and Niger suffer from profound socioeconomic marginalization and characterized by high rate unemployment. Therefore, alternative for unemployment, many southern male workers practiced in smuggling and contraband into and out of near countries as precious few job opportunities (Baghdad). This situation is prevailing in borderlands communities and it takes place on such a large scale that it has created a parallel illegal economy.

At the gender level, in rural parameter, often, mobility conditions, such as transport, are the main handicap for rural women to participate in labor arena. In contradiction to man who can move within a radius of 50 km from the place of residence to other regions, woman is generally forced to work close to home to continue to exercise certain family responsibilities. Faced with these constraints, especially when the job is not paid enough to cover the loads. The time spent on transport is another factor in the eviction of women. Adding to that, in Sahelian rural areas, the level of education of women is still low, so information on rights and opportunities for economic integration is extremely difficult. Thus, southern rural women are very poorly informed about their rights in general and about the mechanisms available to them to access either the labor market or self-employment or even entrepreneurship (ibid). Consequently, employment insurance coverage within southern regions of Algeria where Tuareg in general and Tuareg women of Sahel in particular, tended to be the least in categorization considering both ethnic and gender affiliations.

To restate, structural discrimination grants a scope through which health disparities can be obvious. As healthcare intersects within other social systems, it is examined along with other structural elements or what is known as the societal determinant of health; socioeconomic status. The latter encompasses four main components: education, income, occupation and place of residency. These social pillars of health permitted this part of research to hold a comparative study among the target ethnicities with other groups members each within its own social ladder.

Being within disadvantageous socioeconomic status means their influences on health can be both direct and indirect. In a direct way, education can be influential in terms of health literacy. Meaning that, health comprehensibility is crucial feature of healthy behavior and adherent to treatment as well it helps to have better health decisions and choices, the state that is proved to be missing among minorities under the study. In addition, occupation can widen health disparities through the type of job in itself. In other words, both Tuareg women of Sahel as long as Mexican immigrant women have been noticed to concentrate in jobs which exposed to toxic substances, danger of occupational injuries as well as lack of nearer health center. In addition, rural residential concentration affected the studied minorities' health in two ways: transportation shortage and healthcare provider insufficiency.

Indirectly, SES proved to create health inequity. Health insurance variable appears to melt the status of education, occupation and income as they resolve the extent to which an individual can afford health insurance. This section of the research proved that both minority groups: Mexican immigrants of the US and Tuareg women of Sahel faced the dilemma of having low income with no health insurance at the same course. The gender aspect intertwined, at this level, as it is shown that neither employment, marriage, nor their combination can prove health insurance for these women.

Yet, in the US case, rural residential concentration fixes the distribution of Medicaid programs eligibility over US cities. This structural barrier exhibited that Medicaid coverage decreases in rural and southeast cities where Mexican immigrant women formed an over majority. The remarkable issue of unfunded national insurance has become an issue of interest to stakeholder, employer's companies and American medical associations. As for Tuareg situation, residential confrontation with health plays the other way around. Living in an urban residency accrues the possibility of working chances for inhabitants. Yet, Tuareg women who concentrated in the least affluent wilayas of Algeria decreased the chance of acquiring jobs which automatically sharp the reduction of healthcare insurance coverage for this minority. Nevertheless, along with the social determinant of health components, the upcoming part will tackle structural discrimination from the mono-cultural perspective of the healthcare systems.

2.3. Institutional Determinant of Health: Mono-Cultural Healthcare System

Despite of the multicultural social paradigm of the US and Algeria, the monocultural issue within their healthcare systems is still another factor leading to the prevalence of ethnic health inequality. The focus on universal health vision is mistakable within health institutions situated in countries undergoing significant demographic changes. As Meredith King states "The demographic alternations can affect at the treatment level since patients that are served now look very different from patients that will be served in 20 years. So, healthcare professionals should be provided by adequate cultural context of these people in order to deliver effective treatment" (2).

Apart from health context, among other definitions, culture can be defined as "the learned and the shared knowledge that specific groups use to generate their behavior and interpret their experience of the world" (Borgelt et al. 21). Also, it is necessary to make distinction between

culture and its components. Culture is constructed of a set of beliefs, customs, values, experiences, behaviors, as well as manners of communication, concept of identity, relationship, role in society, health, wellness, illness and death. Whereas, the following are the components of subculture such as: age, race, ethnicity, sex, gender, expression, sexual orientation, religion, socioeconomic status, and chronic illness (22). Accordingly, belonging to a given culture, both men and women can be affected by this affiliation that could influence the way they dress, pattern of communication, responsibilities in the family and importantly the participation in the healthcare setting.

Diversity in healthcare place outlines a magnitude way of applying culturally accurate health practices within clinic centers since it is considered an urge that highlights the necessity of cultural insertion to meet the forthcoming ethnic demographic changes. In this claim, King states “Cultural competence in health care describes the ability of system to provide care to patient with diverse values, beliefs, and behaviors, including training delivery to meet patients’ social, cultural and linguistic needs” (3). To define, cultural competence in healthcare arena is a set of behaviors, attitudes and cultural applications or operations within a system that respects and considers the person’s cultural background, cultural beliefs, values and incorporate them into the way healthcare is delivered to these individuals (4). Lingering questions raised about what elements underlined healthcare cultural partialities. As such, this part will deal with two main cultural components: language and stereotype in US and Algerian healthcare arenas in order to illustrate their ill-effects on ethnic health status of both Mexican immigrant and Tuareg group of Sahel.

2.3.1. Language

Language is a means of communication by which a human being can express his/her own

thoughts in different life areas. Yet, the importance of language is manifested via the situation in itself. Actually, there are a large number of studies in social sciences and other disciplines dealing with language use in doctor-patient communication, as Woloshin who all have stressed the importance of effective communication between doctors and patients for good health outcomes (725).

2.3.1.1. The Linguistic Gap in Doctor-Patient Communication in the US

In the USA, for example, language is considered a barrier for different immigrant groups to many daily fields. But a situation of an immigrant who lacks English proficiency in stores or in the first work-interview is not very harmful as it is for a person in healthcare setting, who may be diagnosed with severe diseases, or who cannot explain his/ her symptoms. Thus, linguistic gaps can create many health disparities at the ethnic level. A Chinese patient in the US clinic declares “If you speak English well, then Americans doctors, they will treat you better. If you speak Chinese and your English is not at that good, it would also... a kind of look down on you, they would [be] kind of prejudice” (qtd. in *Unequal Treatment*...432). In other words, English language silenced the voices of immigrant patients and galvanized health disparities.

According to a survey finding realized by the Robert Wood Johnson Foundation (RWJF), a study focused on improving healthcare, both patient and healthcare provider believe that language barrier represents serious obstacle to positive health outcomes. The study reveals that at the patient’s level, communication difficulties impeded them from asking questions, following through information that a doctor provides. Equivalently, at the doctor level, the barrier stands as an obstacle to compile a complete and accurate medical treatment. Additionally, language incompetency can limit an individual from having adequate health advice as taken from the individual with the same illness who has an English competency. As Prèz-Stable states “Studies

found that minority patients especially who have limited English proficiency, are less likely than patients, who master English language, to receive empathy, establish rapport, receive information and receive encouragement to participate in decision making” (448). Beyond encouragement and advice, language proficiency may widen health gap as it affects the way how healthcare physicians can transmit their evaluation to a patient with no English comprehensibility.

According to RWJF , when language interpretation help is offered, it is often improvised or makeshift. Fifty one percent of surveyed doctors said that they often enlist help from staff members who speak Spanish, including clerical and personal staff such as receptionists and even janitors. Another 15% of doctors who were surveyed proclaimed that they rely on the patient to bring in family members or friends who can translate for them. Fifteen healthcare providers said that they use an outside group to grant interpretation either via site or over telephone. However, the improvised ways of translation proved to create another healthcare limitations rather than shortening the gaps created by language. To illustrate, makeshift translation may be a leading way to medical malpractice. Also, provisional translation provided from hospital personal staff and patient’s family members have a negative effect on the patient’s privacy as it creates embarrassing feelings which may in turns widen health partiality.

An official interpreter in a healthcare setting may be a fair solution that comes to one’s mind since the use of professional interpreters improves communication by reducing errors and enhancing comprehension. Nevertheless, this suggestion may open the way to another issue confronting the implementation of official interpreters within US healthcare setting. As a study entitled “Language Barriers Contribute to Healthcare Disparities for Latino in the United States of America” revealed that cost appears to be the biggest barrier mentioned by approximately 53% of doctors. In parallel, other answers were mentioned, as follows: 13% of healthcare providers

said that the issue is not the institution priority, 6% of them considered the problem as a lack of training or knowledge, the same percentage is recorded for the last two responses; no resources or ideas for dealing with the problem, and not enough time available respectively.

The Institute of Medicine and Agency for Healthcare Research and Quality recommended for reducing health disparities. To this inquiry, the institute sets instructions for the objective that regulations should focus on improving healthcare without modifying cultural characteristics of patient. Yet, the US healthcare institution showed reluctance to provide healthcare translators especially at the public healthcare level (Prèz-Stable 749). The matter procrastinated in this institution making language as another structural barrier toward health equity.

2.3.1.2. The Linguistic Gap in Doctor-Patient Communication in Algeria

Algeria is considered a multilingual country where different ethnic groups exist and speak different local languages and language varieties. Beside classical and /or the standard Arabic which constitutionally recognized as the Algerian's official language, there exist many other language varieties, spoken by all the national territory. To explain, the classical Arabic and modern standard Arabic are widely recognized as an official language by Algerian population as it is confined to certain religious and academic purposes. As such, this language remains the language of scholars and experts in theology, the language of the study of the Quran, Hadith and of all the ancient Arab-Muslim poetry and literature (Queffélec 34). Also, it is almost completely limited to written use and to highly formal speech (news, official speeches) and academic education as well as the media (35).

Dialectal Arabic is the language of early socialization, spoken by most of the population generally preferred means of communication among illiterate monolinguals. Indigenous Minority Languages, Berbers, in Algeria remain tribally organized. Four main groups, the Kabylis, the

Shawias, the Mozabites and the Tuaregs, make the Berber sphere in Algeria. The Kabyles are considered the largest section of Berber population in Sahel who speak Kabylie, sometimes called *takhbilit* according to their pronunciations. Shawia stands for shepherd. This naming categorically best describes the Shawias lifestyle. The Shawias inhabit the Aures mountains in Eastern Algeria and speak Shawia. The Mozabites are a religious ethnic community. Their ancestors embraced the Ibadite Islam derived from Sunni general outlook of Algerian population. Mozabit is their language variety. Moreover, the Tuareg inhabited basically the Southern regions of Algeria, and Tamahaq is their language, However, Tamahaq spoken by Algerian Tuareg differs in many parts from Tamahaq spoken by Sahelian Tuareg (ibid).

However, in Algerian healthcare settings, all doctors are trained (medicine Academia) exclusively in French language which represents a fundamental structural barrier during medical visits. As such, all patients with limited French proficiency are subject to healthcare disparity. As displayed in the table below, doctors feel more comfortable when they use French (31.66 %) to (61.66 %) as it enables them to be more informative when they speak about symptoms, diagnosis and treatments. Consequently, when they talk to their patients they inevitably use much French and medical terms which are likely to be unintelligible mainly when they address patients who are not bilinguals (32.07%) or have little (28.3) or no health literacy in the French language (1.88).

Table 8. Doctors' and patients' French proficiency in Algerian Healthcare

Doctors' self-assessment of proficiency in French		Patients' ability to understand French	
Competency degree	Percentage (%)	Competency degree	Percentage (%)
Weak	0	Weak	32.07
Average	6.66	Average	37.73
Good	61.66	Good	28.3
Excellent	31.66	Excellent	1.88

Source: Belaskri, Khadidja. "The Linguistic Gap in Doctor-Patient Communication in Algeria." *Lublin Studies in Modern Languages and Literature*, 41.2 (2017): 1. Web. 14 Mar. 2023

In addition to that, time shortages in medical area, the busy nature of medical context and the difficulty to translate medical terminology to Arabic, Arabic varieties or Berber makes it difficult for doctors to immediately find equivalents of highly medical technical terms in the local. They all mediate to ambiguity where patients cannot successfully understand, communicate and learn with doctors about their health problem and treatment procedures. Moreover, in health arena generally doctors were talking about the patient's health situation, they prefer to switch to French in case where they prefer to keep the primary diagnosis confidential. As Crystal explains that one of the reasons this code switching occurs is that the participants who switch to the second language wish to exclude the other participants from the conversation. Another reason also observed for code switching that doctors have to talk in French mainly when they addressed the head of the department who used only French to give orders and instructions to the doctors themselves, the nurses and the medical secretaries (5-9).

Medical terminology (jargon) is one of the most easily identifiable linguistic criteria in healthcare communication as it is difficult for any patient to use or understand scientific vocabulary as a result, a patient cannot fully and easily take part in a conversation with a doctor (Simmons

8). In the following examples, the doctors' use of jargon was inappropriate because the patients were old and illiterate. Hence, it was impossible for them to understand the technical words: “*Le cholesterol /kanta:ləʃ men/ les corticoids* (Cholesterol level was high due to corticosteroids); */ʔqawlək/ l'acideurique?* (Have they found uric acid?); */hadaj]u:fah/ l'ORL* (It's an ENT who should see it)”).

To clarify, the adversity of Tuareg patient in regards to health linguistic context, French proficiency is not equally used across the Algerian population. It is widely distributed by the urban (Algiers, Oran, Annaba) rather than and the rural (Southern Wilayas), the educated (all advantaged Algerian minorities) rather than the uneducated (Tuareg group of Sahel). Thus, health inequality arises as a result of structural barriers which are due to issues related to proficiency levels of French language, as it predominates over Standard Arabic, Algerian Arabic and other local varieties among them Tamahaq. Consequently, Patients with low educational attainment are the ones with less proficiency in French and are patients who have difficulties expressing their concerns verbally. Even worse, they would rarely ask for clarification or further explanation. They are less informed about their health condition and less satisfied than patients with a good proficiency in French.

At the gender axis, gender differences in communication form another fundamental cause in inadequate healthcare delivery. Gender communication competence is another paramount obstacle in accessing adequate healthcare that doubled disparities. To clarify, the aspect of gender's communication mode of patient influences how they communicate with their healthcare provider, how they describe their symptoms and how they perceive feedback about their health status.

One of the communicative differences is that women and men learned to communicate differently; men talk to report or give information, they also talk about things related to people

rather than people, they convey facts and focus on solving problems (Borgelt et al. 21). The issue of these differences in the healthcare environment looms to have negative outcomes both on their treatments or the extent of satisfactions toward the care they receive. Additionally, women are not always willing to interrupt their doctors especially a male doctor to assert their own opinion about the health concerns or extends a doctor's speech in order to ask another question about their health which is a remarkable feature in creating gender health gaps (22). Another way that proved to be crucial in this part, women develop special communicative manner that makes them distinguishable from the way men talk. This usually includes complaints and naggings or when they describe symptoms with more negative terms, including more feelings and details in healthcare setting. The mentioned features may be ignored by a male provider who sometimes assumes that women are just complaining or speaking out of the symptoms when they may be not (24). The situation can lead to misdiagnosis, dismiss, or trivialize of women's health concerns. Nevertheless, when gender concerns are interrelated with that of ethnicity the situation worsens.

2.3.2. Stereotype

The term stereotype was introduced in social psychology by Lippman Walter. It refers to socially shared beliefs about the characteristics that would be specific to certain social groups. From a functional point of view, stereotypes emerge as cognitive facilitators, reducing the complexity of the information to be processed and promoting the production of rapid judgments. On the other hand, stereotyping, for others, has a potential negative effect at many social levels: – depersonalization: it assimilates individuals to groups, obscures their singularity and attributes to them presupposed characteristics; – devaluation: it leads to self-glorification of one's ingroup and denigration of outgroup, Freezing: stereotyping has a stable reassuring character, whose

The Number of the US Physicians by Graduation Year, Race, Ethnic Group, and Sex, 1980–2012

Source: “Bias, Black Lives, and Academic Medicine”, the new Journal of Medicine, 2015. Web. 23 Feb. 2017. < <http://www.nejm.org/doi/full/10.1056/NEJMp1500832>>.

In the US healthcare sector, most of physicians and primary healthcare providers, are from no-Hispanic white majority, exceeding the number of those from other ethnic groups. This snag actually, stemmed from the shortages of Hispanic, mainly Mexican minority in academic medicine the fact that is issued within Rodríguez and colleagues’ report entitled “*Underrepresented Minority Faculty in Academic Medicine: A Systematic Review of URM Faculty Development*”. Surprisingly, the report was initiated in recent years where supposedly enrollments transcended the aspect of racial and minority affiliation even with the urged call for more faculty development and mentorship programs to action that reduces the disparities that exist between minority and all other faculty members, there is no effective program meeting with the issue (Rodríguez et al. 100). This concern is well obvious in the figure above. With recognition of sex in every single minority in the US, the figure above showed up with massive gaps between Hispanic/Latino graduated physicians and white graduated physicians with differences of twenty-seven times in 1980 and eight times in 2012.

In Algeria, the situation of Tuareg minority is the worst as the enrollment of this minority in medicine academia is rare. As such, Tuareg healthcare providers within Sahelian health spectrum is barely visible in comparison to other minority groups: according to *Santé Algérie, le guide de la médecine et la santé. L’école de médecine d’Alger*, The Shawias, the Kabyles, the Mozabits and the Arabs. The mismatch between the academic structures and health care diversity has led to stereotypical rational between physicians and patient from the

aforementioned disadvantaged groups regarding communication, understanding, and trust (Williams 5). Although, globally, new democratic norms concerning racial and minority bias are set through institutions, statistics always reveal the opposite.

Stereotype, bias, and overgeneralization can also affect the quality of healthcare for ethnic minority, and this practice usually occurs when a physician delivers prescription or diagnosis with patient's race or ethnicity in mind. Thus, in care context, limited time and brief encounters which are common characteristics of this work, physician has to manage very complex tasks the situation that may put him/her vulnerable to the use of stereotyping in forming impressions of patient (Balsa & McGuire, 103).

Along with time shortages and overwork, another way in which the act of stereotype can occur is that stereotype has always seen as a socio-psychological cognitive. In other words, healthcare provider is more likely to simplify and organize information of patient's culture based on stereotypical data gathered either from society or from doctor's psychological perception of that culture. However, whether the first cause or the second one, stereotype is considered as another strategy in tackling the issue of health disparities toward racial/ethnic groups. These lines try to prove how stereotype can represent another monoculture component of the healthcare system and how it exacerbates the rate of health inequalities under the umbrella of structural discrimination.

2.3.2.2. Interpersonal Disparities: Aspect of Healthcare Providers

Monoculture healthcare system is manifested by the overwhelming majority of the healthcare providers that belong to majority groups (see figure 8, 9). This predominant labor market mirrors in stark the possible provided treatment that healthcare provider can serve. Therefore, in a situation of direct conversation with (white-non-Hispanic provider in the US), and (non-Tuareg physician in Algeria), there are two possible ways of stereotype: the open and the close ones. The first refers

to direct discriminatory attitudes that can be held by physicians toward specific ethnic groups; yet, implicit bias refers to unconscious racial stereotypes that grow from a physician's personal and cultural experiences (Ansell & Edwin 1087). However, since this part of study tackles the structural form of discrimination, it insisted rather on the implicit form of stereotype to keep on the mainstream of institutional jeopardy.

Many studies tried to examine scientifically how indirect action of stereotype can emerge and the main clues under which an actual action of stereotype, based on racial and ethnic differences, is assumed. One major study tackling the subject is Burgess and colleagues in their work entitled "Why Do Providers Contribute to Disparities and what can Be done about it". This analysis grants deep insights of various intrinsic behaviors from healthcare givers that are scientifically proven to lead to stereotypical actions: information processing mechanism, consultation- time limit, and out-group and in-group member factors. According to this contribution, there are several mechanisms that scientifically proved to bridge the causation between healthcare provider's behaviors and egalitarian attitudes toward minorities (1525).

The first explanation comes as a natural effect that any human can produce when information-processing mechanism is closely examined. Slow-learning and fast binding are human learning memory systems. That information constructed in fast learning systems is usually characterized as being effortlessly, rapidly and unconsciously acquired. With these characteristics in mind, any human being is possibly to make rapid decisions without considerable examination. However, the system has its drawback effects in the process categorization. Doing so, doctors may unconsciously categorize patients according to their ethnic/racial, gender and /or socioeconomic status which will be able to affect treatments and diagnosis (Burgess 1526). In contrast, healthcare providers generally use slow binding system only when there is a patient with unusual symptom (1527).

Consequently, fast binding human learning system is responsible for mediating disconnect between the provider's desire to give equal health and his/ her own ethnic categorization.

Consultation time and stereotype can be another attributor for unconscious stereotype that in turn broadens health inequalities. In general, in many times, healthcare providers have to deliver complex judgments within limited time. Hence, any available information about patient's cultural background may be a necessity in diagnosing process to fill in the gaps especially when providers have to make complicated judgments quickly with insufficient or little time (1528). In addition, out-group members vs. in-group members are another scientific explanation in proving stereotype occurrence. Out-group members are defined as people who do not share the same characteristics. It is one's perception about people from different racial or ethnic background (1556). Naturally, psychologists assume that this innate distinction moderates one's perception of the other group variability. In other words, as Burgess confirm that healthcare providers are more likely to perceive patients in terms of their group stereotype, and pay less attention to their individual characteristics" (1557). This misjudgment is usually held because they perceive their in-group members as homogeneous body while they believe that all out-group members are heterogeneous in which providers may unconsciously favor their own groups' features (1557). So, how does group classification affect unfairly the treatment process?

2.2.2.2. Stereotype and Treatment Process

At the treatment level, stereotype plays a major role in deteriorating the treatment process through four main factors: memory capacity, adherence to treatment, communication capacity, and using of preventive health care services. Firstly, stereotyped patient is more likely to perceive his/her own self through the subjugation of others. For example, for those patients who were labeled by stupidity and bad intelligent performance, they would never succeed in health literacy

text. Even more, they are subject to mental health illnesses due to additional pressure, permanent coping behaviors to resist stereotype, and anxiety toward underperformed task (Johns 35).

Secondly, stereotype can reduce working memory and cognitive abilities that in turn evoke disparities in clinical setting. Smedley, Adrienne and Alan have proved that doctor biased judgments may diminish the ability of patient to process information, follow treatments or instruction (170). Another pathway through which stereotype can minimize the adherence to the treatment is that stereotype threat has been proved to impede the performance expectation. In other words, when one's confidence of self-crashed with social stereotype, it creates an imbalance cognition that automatically affects individual's performance (Schmader, Toni, Michael 349).

Stereotype can widen health disparities since it influences the whole communicative process of a patient from a given stereotyped group. overgeneralization threat might impair the patient's communication skills by reducing fluency, self-disclosure and response to provider's question. This notion is justified upon the basis that stereotype increases anxiety and physiological arousal (350). Therefore, it is not surprising to see poorer and less participatory communication among subjugated patients in healthcare discourse.

Stereotype can be also associated with the use of preventive healthcare services. In this case, stereotyped patients are always reluctant to seek care for routine basis where prevention services are likely to be offered. This is mainly because they lost trust in physicians, the fact that makes them think they may receive less definitive recommendations from physicians for test and treatments (Trivedi and John 553).

To restate, structural discrimination also shows up at the institutional level from the corner of monoculturalism. Both the US and the Algerian healthcare systems persist on universal language English and French respectively which stands as an obstacle in front of Mexican immigrants, and

Tuareg group of Sahel. Besides, the gender aspect in the language issue interferes to widen the burden at the communication level as women communicate differently the way that may be dismissed by male healthcare provider. As the institutional structures intersect with one another (medicine academia and healthcare institution), the high enrollment of students in medicine academia from non-Hispanic white origins in the US, and non-Tuareg origins in Algeria, grants a foreseen vision on who will represent a majority within healthcare arena. This may have fostered a stereotypical reaction that in itself affects harmfully treatment and widen health disparity among the targeted groups at many levels.

Endnotes

1. The bill was introduced in the 101st Congress, which met from Jan 3, 1989 to Oct 28, 1990 by Barbara Mikulski Senator from Maryland Democrat. A bill to amend the Public Health Service Act to promote greater equity in the delivery of health care services to women through expanded research on women's health issues, improved access to health care services, and the development of disease prevention activities responsive to the needs of women, and for other purposes. "Congress: Women's Health Equity Act of 1990." Web. 16 Mar. 2016. <<https://www.govtrack.us/congress/bills/101/s2961>>.

2. This bill was introduced in the 101st Congress, which met from Jan 3, 1989 to Oct 28, 1990 by Henry Waxman Representative for California's 24th congressional district Democrat. It Amends the Public Health Service Act to authorize the Secretary of Health and Human Services, through the Director of the Centers for Disease Control, to make grants to States, on the basis of an established competitive review process, with regard to breast and cervical cancers, for screening, referrals and follow-up services, public information and education programs, education and training for health professionals, quality monitoring of screening, and evaluations of such activities. ("S. 2961 — 101st Congress: Breast and Cervical Cancer Mortality Prevention Act of 1990." www.GovTrack.us. 1990). Web. 16 Mar. 2016 <<https://www.govtrack.us/congress/bills/101/s2961>>.

3. Though Republicans protested, by February 3, 1913, the sixteenth amendment is viewed as the first of the Progressive Era amendments, signaling a major shift in the way government influenced society. Marked by a push for political and social change and an end to corruption, the Progressive Era ushered in a new period of reform. By establishing a steady revenue source, the amendment gave the government the opportunity to expand and fund programs. It also addressed Progressives' concern about ever-increasing private wealth admissibility (Jernette, Chandeler, "An Amendment for the Progressive Era," Sep. 3, 2013). Web. 23 Nov. 2010. <<http://armory.nyhistory.org/an-amendment-for-the-progressive-era/>>.

4. The Earned Income Tax Credit (EITC) is a federal tax credit for low- and moderate-income working people. It encourages and rewards work as well as offsets federal payroll and income taxes. Twenty-six states, plus the District of Columbia, have established their own EITCs to supplement the federal credit. The eligibility criteria falls into working families with children that have annual incomes below about \$39,300 to \$53,500 (depending on marital status and the number of dependent children) may be eligible for the federal EITC. Also, working-poor people who have no children and have incomes below about \$14,900 (\$20,400 for a married couple) can receive a very small EITC. In the 2015 tax year, over 26 million working families and individuals in every state received the EITC. ("Policy Basics: The Earned Income Tax Credit,") Oct. 21, 2016). Web. Feb. 12, 2016. <<http://www.cbpp.org/research/federal-tax/policy-basics-the-earned-income-tax-credit>>.

5. Private health insurance is often offered through employers or other organizations. Some employers offer only one type of health insurance plan. Others may allow you to choose from more than one plan buying health insurance on your own, instead of getting a plan through an employer,

usually costs more. You pay for the plan yourself, rather than sharing the cost with an employer. Some insurance plans work with certain health care providers and facilities, which are part of the plan's network, to provide care at lower costs. This is called managed care. There are different kinds of managed care plans like; Health maintenance organizations (HMOs) or Preferred provider organizations (PPOs). Web. 6 Jan. 2016. <<http://www.webmd.com/health-insurance/tc/understanding-health-insurance-types-of-health-insurance#1>>.

6. Medicare is health insurance provided by the government for people age 65 or older. People who have certain disabilities or health problems, such as long-term (chronic) kidney failure treated with dialysis or a transplant, also may get insurance through Medicare. It covers some, but not all, medical costs for people who qualify. Web. Nov. 2016. <<http://www.webmd.com/health-insurance/tc/understanding-health-insurance-types-of-health-insurance#1>>.

7. Medicaid is a state-run, government insurance program that helps some people with lower incomes pay for medical care. Medicaid pays your health care provider. You may have to pay a small amount for certain medical care. Medicaid is available only to certain low-income people and families who are eligible. Web. 6 Feb. 2016. <<http://www.webmd.com/health-insurance/tc/understanding-health-insurance-types-of-health-insurance#1>>.

Chapter Three

Syndemic Theory: The Association of Stressful Discrimination and Diabetes

This chapter represents the core part of this thesis as it highlights the practical mechanism through which the positive association between perceiving discrimination and health is clarified. This chapter introduces and explains the methodology and design adopted to achieve the objectives of the study. Firstly, this part aims to provide an illustration of the Syndemic theory as a new perception in tackling minorities' health all over the world via putting the minorities under study within its principles. Then, it details of the methodological procedure and design adopted for the study. The chapter presents the research questions, the research methodology that underpins the study, and then the research framework. The description of the research participants is followed by the presentation of the main instruments of data collection procedures and data analysis processes. At the end, the chapter discussed the findings of the empirical phase, as well as a comparative analysis of the findings between Tuareg women of who live in Ghardaia city, and Mexican Immigrant women who live in Chicago. The main aim of the present study is to examine the adverse health position that many Tuareg women minority live, especially those who in Ghardaia town. It is expected that the ultimate work would promote a suggested solution to Algerian Health Ministry in generating powerful program and adequate clinical intervention helping Tuareg women of Sahel to equal and adequate health status.

3.1. Syndemic Theory: New Trend in Global Health

At the terminological level, the term syndemic in sociology derives from Latin language divided into “Syn” which means working together and “Demo” that referred to the word epidemic (Singer 90). However, as a whole, the word is a combination of two practical concepts: synergy and epidemic. This combination implies an intersection of multiple epidemics that are conceptualized within social problems such as discrimination (Mendenhall 12). By an overused and a wide experimental adoption of this concept in multidisciplinary fields, it becomes a theory

defined by medical anthropologists to label the synergistic interaction of two or more coexistent diseases and resultant excess burden of disease (Singer and Scott 423). So, syndemic means an interaction of at least two diseases with a given adverse social condition such as, structural discrimination, racism or gender-based violence. These situations accrue the burdensome of diseases' biological interactions.

Is syndemic theory a new trend in medical arena? Actually, the view of contemporary health think tanks has been reoriented into a new understanding of epidemic prevalence among population especially those disadvantaged groups who live in a deprive social representation, under life quality and poverty line. So, it is that prevalence of diseases, their entwinement with one another, with the adverse social conditions, and with the biopsychological outcomes of disparity which has urged the world of public health to think of new orientation in dealing with health issues. As both Singer and Scott point out “Although recent in expression, is in fact an outgrowth of the new way of thinking about the causes of sickness that emerged and caught hold in the mid-1900 in a process commonly referred to as the rise of germ theory” (423). Also, this innovativeness can be proved by the pathway through which the theory is applied when dealing with disease. In other words, the Syndemic theory tries gingerly to put an epidemic into a context where it rethinks that epidemic from its historical emergence to its present status that permits an approach that foreseen its future. As Singer's book *Introduction to Syndemics: A Critical Systems Approach to Public and Community Health* issues “This point then the transition to a modern biological understanding of disease is the starting place for examining the Syndemic perspective, in that, as noted by historian, trying to understand the present or plan for the future without a sense of past is like trying to plant cut flowers” (Singer 96). Radically, the theory looks deeply into the roots of the disease that mediates a vista of adequate treating.

The other side of newness of the theory is that it departs from traditional uni-approach that of nosology.¹ Importantly, nosology in medicine has been taken as crucial element in providing order within health arena since it is built upon categorizing diseases depending on the symptoms shared between them. This pathway (nosology) ignores the intersection among different diseases that may result to new disease from that biological interaction (Singer and Scott 423). Upon this narrowed vision of nosology, the syndemic approach appears to fill in the gaps meaning that, besides gathering diseases upon their shared symptoms, it is necessary to look profoundly at the social, political, economic and environmental aspects of these diseases that may have contributed to fuel their interaction that ultimately produces an introduction to new disease syndrome.

New trend is also exemplified through the extent to which the theory is adopted throughout different disciplines. Syndemic approach is considered one of the best interdisciplinary theories. Firstly, it is adopted by medical anthropologist, as its developer Singer, stated that the theory is rooted in medical anthropology. To clarify, this theory is an innovative thinking that came out from critical researchers who want to leave the mere underwriters' laboratories which limited disease in an isolated scope. If disease in laboratories and from biomedicine perspective is considered as a discrete entity i.e. each disease be it a cholera or paranoia, is assumed to be an objective, clinically identifiable and hence bondable entity (Singer 444). Then, the handled theory departs from traditional biomedical approaches that treat diseases as distinct entities, detached from the social contexts of their carrier without exploring social and emotional factors (Mendenhall 21). Consequently, the Syndemic theory examines diseases at both levels: the emergence and the nature of disease concentrations i.e. the multiple coterminous diseases or disorders affecting individuals, and disease interactions; the way in which the presence of one disease or disorder enhances their health consequences (Singer 161). This interdisciplinary feature

of the approach makes it adoptable into many domains that interested in minority as in the case of contemporary civilization.

3.1.1. Syndemic Theory's Principles

Defining the theory, Singer and his colleagues in an article entitled "Syndemic in Global Health" set the principles of the approach as follows: the clustering of two or more diseases within a population, the biological, social, and psychological interaction of those diseases, and the large-scale social forces that precipitate disease clustering in the first place. From the above definition and as originally theorized, the aforementioned concepts underlie the notion of theory are interpreted equivalently: disease interaction (biological interaction) and disease concentration (adverse social concentration) respectively (Singer 173).

3.1.2. Biological Synergism

At this stage, it is the description of interaction between two biological components that cannot be interacted without particular adverse social/structural context or what is known as disease interaction. Singer and Clair suggested that central to the Syndemic concept is the assumption that in case of co-affliction with two or more diseases, actual biological interaction occurs (427). One of the biological intersections is described by Gonzalo and colleagues who proved the co-infected interaction between two pathogens: hepatitis B² virus known as HBV and human immunodeficiency virus type 1 HIV-1.³ Though the interaction is common, they were just recently substantiated since this study demonstrates that the aforementioned viruses are maintained interactions at the cellular level due to the fact that HBV can infect T-Lymphocytes⁴ the primary cellular target. Researches elucidate the impact of the above viruses, as they clarify that protein encoded by HBV (a 17-KDa), functions as transcriptional trans-activator that promotes cell reproduction, and can contribute to faster HIV replication in co-infected cells and hence to a more

rapid progression to AIDS⁵ in individuals with HIV (435). If this biological interaction is understood just as a sum of two illness parts without considering the context under which this interaction happens then the interaction will be called comorbidity.

Upon this misconception, it is necessarily to make distinction between the biological synergism aspect of the Syndemic approach with comorbidity. In the terminological side, Comorbidity refers to “co” meaning that things go together and “morbid” when serious illness can be morbid. It refers to more than one disorder or disease that exists alongside the primary diagnosis. It is usually used to convey the notion of burden of illness or disease, defined by the total burden of physiological dysfunction or the total burden of types of illnesses having an impact on an individual’s psychological reserve (Valderas et al. 15). The definition means that people who have a disease or condition also have one or more other disease/conditions in simultaneous manner which is the comorbidity main’s call.

In Psychology, the term comorbidity is commonly used to describe diagnoses that co-occur at higher rates than the probability of happening of each disorder individually. To explain, in general people with problematic forms of drug use often suffer from substance use and mental health disorders. The co-existence of a substance use and a mental health disorder in the same person is usually called psychiatric comorbidity. There are many figures on the extent of mental health disorders among drug users: depression and anxiety are most common health disorders associated with substance use (Mustanski et al. 42).

The nature of the above biological interactions cannot be considered within the Syndemic framework as they are clustering directly or physically without being interact with social motivator. Consequently, the theory stated that co-occurring diseases or health issues are a result of determinant social states that operate synergistically to heighten the adverse biological

interaction of one another. Unlike the term comorbid which implements the existence of diseases in concurrent manner, Syndemic research focuses on communities experiencing co-occurring epidemics that additively increase negative health problem (Mendenhall 22). For example, it is possible for two disorders to be comorbid, but do not represent a syndemic model i.e. beyond the focus on disease clustering and interaction, the term syndemic also implies a focus on health disparities and the social conditions that perpetrate them (24). Thus, apart from the biomedical focus of causality and comorbidity between epidemics, it concerns with the structural, social and emotional forces; the call of the coming part.

3.1.3. Social Context

The second pillar of the syndemic approach is the social aspect or what is called a disease concentration. In this stage the above biological interactions though they are proved to interact yet their extensity cannot be met without an adverse social context in which they are accelerated. In other words, beyond the process of biological synergism among co-dwelling pathogens, it points to the determinant importance of social conditions in the health of individual and population (Gonzalo 35439). Undoubtedly, this social aspect of syndemic makes the theory an innovative in the contemporary medical anthropology because it offers an approach focusing on disease at the same time it considers due attention to the context which drives the above biological synergism to intersect. Within these deteriorated social conditions like discrimination, oppression, subjugation, racism, gender-based inequality, instruction of immigration policies, poverty and disease burden have been made worse.

Many researchers have initiated examples of syndemic samples. For instance; Gonzalo described the biological interaction of tuberculosis with HIV/HBV pathogens in adverse social conditions such as; the malnutrition status, poor access to medical care and the sociopolitical

sphere of an individual. He presumed that in order to understand the persistence of tuberculosis,⁶ in poor countries, in homeless shelters, those in prison and among the poor of many industrialized nations, it should understand its marked patterned occurrence within social forces, ranging from political violence to racism all come to be embodied (qtd. in Singer and Clair 428).

Severe life stress and stigma are among social inequalities that were undertaken from major investigators as tools to complete syndemic theory. Evans and Coworkers conceive life stress as major synergism interacted with early disease progression among individuals with HIV disease. From this point of view, stressful life stands as an accelerator to adverse stages in front of HIV infected individual (633). Additionally, individuals with AIDS consider stigma as a barrier toward access to health care and as blood pressure elevator. This societal vision toward infected patients frustrates the latter to put any efforts to manage their disorder and exacerbates the biological burden of the disease (Harrell, Hall and Taliaferro 244). It is that mosaic vision at looking to disease; from its subtle biological intersection to the vacuum into which this interaction happening means the syndemic theory.

Within the same large-social forces, it deems necessarily for the approach to focus on the importance of the population aspect. The latter in this sense signifies that the co-occurring epidemics interact at the populations or the individuals' level among which they amplify adverse health consequences within the same groups since the theory is principally a theory of population. The answer to the question why medical anthropologists interested on population is elucidated through many researchers' works. Jeena and colleagues argued that HIV coinfection with Mycobacterium Tuberculosis (MTb) augments the immunopathology of HIV and accelerates the damaging progression of disease, and accelerate disease burden. So, if the two epidemics (HIV and MTb) are clustered in a given population, the chances of individuals to be coinfectd soared

upward (674). In the same field of HIV treatment and preventions, Dye and coworkers presumed that among western African population those who were coinfecting with HIV and MTb reduced their survival time of patient compared to those with just HIV or MTb (682).

In the same course, studies interested in women, those who were infected with sexually transmitted disease (STDs) are more likely to develop HIV. Examples of these sexual transmitted epidemics are Human papillomavirus HPV and Herpes simplex virus type 2 which are more likely to provoke immunodepression and ultimately accelerate HIV incidences. The coinfection is more accelerated among women with both epidemics than women with only STDs or HIV (Pugliese et al. 195).

To depict the syndemic' principles in one unified example, it is necessary to address the pioneer work of Singer who explores the relationship between Substance use, Violence, gang activity, and Aids among low-income Puerto Ricans in the US. The model consequently was called SAVA syndemic which clarified that inner-city Aids epidemic was inseparably linked with a social context dominated by poverty, low rate of education, and unemployment and concurrent alcohol and drug addiction. These social adversities fueled youth Puerto Rican to participate in gang activities, drug use, violence that expose them to unprotected sex and risk factors for HIV/AIDS. The next title has a primary objective to explain how syndemic approach is applied to Tuareg women of Sahel who live in Ghardaia city.

3.1.4. The Acronyms in Syndemic Theory: VIDDA and TADDMERT Syndemics

The theory of syndemics has been drawn on, in many studies interpreting the existence of pandemics among several populations. The first model consequently was called SAVA syndemic (Substance use, violence, Aids) which clarified that inner-city aids epidemic was inseparably linked with a social context dominated by poverty, low rate of education, and unemployment and

concurrent alcohol and drug addiction. These social adversities fueled youth Puerto Rican to participate in gang activities, drug use, violence that expose them to unprotected sex and risk factors for HIV/AIDS.

The list of acronyms have expanded since then, including: SUMIC (Substance Use, Mental Illness, and familial Conflict non-negotiation) (Robinson et al.), VIDDA (Violence, Immigration and associated isolation, Depression, type 2 Diabetes, and Abuse) (Mendenhall), (Adeniyi Adeboye, 2017), and, lately, PHAMILIS (Physical Health problems, Abuse, Mental Illness, Loss, Instability, and Substance use) (Marcus R, 2017).

The present researcher codifies TADDMERTS as an acronym that corresponds with Tamahaq translation, for life. Likewise, VIDDA is an acronym that corresponds with Spanish translation, for life. The life here, in both models, acts as social background through which insights of social adversities are effectually captured. The social hardship represents the societal framework of syndemics helping the clustering of depression and diabetes among both Tuareg women of Sahel in Ghardaia (Algeria) and Mexican immigrant women of Chicago (USA). In actual fact, the acronym “life” in many studies associated with different perspectives: the description of life hardship, the strategical assumption to make this hardship coherent, the resistance against hardship, and embodiment of life’s events.

In the present study, both TADDMERTS and VIDDA are the sum of very hard life, inspired from the resistance against struggles that were written between the lines of each wrinkles of women faces, and echoed through their expression TADDMERTS or life is hard which is a familiar phrase repeated in every single narrative. It might be necessary, in this point, to focus on the importance of the expression ‘life is hard’ within the large literature where the dictum has been previously used in order to analyze suffering. Roger Lancaster in his book *Life is Hard: Machismo, Danger,*

and the Intimacy of Power in Nicaragua interpreted the dictum as a depth struggle and hard encompasses in the word 'life'. In this book, Roger blamed the Marxism ideology for creating a materialist world where the strong overwhelm the weak. Additionally, he summarized the dictum "life is hard" within three notions: danger; the possibility of an interlocutor in a given study will be harmed, destroyed or killed, Machismo and intimacy of power; are the gender-biased treatment a harmed woman receives under the notion of manliness.

Along with the notion of intimacy of power, danger and Machismo, the phrase "Life is hard" referred also to the strategy by which the interlocutors, in this study, link the particular to the general, the personal to the social in order to gather the vagueness of life to make coherence among life's hardship. The maxim "life is hard" shapes people's resilience in front of this hardship that cannot be detached from one another. Yet, these resiliencies are manifested and inscribed within their diseases. Overall, the proverb is the conclusion of: life's frustration, the duress of social economic crisis, the duration of the crisis, the intimacy of power, the banality of suffering, the comfort of resignation, and the resilience of the oppressed that render life so hard for people who survive life's hardship (Lancaster XVI). These complexities cast light on the strength and endurance of people who revealed the suffering through their personal conditions.

TADDMERTS and VIDDA syndemics are also built upon the notion of embodiment. By definition, the word embodiment refers to how we incorporate, biologically, the material and the social world in which we live, from infancy to death; no aspect of our biology can be stood alone without complete understanding of the history and societal ways of living (Krieger 352). The dictum represents an eco-social framework in order to study the different kinds of discrimination and diverse pathways by which discrimination can harm health. In this sense the words

TADDMERTS and VIDDA are used as embodiment of the possible social events one can encounter that relatively lead the ultimate definition of illness.

Focusing on the importance of embodiment in understanding the nature of a given disease, life is hard is the clue to life histories, hidden or/and revealed. For example, in the case of ancient generations, medical anthropologists figure out diseases from their bones and teeth condition that can discern the life conditions that they lived (Krieger 353). So, it is necessary for researcher interested in the health of a given group to analyze the life stories of these people in order to understand different inquiries in conceiving disease within that population.

Last and not least, the use of the acronym TADDMERTS or VIDDA in itself might be also a replicate to the pioneer work held by Merrill Singer. The latter used the acronym SAVA which analyses the tripartite interaction of substance abuse, violence and AIDS. As such, the use of acronym is always referring to Singer Merrill's pioneer study. In the case of Tuareg women of Sahel, the term TADDMERTS syndemic is coined to manifest the five core dimensions of health: Tuareg, Abuse, Depression, Diabetes Management, Stress reaction and Transitions. In parallel way, the second acronym, VIDDA stands for: Violence, Immigration, Depression, Diabetes and Abuse.

Both abbreviations stand almost of the same societal aspects: abuse refers to structural, symbolic and everyday forms of disparities. Transition and immigration represent both types of forced movements that women under study had to proceed through losing the existent social network, and eventually, they felt socially isolated. Depression and Diabetes are an exemplar of the description of interaction between two biological components that cannot be interacted without particular adverse social/structural context or what is known as disease interaction. Depression is a

reaction to life discriminatory stresses these women gathered in the newly societies whereas depression accrue the burdensome of diabetes afflictions.

3.2. Narratives within Epidemiological Context

In this study narratives played a major role in capturing stresses among both Tuareg women of Ghardaia and Mexican immigrant of Chicago who revealed stressful stories that contain all the societal components of TADDMERTS and VIDDA Syndemics. The objective of this part is to gather life stresses from these narratives that mediate the intersection between the two pathogens: depression and diabetes. However, it is worthy before dealing with interlocutors' narratives to firstly accentuate the importance of narrative as a reliable method in the large literature.

It might happen in daily life that one narrates to a neighbor for example about bad experiences that conceived as a reason behind the eventual sickness _any type of them. Though these narratives in the context of neighborhood or friendships are considered pathways of self-relief, the action for the epidemiological context serves differently. An underlying theme in epidemiological studies is that health adversities which appear at mid- and late life may be anchored to earlier set of circumstances that one experienced in the life course. Of particular interests are those circumstances that derived from least privileged statuses and/or highest rates of exposure to stressful experiences.

In actual fact, narratives in health context and especially in epidemiology have been proved to bring light to real examination of the source of illness or disease that in turns forms a helpful tool in diagnosis. In addition, the importance of narratives in health arena represents universal genre which brings experience to conscious awareness in order to form versions of reality (Ochs and Elinor 19-23).

Not very far from interdisciplinary platform, in psychology, Freud revolutionized the practice of narration and described how these narratives are rich and informative tool that can reveal about current psychiatric health status. Undoubtedly, a well-constructed story especially ones of coherent feature possesses a kind of narrative truth that is real and immediate and carries an important significance for process of therapeutic change. (qtd. in Mattingly and Linda 75).

To add, narrative method to the issue of certain diseases has gained an almost mainstream adaptation among health services. In social science medical practice considered narrative as an important mode in analysis of illness experiences. Showed how narrating stories about the experience of panic both represents and produces ways of being in the world that promotes panic (Capps and Ochs 563).

It is argued that narratives grant coherent understanding of illness as patients make use of distressing experience from their past, within their narratives that continue to affect negatively their current lives, either by issuing diseases or by interacting with other future illness. That is to say, the importance of narratives in decoding and reframing the past to make sense of present and provide an orientation for the future (Mattingly and Linda 7). In that way, and within the same context of coherence, narratives are proved to construct a disruption and provide complete knowledge about illness. Whether the disruption is made by the disorder itself or by other personal conditions, narratives are useful weapon in mediating disruption in contemporary psychiatric settings (Becker 25-6).

Adopting narratives as approach, in this study, both Tuareg women in Ghardaia and Mexican immigrant women in Chicago use narratives to make sense of suffering and their conditions because without narratives tool the work would be stocked as statistical but not Syndemic (Mendenhall14). Following the line thought of the first with the second to the third chapter, these

narratives are situated within the conceptualization of different types of violence: symbolic, every day and structural ones which deemed important for understanding health disparities in high income countries like United States and in the third world countries like Sahel. Also, these types of adversities frame the social and political-economic inequalities that the syndemic approach requires i.e. it shaped the traumas that contribute to the poor mental and physical health among socially disadvantaged women as well as it demonstrated how multiple layers of violence shape women's lives. Nevertheless, it can be said that narratives resemble raw material productions that need to be refined by other cultural keys which medical anthropologists use.

In asserting stressful life of historical circumstances and economic adversities within the anthropological inquiry of diabetes, stress constitutes another risk factor linked to economic marginalization and implicated in the diabetes epidemic. That is why, the role of emotional stress stemmed from those hardships is considered as a risk factor in diabetes onset and Glycemic control (Schoenberg et al. 137). All the aforementioned justifications tried to identify the relationship between a variety of social and psychological stressors with health outcomes. Then, they lay on knowledge of diabetes, disease causation, and stressful life situations to highlight the various and nuanced ways to associate stress with diabetes (Mendenhall 30).

3.3. Conceptualize Diabetes in the Principles of Syndemic Theory

The clustering of depression and diabetes is an exemplar case study of Syndemic study as these two diseases abide by three rules implicit in the theory. The clustering of two diseases exist with a specific population, fundamental contextual and social factors are co-constructed with that cluster, and the disease cluster creates the potential for adverse disease interaction, increasing the impacted population. Thus, examining the syndemic interaction between diabetes and depression

provides a model for the analysis of how disease clustering may be historically situated (through narratives), socially driven (adverse social conditions), and co-constructed (biologically).

There are many theories used to explain the major reasons behind the emergence of diabetes as an overspread epidemic within modern society. Initially, there was an association between diabetes and modernization on the basis that modern life results an imbalance between higher energy intake and lower expenditures. In other words, the theory suggested that there is an inequivalent relationship between Paleolithic human genetic makeup and modern lifestyle. This means that the longer human gets far from nomadic lifestyle that is characterized by physical activities (agriculture) and changing dietary (low-fat diet to fast food), the more human being is possible to get diabetes (Lieberman 349).

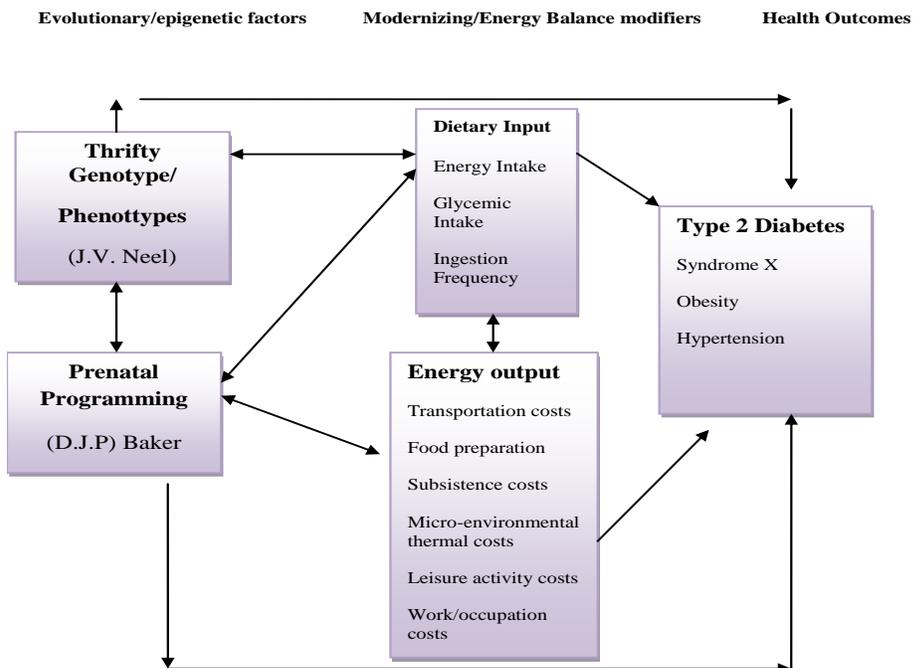
Modern life style in this context encompasses all what is in under the notions of modernization, urbanization and westernization. Adopting urban dietary style, the unevenness between food intake and output means obesity. As a result, a higher type 2 diabetes genetic risk was associated with increased mortality especially among obese Tuareg women of Sahel indicating that abdominal obesity is the primary contributor to the syndrome, especially those who were pushed to change their patriotist life style that requires a lot of physical activities to an urban life style which is a main predictor of diabetes.

Even though, further studies later on were carried by researchers who wanted to approve the genetic nature of diabetes. These kinds of researches granted attention to parental diabetes history as a well-known factor for sweet blood among Tuareg minority. Ultimately, the positive parental diabetes was a significant risk factor for type 2 diabetes regardless of age, sex or adiposity level (body mass index)

In contrast, epidemiologist like David Barker widened the corner from which the diabetes can be understood as he tried to highlight the social aspect of diabetes. Accepting the genetic approach that thrifty theory comes with as a foundation; the basic defect of diabetes was the quick insulin trigger. However, the initial observation was that low weight birth infant has an increased range of disease like; coronary, heart disease, stroke, and type2 diabetes (323). Associating the nature of diabetes to social inequalities, the epidemiologist introduced the Prenatal Programming hypothesis⁹ which accentuated to the strong link between small size at birth and an increased risk of type 2 diabetes in given population. It postulated that type 2 diabetes results from under nutrition during fetal life. The theory helps to explain why type 2 diabetes is spreading so rapidly especially in the developing countries like India as it prioritizes social and economic conditions as roots of unequal distribution of chronic disease among the population (323). The importance of this evolutionary approach is that it gives a way to this study to accentuate as long as to associate the nature of diabetes to its societal inequality origin.

The above societal direction gave potential to other studies to carry on the same manner and relate diabetes to its social inequality. They explain the necessity of integrating multi- structural factors in order to explore the complex-understanding of diabetes disparities among adverse groups. Actually, this kind of researches linked the line thoughts of the second chapter with diabetes incidence among Tuareg society since it associated this unequal distribution of diabetes to many structural factors such as: lack of access, financial and language barriers, poor health literacy, distrust and perceived discrimination by healthcare providers and health insurance access disparities.

Figure 18.



Evolutionary and Modernizing Influence on Type2 Diabetes

Source: Annual Review of Nutrition, 2003. “Dietary, Evolutionary, and Modernizing Influences on the prevalence of Type 2Diabetes.” .Web.25 Dec. 2016
< <https://www.ncbi.nlm.nih.gov/pubmed/12651966> >.

Diabetes is suitable example of an epidemic that has reached such significance in medical arena. As it is shown in the figure the thrifty genotype of Neel associated diabetes to particular lifestyle (diet and activity pattern). Meanwhile, Barker came out with new theory that completes the trend line of the genetic one. That is to say, he linked the genetic factors and its interrelation with the political economic income inequality and inserted that low-weight birth in the developing countries resulted to unequal distribution of diabetes.

Yet, it is important to mention that diabetes is also so perfect example in this work because it has some sort of particularities within the groups under the study. To clarify, all US national data surveillance with no exception: Center of Diabetes Control and Prevention (CDCP), Hispanic

Center of Health Study (HCHS), and Study of Latino (SOL) report that diabetes incidence is increasing among Mexican immigrant groups more than other Hispanic subgroups. In a similar way, Algerian national data health data indicates the large percentage of diabetes prevalence among Tuareg of Sahel within all its mentioned theories. Additionally, another side of particularity of diabetes within this study is the gender aspect. To detail, life time risk for diabetes among Tuareg women is estimated to be higher a 52.5 % compared to 31.2 % lifetime risk among men. After focusing on the importance of diabetes in this study, it is still to approve how depression and diabetes interact with each other; the interests of the forthcoming lines.

3.4. Research Design

The present study adopts a mixed-methods approach and triangulation to deepen the investigation measures. Combining different methods and sources in collecting and analysing data provides broader perspectives about the phenomenon under investigation, enriches and confirms the study findings, and promotes the research validity and reliability (Geogr 22). This approach uses different instruments to collect data with different people to serve the same research work in order to compare the results obtained. A semi-structured questionnaire was administered to thirty poor Tuareg women living in Ghardaia, and a semi-structured interview was conducted also with them.

The research seeks to address the following research hypotheses:

1. How does structural discrimination form health inequality within Algerian healthcare system?
2. How does this type reflect health inequity against Tuareg women of Sahel who transit to Ghardaia town?
3. How can the effect of life discriminatory stresses be measured?

4. What is the association between adverse social conditions and diabetes among Tuareg women living in Ghardaia town through syndemics theory's perception?

3.4.1. Research Methodology

The main purpose of the study is to prove the association between perceived discrimination, marginalization, subjugation and Tuareg women of Sahel adverse health in general, and their affliction with diabetes in specific.

3.4.2. Participants

Thirty Tuareg women who live in Ghardaia town, and who are diabetes patients at doctor Khirennas private clinic. The rationale behind choosing these women, in this study, lies in their unification profiles. In other words, they all have diabetes, living in poor conditions, living in far neighboring, and have diagnosed with chronic mental and physical health problems at the Ghardaia's largest public hospital Tirichine. In doing so, the study has been given a foreseen step in gathering a suitable sample to apply the principles of syndemics theory.

3.4.3. Instruments of Data Collection

3.4.3.1. Interview

Semi-structured interviews (Appendix B) were conducted with Sahelian Tuareg women who live in different parts of Ghardaia city centre, most of their content would be treated qualitatively. These interviews were designed to get in-depth different sources of stresses gathered from the whole discriminatory life events which basically might be related with diabetes prevalence amongst them. In turns, exacerbate their health status. With this, on one hand, the work can grant pathway in order to come out with a suggested solution to Algerian Health Ministry in generating

powerful predictions for program implementation and clinical intervention helping Tuareg minority of Sahel origins to plan for adequate healthcare.

The present researcher developed a list of semi-structured open-ended questions. The main concern of the researcher was to collect stresses from interviewees' narratives, in form of records. The latter stands as database from which the present researcher extracts major stressful themes that have been hypothesized as leading forces to diabetes affliction. Stressful themes are divided into two categories: interpersonal and structural. The first category refers to stressful events resulting from interpersonal discrimination, such as interpersonal assaulting, work place abuse, neighbouring abuse. On the other hand, the second category refers to the structural stressful events resulted, for instance, from poverty, financial shortages, social isolation, severe health stress and unsecured neighbourhood.

3.4.3.2. Questionnaire

Semi-structured questionnaires (Appendix A) were administered to the Tuareg women and they were analysed mostly quantitatively. While interviews serve the researcher to collect the needed social stresses. The questionnaires approached the biological aspects of these women. After consulting both psychologists and endocrinologists as well as administering previous studies seeking the same purpose mainly the work of Mendenhall. The work arrives at selecting the ultimate questions in order to arrive at a sample that would best serve the purpose and objectives of the study.

The questionnaire contained three sections: demographic and anthropometric, psycho-analytic, and endocrinological.

- The Demographic and anthropometric contains subthemes including: Tuareg women' personal and anthropometrics information – their age, weight (body mass), material status, education level, employment and place of residency, and acculturation performance, including the Arabic language use, ethnic interaction, and dress preferences.
- The psycho-analytic part makes up of the psychological status of these women – their post-traumatic stress disorder that contains: suffering from one of the six PTSD symptoms over the past month, having repeated disturbing memories and dreams, feeling as though the stressful event were happening again, feeling upset and having physical reactions to events that remind of the past; having trouble sleeping and remembering events, feeling distant from family and friends; depression, including: suffering from one of the four depression symptoms over the past week, depressed mood, changes in appetite and sleep, low energy, and loneliness.
- The endocrinological section seeks the followings – diabetes severity, suffering from one of eight diabetes symptoms in the past six weeks, pins and needles in both feet, hypoglycemia (including sweating, weakness, anxiety, trembling, hunger, or headache), sight problems, kidney problems, diabetes distress; feeling that diabetes is taking up too much of my mental and physical energy, Feeling scared living with diabetes, feeling diabetes controls my life, feeling I will end up with serious long term complications.

3.4.5. Interview Findings and Analysis: The Social Aspect of Tuareg Women Syndemic

In this part eight forms of stress eradicated from narratives of Tuareg women. It is assumed that these forms stemmed from the early life stresses that are associated to diabetes causality. The themes are the following: transition's stress, health stress, work stress, financial stress, neighborhood violence, feeling of social isolation stress, family stress /loss of family member stress, interpersonal abuse including stress including both _ physical abuse and sexual abuse.

The first question was:

1.How often do you rate stress in relation to the following stressful themes?

The participants were asked to mention the most stressful events happened in their lives which they think are the reasons behind having diabetes affliction. All of them said that their lives were full of discriminatory stressful events as they started randomly mentioning some stresses to conceptualise their diabetes. Yet, once the present researcher categorized the possible stressful themes, their answers seemed more coherent especially that they were required to put them into narratives.

3.4.5.1. Transition's stress

Twenty-five percent of women interviewed n=7 reported transition's stress stories within these narratives. This theme was related to economic switch, and specifically to problems associated with Sahelian switch to free market economic system as illustrated by the following narrative. A non-Arabic speaking Tuareg woman says "The trip was too long, the place looks strange, I thought I could have lived better in this place, I used to have livestock before, now, I had no place for them, nor, I have permanent jobs at all"

3.4.5.2. Health Stress

It is also known in the literature as the bidirectional effect or the double burden of disease. So, in this case the narratives will be built upon the notion that diabetes or other health disorder can also secrete stress. Many patients with diabetes perceived also diabetes to be one of many stresses in their lives (Kleinman 112). This category represents three women equivalents with eleven percent of them in this narrative study the fact that makes it necessarily to employ diabetes stress with major stresses gathered.

Non-Arabic speaking Tuareg women of Sahel revealed: “Once in the grand hospital of Ghardaia (she means Terichine public hospital of Ghardaia city) I’ve seen one of the patients who had their feet toes amputated. She is from Bordj Badji Mokhtar, we shared the same room there. She was so introvert as she barely talks with me. you know the services there, no one asks about you if you do not go to check about the nurse by yourself. The nurse started blaming her for a fault never made. The nurse asked her why she did not tell him that they did not treat her injury yesterday. I can understand him but she cannot. If you just see what I saw, when he removed the bandage, there were multi wound worms there” She then, started to foreseen her situation with diabetes as if she will get her toes cut off. “I was so stressed when I was thinking of my diabetes, just thinking about how she reacted, as if it was my way and will be like her”.

Women in this study do not only suffer from diabetes. Yet, their stressful routine is how to manipulate different chronic diseases at once. The narratives expressed also how women manage to put diseases ‘priorities each according to its severity: “when I was too young, my first time in hospital was due tuberculosis (I deduce it from the symptoms she illustrated), I kept alone in private chamber, and since then I got my asthma. As you may know, we Tuareg women of Sahel origins, work beside our men in agricultural sphere when I got my rheumatism”. Consequently, as

previously mentioned, while collecting data about stressful life, health status can also be stressful event, especially when these women have developed several chronic diseases.

3.4.5.3. Work Stress

Eight percent of these women described work-related stress, such as labelling or/and unfair treatment in the workplace which caused a great deal of stress. “When I work for Fast food places, there were too much stresses, too much pressure. The job was very fast, there were many problems. And there, since I was having to work there, I think that I developed hypertension, and that was because the pace of the job. I was a waiter, dishes cleaner, packing delivery, packing one wiping the floor at the end of the day” (Non Arabic-speaking Tuareg woman).

Besides the stress that resulted from the kind of jobs they take, Tuareg women in this study have encountered numerous forms of stressful discrimination along the way to workforce. A non-Arabic speaking Tuareg woman described “I live in Numerate, I stand on the bus station very early in the morning with many Tuareg guys headed to other blue work. It was Ramadan month, when the driver saw many of us, he does not pullover the bus. They think of us as very stinky and smelly, people start arguing.”

3.4.5.4. Financial Stress

All women in this study were poor, and 100 percent were living in poverty situation. Twenty percent of interlocutors (n=6) identified financial troubles as a cause of chronic stress in their stories. Sahelian Tuareg woman narrates “I think mostly it was the economic stress when you don’t know how we’re going to survive, we fled here seeking for better life chance, but it seems that poverty chase me and my family. We work in part-time jobs, for daily bases, and usually unsecured”.

3.4.5.5. Neighborhood Violence Stress

Eight percent of women expressed stress associated with living in a neighborhood with high rate of unsafety. “The rent is so low in this neighborhood, otherwise I would not select it to live in at all. Each time I go to the hospital, I find my home stuffs stolen: my gas bottle, my television, and my agricultural tools. Every time the police pursuits the rob, I feel so stressed within this neighborhood” (Non-Arabic speaking Tuareg women).

Diabetes patient has to follow a given practices consulted by their healthcare physician, such as practicing sport or at least walking. However, many of these women considered their neighborhood as an obstacle to this consult. Non-Arabic-speaking Tuareg woman declares “We live in under structured areas of the town, the place where poor people, uneducated and unemployed are there. These kinds of places were full of wild animals. Besides, the street I live in is illegitimate structure, meaning that there is no infrastructure provided there. No water, no gas in illegitimate construct of Tuareg, you know”.

3.4.5.6. Feeling Social Isolation Stress / Labelling stress

The effect of social isolation has also got a lion’s share on health outcomes. The effects of these feeling on the psychological wellness especially those individuals within other social settings proved to be linked to many psychological disorders among them depression (Berkman and Syme 1986). Five women= seventeen percent mentioned the feeling of social isolation as stressors. “I think when I left my tent, I could not find happiness in the eventual house. The remote is very far, my rheumatism doesn’t let me to go by bus, and the flight cost me a lot. My siblings are in Mali and when I speak to them we talk only about Mali. Yes, I lived here many years ago” (non-Arabic speaking Tuareg women).

Another woman depicted the story of an old woman who believed that she developed diabetes because of her distance from Niger. “I came here to be here with my two sons. I should have stayed

in my home. I wouldn't have developed diabetes. My all siblings wanted me to come back. And my sons wanted me to stay in Ghardaia”.

3.4.5.7. Family Stress and Loss of a Family Member Stress

In general, although the contemporary Sahelian kinship ties tended to live in small family detached from the largest one, Tuareg families maintain the habit of living with their extended family. In this context, it seems that even without the help of literature, women, in many communities, report that they put the needs of the family members before their own. Taking care of elderly parents and sometimes elderly grandparents are stressful events. In about Eight percent n=2 who described the high-stress, they were put in when they had to manage their pills, their nappies, and to treat sometimes their strange behaviors, especially those with Alzheimer's disease. “I asked a help from my neighbor to give me a ride to hospital, the remote was so far, and my grandmother had to do kidney filtering. In that time, I had to carry her on my back. Many times, I seek help from my cousins to help me with this situation because I was sick, but they didn't believe me_ they thought I was exaggerating and then they realized that I have got diabetes. Since then, my grandmother passed away” (non-Arabic speaking Tuareg women).

Another narrative is uttered from another Tuareg woman, who her case was made double burden as she tried to keep herself away from financial problems while she was thinking of her two old women. “I have financial stress, and stress at home. Watching mom and grand mom it is just very stressful, their medical problems especially with my mother because she's obese too, my grand is very negative”.

Depression was also conducted from high stress that one can pass through when he lost one of the family members. In these narratives this stress depicted from both the loss of women's loved ones or the aftermath of this loss that may be the additional financial or economic status that left

with. This woman represents the case. A non-Arabic speaking Tuareg woman says “I cannot talk, I cannot see the light or talk after my mother died. The first three months were the hardest ones. I was very depressed. Because you know, I was the one that’s taking care of her and I felt that, you I could have done more”.

Some women struggled with the loss of a loved one because of diabetes the situation that makes this woman think she would pass the same way, and ultimately make them stressful for both situations: the loss of beloved ones, and for managing their diabetes. Arabic-speaking Tuareg woman depicts the case “I am student now at Oueregla university, I inherited diabetes from my dad who has just passed away last year. His diabetes was like a monster which took every single part of his body. He was amputated. He had to filtrate his kidneys, he was also blind, I am now afraid that I have inherited the severe kind of diabetes from my father”.

3.4.5.8. Physical Abuse and Sexual Abuse Stress

Once interview has been launched, the present research puts an estimated that this kind of stress will not be mentioned among interviewees. It is simply because the Tuareg minority still preserved their traditions on how men should treat his partner. Nevertheless, living elsewhere from home regions pushed many of them to adopt with the newly society’s daily life practices in a so-called acculturation process. Beside acculturation process which stands as a cause encountering Tuareg males who may adopt this negative behavior, there is another variable in this area which may have led to this ultimate women conditions. Changing role of Tuareg women in the newly society has been precipitated the interpersonal abuse among women belonging to this minority. Tuareg women who used to care about their home, they share now a percentage within the labor force arena.

The category of interpersonal abuse is considered as the least one among the other forms. One of the women, three percent revealed at least one form of verbal, emotional, physical, or sexual

abuse, most often from a spouse or parent. The following narrative excerpts exemplify the women's descriptions of interpersonal abuse, and give a sense of how verbal, emotional, and physical abuses are counted.

On the assumption that interpersonal abuse in general, and childhood sexual and physical abuse in particular increases the one's risk for poor mental and physical health at the adulthood (Felitti and colleagues 245). In this section interpersonal abuses are divided into two sections: spousal abuse that in turn categorizes into physical and emotional abuse, and childhood abuse that also encompasses physical and emotional abuse. "My family endured a severe situation of poverty when we were in Tamanrasset remotes. When I grow up, I felt that my family couldn't handle me. I felt I had been pushed to marry a man, who was an old pastoralist. He treated me well, but his siblings beat me too much. They think I am the responsible of their mother's death. (A non-Arabic speaking Tuareg woman).

Another interlocutor categorized as childhood physical abused said: "I never recognized my father. You know, we were pastoralists, we had to move on searching for water, they said your father was left to wait for the coming convoy. Since then, he disappeared. My step father beat me when I was small".

- The table below briefly restates main findings of the interviews with Tuareg women living in Sahel.

Table 9. Interviews Main Results

Stressful themes narrated	Frequency	percentage
Transition' stress	7	25%
Social isolation/labelling stress	5	17%
Financial stress	6	20%
Neighbourhood violence stress	4	8%

Health stress	3	11%
Loss of family stress	2	8%
Work stress	2	8%
Interpersonal abuse stress: physical and emotional	1	3%

Conclusions

In all, the results of the interview investigation displayed the first principle of syndemic theory which insists on the structural and social elements as strong mediators to disease interactions. On the other hand, the questionnaire attempted to delve into the biological side of syndemic among Tuareg women.

3.4.6. Questionnaire Findings and Analysis

Having captured the structural and socioeconomic elements that operate as major functionals in escalating stresses among Tuareg women who live in Ghardaia, the present researcher administered a semi-structured questionnaire in order to meet the second principle of syndemics. The latter is the clue through which those narrative stressors, gathered in interviews, will move from their social interpretations to the biological interactions. As Singer claims that “dynamic relationship involving two or more epidemic diseases or other disorders and the socioenvironmental context that promotes their interaction” (29). Therefore, the questionnaire has focused a great deal on post-traumatic stress disorder (the first diseases) and depression (the second epidemic) as two disorders which interact (promote) in exacerbating diabetes prevalence among Tuareg women. Thus, grasping the burdensome of these diseases, from macro (structural factors) to micro (biological) levels, is the core of syndemics theory.

- The results and analyses of the data collected from the questionnaire are presented in the following

3.4.6.1. Tuareg Women's Personal Information

In this study, the whole participants are female representing 100% of gender affiliation, whose ages ranged between 30 and 63 years old as a majority. The body mass is generally overweight 57%, the percentage of married represents more than 63% while 10% are widowed. Yet, 17% are single. The education level among the participants in this study varied between 67% as illiterate and 23% with associated degree as the largest shares, while 3% and 7% go to less than higher school and less than middle school respectively. The overworking status represents 40% of employment status among Tuareg women. However, the strongest percentage goes to unemployed status with 47%. They all distributed in the three remoted locations with the following percentages: Numerate 40%, Atef 17% and Bouhraoua 43%.

Table 10. Tuareg women' Demographic and Anthropometric Information

Participants	<i>n</i>	%
Gender		
Female	30	100%
Age		
18-29 years old	3	10%
30-49 years old	17	57%
50-63 years old	10	33%
Weight (body mass)		
Medium weight 56-70 kg	13	43%
Overweight 79-100 and over kg	17	57%
Marital status		
Single	5	17%
Married	19	63%
Divorced	3	10%
Widows	3	10%
Educational level		
Less than high school	1	3%
Less than middle school	2	7%

Associated degree	7	23%
Illiterate	20	67%
Employment		
1-39 working hours week	4	13%
1-42 working hours per week	12	40%
Unemployed	14	47%
Place of residency		
Atef remotes	5	17%
Numerate remotes	12	40%
Bouhraoua remotes	13	43%

3.4.6.2. Psycho-Analytical Section

3.4.6.2.1. The Acculturation Level

Participants were asked about their acculturation level concerning Arabic language use, ethnic interaction – whether they make visit and/or celebrate with other ethnic groups living in the same town, dressing *Tiseghnest* (female dress in Tuareg society). The results were the followings:

Table 11. Tuareg Women' Acculturation Level

Acculturation practices	Always	Rarely	Never
Arabic language/dialect use	10%	30%	60%
Ethnic interactions			
Visiting non-Tuareg women	15%	35%	50%
Celebrating with non-Tuareg speaking women	18%	25%	57%
Dressing <i>Tiseghnest</i>	95%	5%	0%

The majority of the respondents seemed to fail acquire Arabic or at least a dialect by which Ghardaia people communicate 10% to never 60%. In what concerns ethnic interaction, 50% of them said they had never visited non-Tuareg speaking women, 18% said they had always celebrated with non-Tuareg speaking women. Yet, the greatest share of participants 95 % showed their attachment to their cultural belonging through wearing *Tiseghnest*.

3.4.6.2.2. The Frequency of Post-Traumatic Stress Disorder symptoms/month

Section two was about Participants' Post-traumatic stress disorders. Thus, interviewees were questioned, to count up the frequency of the post-traumatic stress disorder symptoms over the past month and to rate each along a 5-point scale from 0-1 (rarely or never) to 5 (most or all of the time) – having repeated disturbing memories and dreams, feeling as though the stressful event were happening again, feeling upset and having physical reactions to events that remind of the past, having trouble sleeping and remembering events, and feeling distant from family and friends. The results are shown in the table below.

Table 12. The Frequency of Post-Traumatic Stress Disorder symptoms/month

PTSD	0 to 1	2	3	4	5
Repeated disturbing memories/ dreams	7%	9%	16%	28%	40%
Feeling stressful events happening again	17%	13%	16%	20%	34%
Feeling upset	2%	9%	18%	38%	33%
Having physical reaction to past events	4%	11%	15%	34%	36%
Having trouble sleeping	19%	5%	24%	20%	32%
Feeling distance from family and friends	2%	5%	25%	28%	40%

The extreme 5-point scale points are gathered as follows: 40% considered as the highest one where women mentioned both having repeated disturbing memories and dreams, and feeling distance from family and friends, all the time. Feeling that stressful events happening again considered the second referred to as 34%, and 33% went for feeling upset, while 32% for having trouble sleeping as frequent symptoms.

3.4.6.2.3. The Frequency of Depression symptoms

Depression was administered by measuring the frequency of the following symptoms including: depressed mood, changes in appetite and sleep, low energy, and loneliness. Respondents

were asked to consider the presence of each item/symptom over the past week and to rate each along a 5-point scale from 0-1 (rarely or never) to 5 (most or all of the time) – having depressed mood, changes in appetite and moods, low energy, and loneliness.

Table 13. The Frequency of Depression symptoms/week

Depression	0 - 1	2	3	4	5
Depressed mood	5%	5%	20%	24%	46%
Changes in appetite & moods	8%	16%	18%	20%	38%
Low energy	10%	18%	20%	20%	32%
Loneliness	2%	13%	25%	30%	30%

Forty-six percent of women had depressed mood all time, the second extreme category ranked changes in appetite and moods with 38%. The remained categories, according to their positions, went to low energy and loneliness rating as extremely mentioned by 32% and 30% of participants respectively.

3.4.6.3. The Endocrinological Section

3.4.6.3.1. The Frequency of Diabetes symptoms

When the present researcher inquired about the frequency of the following diabetes symptoms over the last six weeks and to rate each along a 5-point scale from 0-1 (rarely or never) to 5 (most or all of the time): pins and needles in both feet, hypoglycemia(including sweating, weakness, anxiety, trembling, hunger, or headache), sight problems, kidney problems.

Table 14. The Frequency of Diabetes symptoms/6 weeks

Diabetes severity	0-1	2	3	4	5
Foot Pins	14%	10%	13%	23%	40%
Sweating	17%	13%	16%	20%	34%

Weakness	2%	9%	18%	38%	33%
Anxiety	4%	11%	15%	34%	36%
Trembling	19%	5%	13%	24%	39%
Hunger	2%	7%	20%	30%	41%
Headache	8%	9%	16%	28%	39%
Sight problems	9%	10%	13%	20%	48%
Kidney problems	9%	14%	16%	28%	33%

The results were the followings: the highest frequent symptoms in this study rates for all time, went to sight problems with 48%, hunger 41% to foot pins in about 40%. For other hypoglycemia symptoms in general, they showed up depending on their extreme frequency ranged from sweating 34%, weakness 33%, anxiety 36%, and 39 % for both trembling and headache. However, the second sever diabetes problem (kidney problem) that interlocutors in this study were polled about, marked by significant percentage demonstrated in the table below with 33%.

3.4.6.3.2. Diabetes Distress

During the interview sessions, it has been noticed that diabetes in itself stands as a stressful event. Thus, interlocutors were polled to rate the stressful aspects in dealing with diabetes.

Table 15. Tuareg Women's Diabetes Distress

Diabetes distress	A*	B*	C*
Feeling that diabetes taking too much from your energy	20%	31%	49%
Scared living with diabetes	17%	23%	60%
Feeling that diabetes controls my life	20%	38%	42%
Feeling that I will end up with serious long-term complications	10%	28%	62%

A*: Not at all

B*: Occasionally

C*: All the time

The result showed up as follows: 60% of Tuareg women in this study said that they scared living with diabetes, and that feeling that diabetes taking too much from their energy was given another striking majority representing 49%. An approximate percentage; 42% was declared when questioned whether diabetes controls their lives. However, 62% of interviewees feel, all time, that they will end up with serious long-term complications.

3.4.7. Comparative Analysis of Findings: Mexican Immigrant women vs. Sahelian Tuareg Women

The implication of these principles into diabetes among Tuareg women, the clustering and interaction of depression and diabetes is an exemplar case to study syndemic, as these two diseases abide by three rules implicit in theory: the clustering of two diseases (depression and diabetes) exists within a specific population (Tuareg women); fundamental contextual and social factors are co-constructed with that cluster (poverty, health inequality, physical and interpersonal abuses...); and the disease arrangement creates the potential for adverse disease interaction, increasing the burden of the impacted population.

3.4.7.1. Unpacking TADDMERT and VIDDA: Macro-level Interaction

The aim of this part is to understand the interaction of the macro-level conditions, and the micro-level factors, represented through the form of stresses (mentioned above). To clarify, it is important to understand these narratives within the large political, economic and social inequalities. The latter is considered as the macro- determinants of health. Then, the study tries to interpret through the micro level-based aspect intersects with micro-level determinant of health which in this case different types of stresses that we have gathered from the narratives of Tuareg women in this study.

The call of the Syndemic theory is: the examination of the outcomes resulted from coalescing between macro-level determinants of health with micro-level ones.

3.4.7.1.1. Tuareg women Stress Narratives: TADDMERT Syndemics

Data reveals eight pivotal social stressors according to their frequency represented in Tuareg women of Sahel' narratives as follows: Transition's stress (25%), financial stress (20%), social isolation stress (17%), family/loss of family stress (8%), work stress (8%), neighborhood violence stress (8%), interpersonal abuse (3%), and health stress (3%). Starting with data related to Tuareg women; TADDMERTS syndemic, it is clear that the column of transition's stress and financial stress is so high. Yet, the importance of these categories does not only confine to its high frequency among all, but with its connection to other forms of stresses.

As the call of syndemic theory implies, the first category transition' stress, which represents the highest category with 25%, as well as the second-ranked category; financial stress with 20% should be understood under the umbrella of economic switch from socialization to privatization. Although, in Sahel, the transit to liberalized market has moved smoothly, it deprived the employment ladders from skilled and handmade jobs replacing them with wage earning sectors. As Hamouchene explained, "This process of liberalization and transition to the free market economy was accompanied by the destruction of the theoretical and practical know-how, resulting from the liquidation of institutes specialized in strategic sectors such as energy, steel, and textile industries"(n. p.)

Tuareg of Sahel who are pastoralists used to work in skilled jobs with raw materials usually taken from their livestock. "The Tuareg had excellent artisans who worked metal, wood, and leather, making and maintaining domestic and pastoral goods, as well as weapons and jewelry" (Edmond156). Now, they had to live elsewhere in different wilayas and cities for wage earning

jobs. In Ghardaia city for example, the unskilled low-income jobs such as, cleaning, farming and constructing are usually remained either to illegal immigrants from Mali and Niger males. Yet, Tuareg females are usually found in smaller textile factories and restaurants usually as cleaners, waiters, cook assistants, of course, the distribution will be guided accordingly with the rate of acculturation they can show along their services. All of which may increase the possibility of workplace insults and labeling which may be so stressful for 8% of the interlocutors. Though the percentage demonstrated as low in comparison to others, it might be interpreted as the low percentage of Tuareg women participation in public workforce, their participation might not last for long, or they might work as home maids where the statistics cannot reach them.

The aftermath of this transit is the leading force to the third powerful theme in this interview which is the social isolation that showed up as a third-ranked category of stress severity in about 17%. Tuareg who used to live within the most protective kinship system, full of proud and sense of belonging (Bleeker63), they are now pushed to live in social isolation. Also, the latter might be understood through the concept of residential alienation. Tuareg who live in Ghardaia are concentrated in Bouhraoua, Numerate and Atef which are ones of Ghardaia city center locations where large under constructed far remote mountain areas are inhabited by Tuareg. This remoteness is more likely to be unsafe as such Neighborhood violence stress counted for 8%. This type of stress is usually described in form of gang and stealing stories that mentioned in the lives of the interviewees.

Health stress category represents 11% among interlocutors. During interview sessions, the present researcher has realized that diabetes management showed to be in itself a stressful event, along with other diseases these women had to manage. In addition, health stress should be understood via the invisible hand of structural discrimination that mis-distributed health facilities

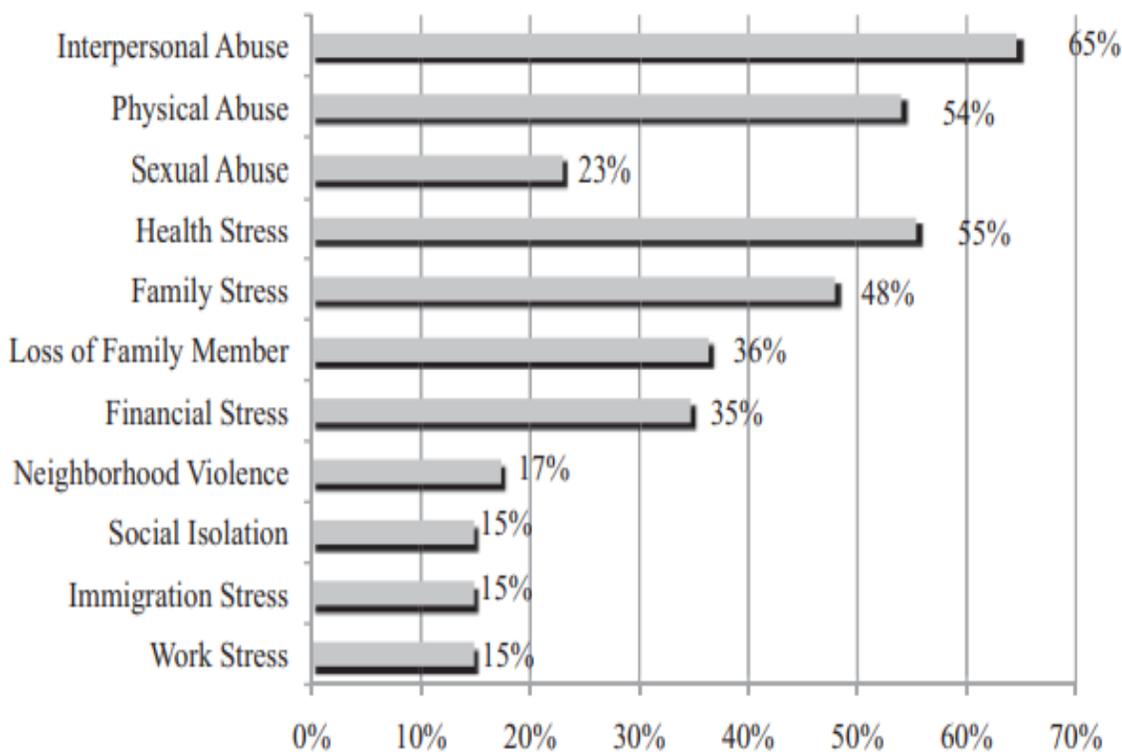
between north and south of Sahel in general and the inequality of healthcare facilities within rural remotes where Tuareg live in particular. Also, via the uncovered costs that these women had to pay once headed to private clinics. Via their struggle to comprehend the prescripts and medicines written in French and chemical store's seller who can only speak Arabic, and via the situation when they tried to illustrate their symptoms in *Tamshuget* (the Tuareg language) with healthcare physicians.

Equally important, the loss of family stress exhibited with 8%, Tuareg women who mentioned this theme as the most severe one due to the deep wound it left in their souls. However, in many cases the loss of a family member would strongly correlate with health stress because interviewees mentioned that they lost those beloved ones since they had severe health problems ranging from diabetes, kidney problems to cancer.

Though Tuareg social network has been broken in Ghardaia, interpersonal abuse has been reported by only 3% participants of this study. It can be that even the social break, Tuareg women still remained with that powerful position within their family. As Bleeker states, "Tuareg women are very much respected, they enjoy equality in the household with the men. The head of a household consults with his wife on all important decisions. He trades the camels and livestock only after talking to her" (42).

3.4.7.1.2. Mexican immigrant women Stress Narratives

On the hand, within Mexican immigrant women interviews, data presents (figure 12) eleven social forms of stress including: interpersonal abuse (65%) stress including both _ physical abuse (54%) and sexual abuse(23%), immigration stress (15%), health stress (55%), family stress (48%), loss of family member stress (36%), financial stress (35%), neighborhood violence (17%), work stress (15%), feeling of social isolation (15%) stress (15%).

Figure19.

Mexican Immigrant Women Narratives' Themes

Source: Mendenhall, Emily. *Syndemic Suffering: social Distress, Depression and Diabetes among Mexican Immigrant Women S.* New York: Routledge /Taylor and Francis Group, 2012. Print.

Again, these findings should be illustrated through the principle of syndemic theory that requires a structural understanding of the gathered stresses introduced by Mexican immigrant women of Chicago. Taking interpersonal abuse stress that represent the highest percentage (65%) in this study, this category interprets its multidimensions within both micro and macro levels interactions. To illustrate, understanding immigrant health status should consider first the macro-level determinant of health which promotes discrimination, racism, subjugation, and exploitation.

From women in Mendenhall's study, it is clear that when they decide to immigrate, the decision exhibits the extreme greed of global economy that necessitates to a person from Mexico to look for better economic conditions in the US. This macro-level political, economic and social need exacerbates interpersonal abuse. As most of the interlocutors used their body as a payment to cross the border. The situation that poses them in front of sexual and emotional abuses only because they needed financial security elsewhere in the US.

The social isolation category scored with 15%, is another predictor of macro-level interaction. If someone should be hold responsibility, then it is worthy to blame the neoliberal economic policies that regulate the exchange of goods and people between Mexico and US (Mendenhall 90). As such, the destruction of social networks correlates with the high level of abuse in women's immigration experience.

Continuing with the same stream, when the interviews diagnosed with diabetes, they began seeking care within the safe-net health system of the US. Diabetes management in itself is considered as health stress category which showed up with 55% in this study. Also, both loss of family member stress and family stress categories showed up with highest rates in VIDDA syndemics with: 48% and 36% respectively.

The circulation of Mari between healthcare sphere and her unsafe neighbor is in itself another category of stress (neighborhood 17%) because feeling unsafe within the given characteristics of neighborhood can also increase stress and intensifies the status of her diabetes. The case can confirm that street stressors that rooted from gangsters should be understood within the macro-structural status of immigration.

syndemic macro-level illustration, as it mentioned the first part of this paper, Mexican maids entered the US labor market in response to the phenomenon of globalization. To explain what this

phenomenon brought with, Michael stated that there were tremendous demands for foreign care workers especially during baby boomer generation¹⁶ era. This care workers deficit augmented as the needs arose to fill in the role of US women who chose to participate in the labor force (3). In other words, women's working in the developed countries surged the needs of family care that would be provided by women from the developing countries.

In actual fact, VIDDA syndemic brought a severe picture of what the process of immigration could be ever illustrated. Chasing the so called "American dream", Mexican immigrant women of Chicago chased their own dream in the US, hoping to find better life chances in order to overcome their daily financial stresses. However, the results indicated the opposite situation as the category marked with 36% among the participants of Mendenhall's study. In the case of the minority under study, financial stress entwined completely with the documentation status. Being illegal alien seeking for job in the US exacerbate automatically work-based discrimination which figured with 15%. According to Human Rights Watch and the Institutes for Policy Studies Campaign: "For Migrant Domestic Workers' Rights have documented the cases of dozens of such workers who have been abused by their employers...abuse entails non-payment, health and safety violation long working hours, physical, verbal mistreatment and sexual assaults" (85).

Legal status in the US context may decrease the burdensome of both financial and work stress. Yet, for Mexican immigrant women, the variable did not function likewise as this minority generally tended to be distributed in low-income jobs mainly as home maids and cleaners. However, maids arriving to America did not grant an official stand by the government officials. As a conference issued under Woodrow Wilson International Center of scholar entitled "Women Immigrants in the United States" points out: "No government department or agency monitors the immigrant domestic workers visa program, no law establishes specific employment conditions of

these workers” (85). As such, both legal or/and illegal immigrant women of Chicago mentioned the same percentage of both work and financial stresses categories.

3.4.8. The Biology of VIDDA and TADDMERTS: Social Distress, Depression and Diabetes

Having focusing on the social elements of both TADDMERTS and VIDDA Syndemics through narratives, consideration has been headed to the biological mechanisms through which these social events represent by social distress might interact with the psychological (depression) and physiological (diabetes) domains. Accordingly, this part tried to evaluate VIDDA and TADDMERTS Syndemics social interaction to the biological factors: psychological (depression) and biological ones (diabetes).

3.4.8.1. Measuring Stress: Distress in the Mind and Body

3.4.8.1.1 The Cumulative Aspect of Stress

It is worthy to state that random stressful events cannot work in a harmful way against the targeted women’s health, unless the stressful events are in cumulative manner. McEwen declared: “This effect of the social environment results from the fact that the brain and the body are in 2-way communication via the automatic nervous system, the endocrine and immune systems which contribute to negative impact of chronic stress and unhealthy life style” (316). However, before measuring the physiological damage of the cumulative stress on these minorities, it is necessary to remove an ambiguity concerning the word stress in itself.

Stress is a paradoxical term because in one sense, it means positive states of excitement and challenge, generally referred to as a good stress. For example, according to the fight-or-flight response⁸theory, in the ancient lifestyle, when human was encountered to dangerous situations, for instance, to dangerous animals like tiger or lion, the body jolts in stress. This stressful reaction makes human body faster, stronger and even fighter in the wild. Or, in our daily life, when the

exam schedule is displayed, students' brain jolts in stress giving an urge to start revising the lessons. In both mentioned examples, the body returns to its normal state and can even relax after this kind of stress.

On the other side, stress reflects an undesirable state of body chronic fatigue, worry, frustration and inability to cope, or what's known as a bad stress. It is always the case when stress has become constant and stress hormones are constantly into work; the job, the kids, finances, and traffics form infinite sources of stress. Under these measures, stress harms human severely and the body will not return to its relaxed status (316). Speaking about types of stress and the severity of each kind, Chrousos and Philip declare "each life event is assigned a value in arbitrary; "life changing units" chosen to reflect the relative amount of stress by the events causes among the population studied" (1245).

Stress readjustment splits harmful stress into three main forms: life event, chronic strains and daily hassles. Acute life event stressors such as death or divorce require major behavioral readjustments within relatively short period of time. Daily hassles are mini-events like traffic jams require only small behavioral readjustments. However, chronic stresses are persistent or recurrent demands that require readjustment over prolonged period of time (Aneshensel 22). Chronic stressors, thus, are more likely than acute events to affect an individual's psychological functioning or behaviors.

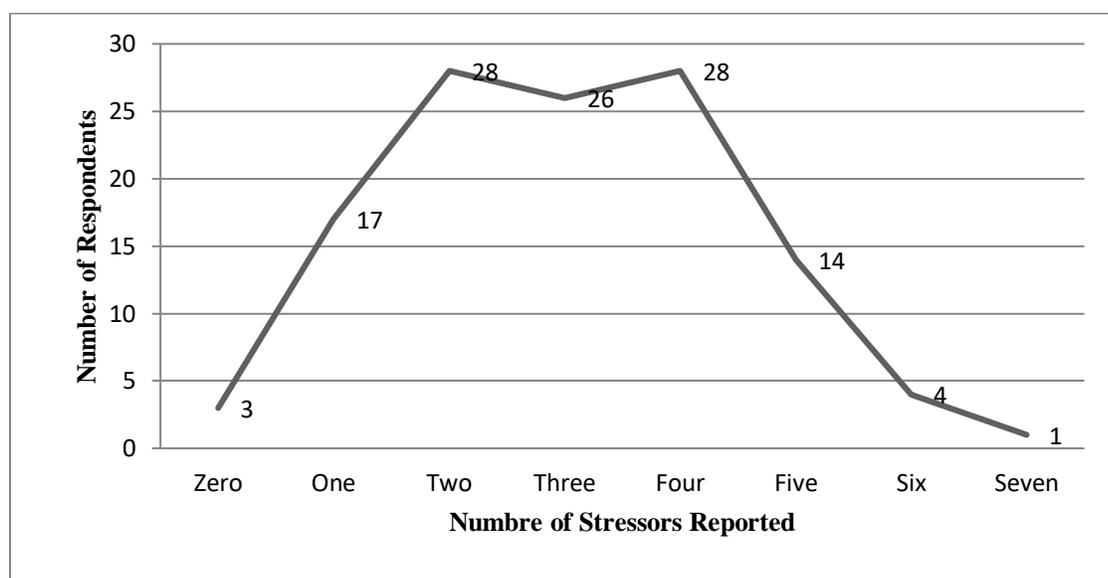
Another aspect of stress is the cumulative one. As Zimbardo and others define "Stress is cumulative, so to estimate the total stress you are experiencing, add up the values corresponding to the events that have occurred in your life over the past years" (213). That is to say, early life, mid-life and current-life stresses are accumulated throughout the whole life to increase the risk of psychological and physical disorders on the assumption that sever stressful circumstances of early

life can have a deteriorate effect on physiological disposition and/or mental health status in the adulthood.

- **Mexican Immigrant Women Accumulative Aspect**

Beginning with VIDDA syndemic, the accumulative phase of stress is represented in the figure below where Mendenhall quantified the accumulation of stress among her interlocutors by counting for the frequency of each suggested stressful theme for each woman in this study.

Figure 20.



Distribution of Cumulative Stresses (Narrative Themes) Reported in VIDDA

Source: *Syndemic Suffering: Social Distress, Depression, and Diabetes among Mexican Immigrant Women*. New York: Rutledge, 2012. Print.

As it is clarified in figure 13, the data assures the distribution of the cumulative number of stressors reported. Financial stress, health stress, interpersonal abuse, family stress, loss of family member stress, neighborhood violence, feeling of social isolation, and work stress are reported among the interviewees as showed. Just three women in the study reported one of the nine catalogues of stresses while the majority of narratives reported at least two-to four different type

of stresses within the same body. One woman in the narratives reported the extreme number of stressors that of seven from nine stressors, yet, the average number of stressors reported was three. The result that permitted the study to measure the stress as well as it confirms the availability of the cumulative aspect within these narratives.

Following the stream line, in TADDMERTS syndemic, the present researcher quantified the accumulation of stress among Tuareg women of Ghardaia by calculating the frequency of the seven suggested stressful themes catalogued for each woman in this study.

Table 16. Distribution of Cumulative Stresses (Narrative Themes) Reported

Stressor	0	1	2	3	4	5	6	7
Respondents	2	17	28	26	28	14	4	1

As it is clarified in table 13, TADDMRTS data clarifies the distribution of the cumulative number of stressors among its interlocutors as follows: Just three women in the study reported one of the nine catalogues of stresses while the majority of narratives reported at least two-to four different type of stresses within the same body. One woman in the narratives reported the extreme number of stressors that of seven from nine stressors, yet, the average number of stressors reported was three. The result that permitted the study to measure the stress as well as it confirms the availability of the cumulative aspect within these narratives.

If the cumulative theory is applied into the groups under study, the early life circumstances these women were located into during their early lives was marked by great exposure to variety of stressors which acted negatively toward their current health status. For example, this method emphasizes the early placement of both Tuareg women of Sahel in Ghardaia and Mexican immigrant of Chicago within an adverse occupational system, like maids and waiters, cleaners (see chapter 1) and the different stressors that may be brought accordingly. Or, taking the terms status

in its tangible sense, residing within rural or bad neighborhoods in which interlocutors of both studies possessed little economic or social capital. This location pattern creates a sort of stressor that is concerned with personal safety and obstacles to services and transportation. Together, they can have a notable impact on the current health of these women.

This stand (accumulative feature of stress) is considered one of the major pathways to approve that previous narratives have long term consequences to their current health status. This causation permitted to cluster stress, depression diabetes in the column of syndemic study at the biological level. Importantly, to measures the extent of adversity of each of the previous stresses on women's psychological system, it is necessarily to lay groundwork approach that brings them together. The Allostatic load theory therefore is proven to make the measurement possible.

3.4.8.1.2. The Allostatic Load theory

Allostatic load is defined as a measure of cumulative impact of adaptive physiological responses that chronically exceed optimal operating ranges and affect the body's regulatory systems. In this sense this theory serves as a mediator between life stress experiences and biological risk. Each stressor increases biological risk for disease and individuals exposed to a certain number of stressors (such as four or more) may be more likely to have poor health outcomes than others. While this approach may be a way to "measure" social suffering, each stressor must be interpreted carefully because the intensity, duration and form of each stressor may affect physiology differently (McEwen 109). Nevertheless, the notion of allostatic load helps the syndemic theory a lot because it shows how social stressors are inscribed in the body and may be reflected in known burdens of diagnosed disease. Thus, this approach might provide a line to measure the impact of structural, every day and symbolic violence over an individual's life course.

- **The Allostatic Measurement in VIDDA Syndemic**

Applying the allostatic load measurement upon the stresses collected through the whole narratives. Table 8 evaluates the relationship of narratively generated social stresses with psychological distress. For VIDDA syndemics, data reveals that interpersonal abuse stress is independently associated with both depression and PTSD. Feeling of social isolation, health stress, and diabetes distress were significantly associated with depression and PTSD. The other stress sources do not show with high percentage. Paradoxically, in literature acculturation has great association with mental health problems. For example, in Shipra Sigh study, the interlocutors (Asian American immigrants) associated acculturation as the focal point to their mental health incidences with 65% compared to Mexican immigrant women in this study who report the association with 0, 17%. Even though, acculturation with other kinds of stress in this study seems insignificant, this doesn't mean that the other sources of stresses were insignificant rather it means that within these interlocutors diagnosed with diabetes, they were not significant predictors of depression or PTSD.

It is common in many incidences the positive association between social isolation and depression among different ethnic groups. Yet, social isolation is largely linked to adverse health among impoverished groups in general and depression among Mexican immigrant women in specific. Upon this positive association, the strong correlation between sexual abuse and feeling social isolation might indicate that women under study with a history of sexual abuse are more likely to isolate themselves socially, and those who detached from social networks might be at higher risk for depression.

Table 17. Unadjusted linear Regression of Stressors with Physiological Distress

Stressors	Depression			PTSD		
	Effect	95% CI	P	Effect	95% CI	P
Any Abuse	10.1	4.89,15.4	0.00	14.5	9.08,19.9	0.00
Physical Abuse	8.51	3.41, 13.60.	0.00	13.2	7.92,18.4	0.00
Sexual Abuse	10.7	4.69, 16.7	0.00	13.5	7.15,19.9	0.00
Social Isolation	14	7.02, 21.1	0.00	11.1	3.29,18.9	0.01
Health Stress	6.37	1.14, 21.1	0.02	3.67	-2.07,9.41	0.21
Family Stress	3.59	-1.70, 8.87	0.18	2.65	3.07,8.38	0.36
Loss of Family Member	1.74	-3.78, 7.26	0.53	3.35	-2.59,9.29	0.27
Financial Stress	3.04	-2.52, 8.60	0.28	3.03	-2.98,9.03	0.32
Neighborhood Violence	1.86	-5.16, 8.87	0.60	-0.23	-7.81,7.35	0.95
Immigration Stress	-2.47	-9.93, 4.99	0.51	-0.84	-8.91,7.23	0.84
Work Stress	2.17	-5.30, 9.63	0.57	5.95	-2.04,13.9	0.14
Language	-2.46	-7.7, 2.86	0.36	-2.85	-8.58,2.87	0.33
Birthplace	-3.96	-9.50, 1.58	0.16	-5.72	-11.7,0.22	0.06
Acculturation	0.77	-0.69, 2.23	0.30	1.58	0.03,3.05	0.05
Documentation Status	-2.82	-8.77, 3.13	0.35	-3.36	-978,3.05	0.30
Diabetes Distress	4.00	2.64, 5.38	0.00	2.88	1.29,4.47	0.00
Depression	3.51	1.87, 5.16	0.00	0.71	0.69,0.95	0.00
Cumulative Stress				3.63	1.84,5.42	0.00

Number of reported in life History Narratives

Source: *Syndemic Suffering: social Distress, Depression, and Diabetes among Mexican Immigrant Women*. New York: Rutledge, 2012. Print.

- **The Allostatic Measurement in TADDMRTS syndemics**

Employing the allostatic load measurement upon the stresses collected through the whole narratives among Tuareg women of Ghardaia. Data evaluates the relationship of narratively generated social stresses with psychological distress. For TADDMRTS syndemics, findings reveal that transition stress is independently associated with both depression and PTSD. Feeling of social isolation, health stress, and diabetes distress were significantly associated with depression and PTSD. The first clue to this causation is the process of acculturation as acculturation stress plays a major role in association with mental health problems.

Conceiving the reality that Tuareg in general shows a great pride of belonging to their culture, they are rarely eager to acculturate. As it is displayed in the (table below,) when interviewees in this study were asked about their acculturation level concerning Arabic language use, ethnic interaction – whether they make visit and/or celebrate with other ethnic groups living in the same town, dressing *Tisighnest*(female dress in Tuareg society). The majority of the respondents seemed to fail acquire Arabic or at least a dialect by which Ghardaia people communicate 10% to never 60%. In what concerns ethnic interaction, 50% of them said they had never visited non-Tuareg speaking women, 18% said they had always celebrated with non-Tuareg speaking women. Yet, the greatest share of participants 95 % showed their attachment to their cultural belonging through wearing *Tisighnest*.

As such, Tuareg women who reside in Ghardaia rated acculturation as the focal point to their mental health incidences with 65% because the importance of acculturation in social interaction. And those who do not find clue to social interaction are more likely to live in isolation and are at higher risk of developing PTSD and depression symptoms.

Starting with PTSD, 40% considered as the highest one where women mentioned both having repeated disturbing memories and dreams, and feeling distance from family and friends, all the time. Feeling that stressful events happening again considered the second referred to as 34%, and 33% went for feeling upset, while 32% for having trouble sleeping as frequent symptoms.

Depression showed up as follows: 46% of women had depressed mood all time, the second extreme category ranked changes in appetite and moods with 38%. The remained categories, according to their positions, went to low energy and loneliness rating as extremely mentioned by 32% and 30% of participants respectively.

Until this point, the relation between violence, structural discrimination and social isolation

with depression is a central objective of syndemic theory. Still, how psychological adversities (depression) can provoke physiology (diabetes) is further explained in the next part.

3.4.9. Completing VDDA and TADDMERTS Syndemics: Pathways Linking Depression with Diabetes

In actual fact, growing body of literature describes in depth the pathways that describe how depression interacts with other body's physiological components that contribute to diabetes onset. Pathways in this part are summarized as following. Firstly, frequent and active stress response that usually occurs in chronic stressful social status i.e. the huge amounts of stress desensitizes the body to insulin and ultimately accrues to diabetes incidence (Bjorntorp, Holm and Rosmond³⁷⁵). Yet, this mechanism is well detailed in more biological understanding. The first way is the Neuro-hormonal Process with Biological Stress, it is also called the Cortisol pathway¹⁰, at its most basic level, when the brain experiences or perceives something to be stressful, it activates corticotrophin releasing hormone (CRH)¹¹ within fifteen seconds of the initial stress response. CRH then triggers the release of hormones within the sympathetic nervous system¹² and hypothalamic-pituitary adrenal (HP)¹³ axis. Concurrently, stress triggers the pancreas to release glucagon. Together, these hormones raise the levels of sugar in the blood, as they are essential for mobilizing energy during stress. However, increased secretion of CRH as a result of chronic stress antagonizes the hypoglycemic effects of insulin, leading to insulin resistance characteristic of diabetes (377).

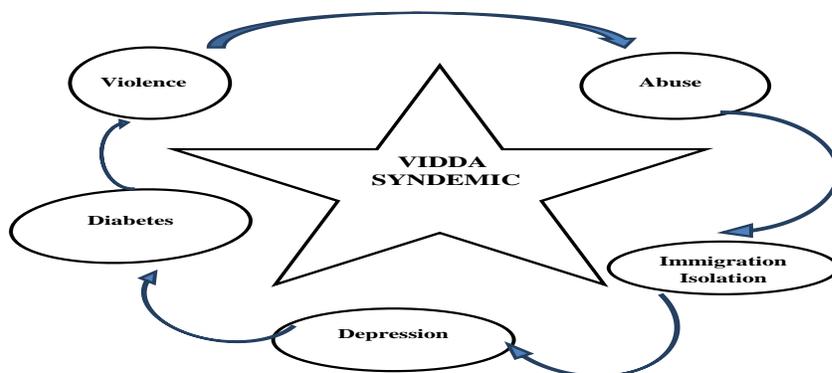
Secondly, chronically stressful environment can make complication not only at the cortisol level but such chronic stress has an exert influence on mental health functioning. To explain, the unstable blood sugar resulted from the frequent stress events may erode mental health functioning (Talbot and Adam 1558). Equivalently, Mendenhall clarifies, "glucose transporters (GLUT)¹⁵ which facilitates the entry of glucose, a necessary metabolic substrate association with

energy, into cells. Within the brain, glucose utilization is an indicator of neuronal activity. However, depressed individuals display decreased glucose utilization in the left lateral prefrontal cortex of the brain” (Mendenhall 122). Nevertheless, in the context of mental health, antidepressant treatment is another pathway through which depression can develop diabetes. Antidepressant treatment has been shown to reverse the alteration in cerebral glucose utilization among those who are depressed, thereby substantiating the physiological link between depression and glucose transport (130).

Literature also focused on the negative coping strategy as another way through which depression can lead to diabetes risk; one of these negative behaviors is bad-eating habits. From the previous narratives many of the interlocutors identified chronic stress and psychological distress as major contributors of higher caloric diets and reduced activity patterns. Negative coping behavior is exemplified in Mari’s case in which negative emotions, in addition to her adverse circumstances, mediated to bad dietary and few exercise patterns that contributed to high adiposity level that led to diabetes onset.

The last pathway shows how weight gain and obesity that result from using antidepressant medication may predispose depressed individuals to diabetes. It is argued that one of antidepressants side effects is weight gain that is relatively common during both acute and long-term treatment with anti-depressants (Mendenhall 103). At the same time other investigations tried to improve whether the aforementioned association is limited just to physical activity and weight gain which are main attributes to diabetes. Upon this endeavor, the bidirectional causality justified that diabetes requires management regimes that may act as a depressive force because of the extensive self-limiting activities that may be stressful or unpleasant as well (105).

Figure 21.



The VIDDA Syndemic Model

Source: *Syndemic Suffering: social Distress, Depression, and Diabetes among Mexican Immigrant Women*. New York: Routledge, 2012. Print.

To restate, various elements of the VIDDA Syndemic approach constructs are situated within larger border context of entwined factors in order to highlight the complexities that shape Mexican immigrant women's health and social well-being. Figure 20 stands as an open-ended model through which we can reinforce the notion that Syndemic generative aspect that encompasses multi-diverse factors to come together shaping adverse health from social problems.

The global economy that necessitates to a person from Mexico to look for better economic conditions in the US; this journey fuels other forms interpersonal discrimination. Beside migratory laws that differentiate legal immigrants according to their home countries, the transit escalates interpersonal discrimination for illegal immigrants who by fair means or foul will pay to reach the US border.

Within the eventual milieu, the circle of structural factor in which an enchained institutional rules and regulations tied the status of immigration to certain kinds of occupation that offer

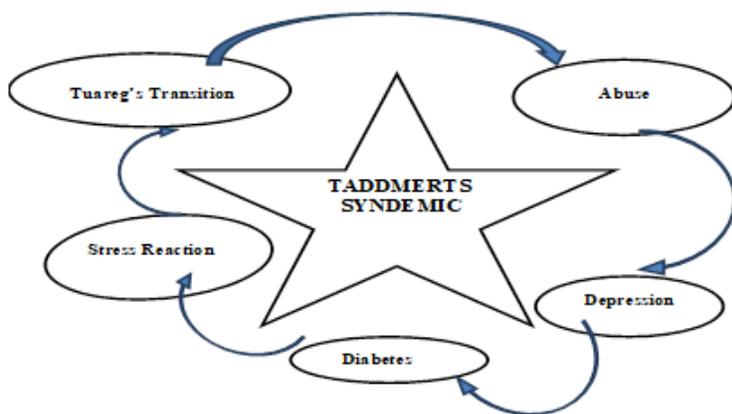
inadequate income which in turns limited health access. Also, as occupation, income and education are much enchaind construct; they distribute their disadvantaged outcomes in linear pathway i.e. if the person lives in adverse localities where there is a limited education, the same one will be limited to access adequate occupation and ultimately to unhealthy status.

Simultaneously, these adverse localities are generally shaped with unsafe neighborhood and poor health care access that bridge to other forms of discrimination. It is necessary to relate these structural deficiencies with health status not only via health access but in terms of how these social adversities can be met under the skin of individuals. As such, narrative illness permits such connection, and funnels these social events in terms of social stress. In biomedical side, stress, depression is approved to be melt with diabetes incidence. Ultimately, the association between discriminatory experiences and Mexican immigrants' adverse health is approved in general through unequal health status, and in particular through diabetes affliction.

For Tuareg Women case, TADDMERTS Syndemic Model examine the adverse health position that many Tuareg women of Sahel live, especially who situated in Ghardaia town, in order to meet a suggested solution to Algerian Health Ministry in generating powerful program and adequate clinical intervention helping Tuareg of Sahel origins to equal and adequate health status. The findings of the study revealed that under the concept of structural discrimination, the current structural as well as medical factors exacerbate the prevalence of diabetes affliction among the minority under study. To illustrate, the misdistribution of wealth between north and south as well as the Sahelian switch to liberal economic system necessitate Tuareg minority from far Sahara to look for better economic conditions in Ghardaia town.

The transit fuels forms of discrimination as the displacement escalates interpersonal discrimination against Tuareg women who by fair means or foul will keep attached to their cultural features: language, beliefs and appearance.

Figure 22.



The TADMERTS Syndemic Model

Source: *Syndemic Suffering: social Distress, Depression, and Diabetes among Mexican*

Immigrant Women. New York: Routledge, 2012. Print.

Within the eventual milieu, the circle of structural factor in which an enchained conventionnel rules and regulations tied the status of Tuareg minority to certain kinds of occupation that offer inadequate income which in turns limited both healthful nutrition and health access. Also, as occupation, income and education are much enchained construct, they distribute their disadvantaged outcomes in linear pathway i.e., Tuareg women who live in adverse localities where there is a limited education, are the ones will be limited to access adequate occupation and ultimately to unhealthy status. Simultaneously, these adverse localities are generally shaped with unsafe neighborhood and poor health care access.

Aanalysing the subject of health inequality via the perception of syndemic theory helped the present researcher gains in-depth insights into the Tuareg women health's requirements and necessities. It is necessary to relate these structural deficiencies with health status not only through health access but in terms of how these social adversities can be met under the skin of individuals. As such, stressful narrative themes permit such connection, and funnel these social events in terms of social stresses. In biomedical side, post-traumatic stress disorder and depression are approved to be melt with diabetes incidences. Ultimately, the association of life discriminatory experiences and Tuareg women's diabetes afflictions is approved through the lens of syndemics theory.

Endnotes

1. The term “nosological classification” is often used in connection with medical classification systems, and the tendency is to equate it with “diagnosis” and “validity.” However, particularly in the case of psychiatry this is far from always being the case. From a scientific point of view, the two most up-to-date classification systems in use today - the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV), and the International Classification of Diseases, 10th Revision (ICD-10) - may be considered as the theoretical basis of current psychiatric nosology. In this paper we show that the instrumentally generated DSM-IV or ICD-10 diagnoses of schizophrenia have relatively low validity in comparison with clinician expert diagnoses. If medical classification is to be realistic, simple to use, and reliable, nosological systems must be based not only on established facts, but also on theoretical assumptions regarding the nature of disease (Petr Smolik, “Validity of Nosological Classification 1.3: 185–190,” Dec. 1999). Web. 23 June 2016. <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3181576/>>.

2. Hepatitis B is a virus that infects the liver. Most adults who get it have it for a short time and then get better. This is called acute hepatitis B. Sometimes the virus causes a long-term infection, called chronic hepatitis B. Over time, it can damage your liver. Babies and young children infected with the virus are more likely to get chronic hepatitis B. You can have hepatitis B and not know it. You may not have symptoms. If you do, they can make you feel like you have the flu. But as long as you have the virus, you can spread it to others. Web. 15 Feb. 2016 <<http://www.webmd.com/hepatitis/hepb-guide/hepatitis-b-topic-overview#1>>.

3. The Human immunodeficiency virus type 1 (HIV-1) is the causative agent of AIDS. It is characterized by extensive and dynamic genetic diversity, generating variants falling into distinct molecular subtypes as well as recombinant forms; these forms display an uneven global distribution. This diversity has implications for our understanding of viral transmission, pathogenesis, and diagnosis and profoundly influences strategies for vaccine development. (Buonaguro L., “Human Immunodeficiency Virus Type 1 Subtype Distribution in the Worldwide Epidemic: Pathogenetic and Therapeutic Implications 81.19: 10209–10219,” Oct, 2007). Web. 10 Nov. 2016. <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2045484/>>.

4. A type of white blood cell. T-lymphocytes are part of the immune system and develop from stem cells in the bone marrow. They help protect the body from infection and may help fight cancer. Also called T cell and thymocyte. Web. 14. Nov. 2016. <<https://www.ncbi.nlm.nih.gov/pubmedhealth/PMHT0022044/>>.

5. HIV stands for human immunodeficiency virus. It harms your immune system by destroying the white blood cells that fight infection. This puts you at risk for serious infections and certain cancers. AIDS stands for acquired immunodeficiency syndrome. It is the final stage of infection with HIV. Not everyone with HIV develops AIDS. Medline. Web. 23. Nov. 2016. <<https://medlineplus.gov/hiv aids.html>>.

6. Severe acute respiratory syndrome is a serious form of pneumonia. It is caused by a virus

that was first identified in 2003. Infection with the SARS causes acute respiratory distress (severe breathing difficulty) and sometimes death SARS is caused by a member of the coronavirus family of viruses (the same family that can cause the common cold). It is believed the 2003 epidemic started when the virus spread from small mammals in China. Web. 23. Nov. 2016. <<https://medlineplus.gov/ency/article/007192.htm>>.

7. It can cause upper and lower respiratory disease in people of all ages, especially among young children, older adults, and people with weakened immune systems. HMPV was discovered in 2001 and is in the paramyxovirus family along with measles and respiratory syncytial virus (RSV). Broader use of molecular diagnostic testing has increased identification and awareness of HMPV as an important cause of upper and lower respiratory infection. (“Human Metapneumovirus: Clinical Features,”). Web. 28 Mar. 2016. <<https://.cdc.gov/surveillance/nrevss/hmpv/clinical.html>>.

8. Coyote is a colloquial Mexican–Spanish term referring to the practice of people smuggling across the U.S.–Mexico border. This offense includes bringing human beings into the country, as well as the unlawful transportation and harboring of immigrants already in the United States. Web. Mar. 2019. <<https://en.wikipedia.org/wiki/coyote>>

9. Refers to a physiological reaction that occurs in the presence of something that is terrifying, either mentally or physically. The response is triggered by the release of hormones that prepare your body to either stay and deal with a threat or to run away to safety. (Cherry Kendra, “Personality Psychology, 81.90.n.p” Feb. 2016). Web. 2 Dec. 2016. <<https://www.verywellmind.com/personality-psychology-4157179>>.

10. Fetal programming (also called prenatal programming) became prominent in clinical medicine in the 1980s. The essence of the idea is that impacts on local fetal cellular environments can change gene expression during the developmental construction of tissues and organs, and these changes can result in long-range consequences for the function of those tissues and organs during childhood and adulthood even affect the following generation to produce a trans-generational non-genetic disorder. (Dan, Agin “More Than Genes I: So What Is Fetal Programming?: How Much of Behavior is Shaped in the Womb?, 6 Oct. 2009”). Web. 28 Mar. 2016. <<https://www.psychologytoday.com/us/blog/more-genes/200910/more-genes-i-so-what-is-fetal-programming>>.

11. Our body responds to stress in many different ways, but one thing that all stress has in common is that it increases the level of a very powerful hormone called cortisol. Cortisol is a hormone involved in the regulation of metabolism in the cells and helps us regulate stress within the body. Web. 21 Mar. 2017. <http://study.com/academy/lesson/what-is-cortisol-definition-function-deficiency-symptoms.html>>.

12. It encoded preproprotein is proteolytically processed to generate the mature neuropeptide hormone. In response to stress, this hormone is secreted by the paraventricular nucleus (PVN) of the hypothalamus, binds to corticotropin releasing hormone receptors and stimulates the release

of adrenocorticotrophic hormone from the pituitary gland. Marked reduction in this protein has been observed in association with Alzheimer's disease. Autosomal recessive hypothalamic corticotropin deficiency has multiple and potentially fatal metabolic consequences including hypoglycemia and hepatitis. In addition to production in the hypothalamus, this protein is also synthesized in peripheral tissues, such as T lymphocytes, and is highly expressed in the placenta. In the placenta it is a marker that determines the length of gestation and the timing of parturition and delivery. A rapid increase in circulating levels of the hormone occurs at the onset of parturition, suggesting that, in addition to its metabolic functions, this protein may act as a trigger for parturition (“corticotrophin Releasing Hormones,” 20 Jan. 2016). Web. 21 Mar. 2017. <<https://www.ncbi.nlm.nih.gov/gene/1392>>

13. The sympathetic nervous system (SNS) is part of the autonomic nervous system (ANS), which also includes the parasympathetic nervous system (PNS). The sympathetic nervous system activates what is often termed the fight or flight response. Like other parts of the nervous system, the sympathetic nervous system operates through a series of interconnected neurons. (Science Daily, 21 Jun. 2016). Web. 21 Mar. 2017. <https://www.sciencedaily.com/terms/sympathetic_nervous_system.htm>.

14. Major component of the stress system consisting of the nucleus ventricular (PVN) of the hypothalamus, the anterior pituitary gland, and the adrenal cortices. Corticotropin-releasing hormone and vasopressin secreted by PVN neurons into the hypophysial portal system stimulate pituitary cells to produce and secrete adrenocorticotrophic hormone (ACTH) into the general circulation. ACTH then stimulates cortisol secretion by the adrenal glands. Web. 21 Mar. 2016. <<http://medical-dictionary.thefreedictionary.com/hypothalamic-pituitary-adrenal+axis>>.

15. Glucose transporters are a wide group of membrane proteins that facilitate the transport of glucose over a plasma membrane. Because glucose is a vital source of energy for all life, these transporters are present in all phyla. The GLUT or SLC2A family are a protein family that is found in most mammalian cells. 14 GLUTs are encoded by human genome. GLUT is a type of uniporter transporter protein (Bernard Thorens and Mike Mueckler “Glucose Transportation in the 21st Century” 298.2: 141–145, Feb. 2010). Web. 23 Feb. 2017. <<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2822486/>>.

General Conclusion

As knowledge on Mexican immigrant women of the US and Tuareg women of Sahel grows, so does their different life interpretations, and no less so when the health status is tackled. Therefore, contemporary research interests give deep focus to the health of ethnicities. The target group's deteriorated health positions have become frequent and pervasive in every single data. However, the source of these inequalities is still incomplete, not seen, and usually unrevealed. Yet, if health inequality is seen from the angle of discrimination, the view gives too much evidence to prove the association between perceiving discriminatory experiences with Latinas and Targuias disadvantaged health which is the primary interest of this work.

It is argued that knowing the history of populations is the key factor in understanding their current issues. That is why the thesis starts with investigating the early presence of female Mexican immigrants in the US and Tuareg women in the Sahelian social landscape and Ghardaia's society in particular because the fate of immigration marks the foundation of discrimination against these groups. It is important to conclude that the arrival of both Latinas and Targuias in the US and Sahel is credited to two main stories: the story of indigenous and the story of immigrants but the most important conclusion is neither the first nor the second story provides adequate trends and policies that are vacant from any acts of humiliations.

Beginning with indigenous category, for Mexican women, ironically, they do not initiate their trip to the US, yet the trip is decided from the other side border. In other words, the two prevailing concepts of expansionism and exceptionalism have initiated the big ideology of Manifest Destiny giving the US that permission to raid war against Mexico. Under the Mexican-American war, it annexed large Mexican territories and eventually their Mexican inhabitants the fact that this part of the thesis highlights them as indigenous. Essentially, the act of discrimination in this part is

shaped within the lines of the Guadalupe Hidalgo Treaty that in the one part grants those natives full rights of citizenship with their whites-American counterparts, and on the other part, the treaty cannot arrange clear placement of those Mexicans in the racial categorization. That is to say, their full rights are shadowed with the concept of whiteness as the idea of Americanism at that time has been related with being white with European descendants.

In the same way, the story of Tuareg presence in Sahel is part of the indigenous tale of tribal population who used to be pastoralists moving freely into and out of Sahelian southern borders. However, their movement had been restricted cumulatively during and after the French colonialism, the action which turns Tuareg population into seven tribal groups from which the Kel Ahaggar Tuareg tribes around Tamanrasset, and the Kel Ajjer Tuaregs based around Djanet and Illizi form the very sense of indigenous of Tuareg of Sahel is presented. As their Mexican counterparts, the indigenous Tuareg of Sahel have suffered to catch up full Sahelian citizenship especially in the early era of independence. Nevertheless, it is worthy to mention that women in that early time had no independent presence that is why they are melted with their male counterparts.

Coming to the story of immigration, both Latinas and Targuias in this category can be observed on the basis of legal and illegal immigrants. Nevertheless, it is also important to note that the absence of women's voice in literature is one of the most obstacles in tackling their story at the early ages. In an effort to bring the fact obvious, the add-women-and-stir theory helps to reconsider the gap in the scarcity of literature. The theory concludes three main reasons behind this shortage. First it is the law of the covertures in which women, daughters, wives and sisters have no legal identity of their own and are considered derivers, followers to their males. Under this status, women under study are not numerically counted but they are regarded as farm workers' mothers,

and field workers' daughters. Women cannot be seen clearly during the early times when they have decided to take an active role of immigration without men companionship; the case that puts them under the shadow. However, severe statistical data in the Sahelian academia for Tuaregwomen internal immigration throughout the Sahelian cities poses as strong impediments against the present research.

It is worth to grasp health inequality from the structural discrimination view to prove that partiality is not just confined to health access nor that health access is restricted to purchasing health insurance. So, linking the social determinant of health with the structural discrimination, this investigation launches with the effects of adverse socioeconomic situation the target women live with and how these can have two edges: direct and indirect manners. The first refers to the actual adversity that these social components affect health. The manner in which those immigration positions funnel the available low-income jobs to these minorities putting them in front of direct adverse conditions and hazardous types of job that lack safety and well-being. The same migratory trend controls the residential pattern of immigrants which in itself has another say in health access. Both Tuareg and Mexican of this work are oriented to reside in rural areas where they are at the stake of different health treatment resulted from shorthanded and under-staffed health facilities in the eventual districts.

As much as educational attainment plays in determining the type employment, it has other effects in this discourse. individual with less required education are in less participation to the demands of the different health context, and are hindered to engage in or communicate information that promotes health conditions. The degree to which an individual is not able to understand his/her health status is considered health illiteracy.

These social variables almost unified their adversity that is distributed as unequal health insurance coverage. The same industries, manufacturing and service sectors which offer low payment, they are intertwined in health issues since they lack employment-based insurance while the whole US structure is still fighting for strategy to issue national health insurance. Although Sahel succeeded in creating social-based CHIFA, the percentage of insurance coverage among the whole Tuareg ethnicity in terms of CHIFA is deteriorated. Many considerations interfere; low income makes it difficult if not impossible for both Latinas and Tuareg to pay premiums. Also, as Medicaid and CHIFA are a state based-programs, they are fluctuated in terms rural residency and urban ones.

The present thesis has been able to reach another crucial conclusion about the issue of inequality among women's health. The structural discrimination, therefore, has been chosen to tackle the discriminatory actions within the health care system. Looking at the subject from this system in the light of the theoretical framework of culture, it unveiled the infrastructure of the health care system that is designated to reinforce health inequality among certain groups especially when these groups are put in the scale of comparison with other groups.

Cultural and linguistic barriers are the most prominent elements that causing the low rates of health coverage. Cultural issue in this area is determined by the over majority of non-Latinos physicians in the US healthcare market, and non-Tuareg doctors within Sahelian healthcare arena whose culture represents a small fraction among the demographic changes in both societies. Simply divide groups into —us and —them is a stereotypical action that affects health delivery in the one point, and decreases trust to this delivery from the other point. Language proficiency has also a big deal in this area of interest. Beyond its importance in understanding and breaking health

intricacies, language proved to provide a warm atmosphere that enhances chances for advice and encouragement in which Latino and Tuareg groups are out of it.

Building knowledge upon the mentioned platform of structural discrimination, it is necessarily to tie them with the other phase of women's health that permits scrutinizing the issue of health under the zoomed scope. The recognition of gender issues in health reveals significant realities about its extreme severity on women. There is a slender separation that splits the health of both genders. Yet as the thesis focuses on the health of women, it finds ways to depict the double severity of gender aspect in health arena. When looking askance at these differences, women are potentially vulnerable of these structural elements of discrimination than their male counterparts. Women 's health needs and their biological requirements coupled with additional adversities brought by migration pushed to emphasize on more needs in addressing their particularity in terms of health. Changing women' definition from the productive role to psychosocial concept reveals that along with ethnic disadvantaged position, they suffer the least position in the social ladder. Although both Latinas and Targuias managed two roles; marriage and employment ones, neither the first nor the second can permit health coverage. The gender communicative system as well as language barriers accrues incomprehensibility among these women.

Contemporary medical anthropologists think they must have an approach which focuses on disease but also takes into consideration the context which drives the epidemic; this means Syndemic theory. Upon their evolutionary thinking, the present work is well informed. As the work's main intend is to address the mechanism upon which discrimination gets under the skin. In the meantime, it is important to be mindful to the social context and the structural drivers of epidemic among impoverished groups. Those migratory deficiencies interpreted through

disoriented policies that put women in very vulnerable position. These include physical and emotional effects due to moving from their social networks, working conditions and unsecured economic and social status that fuels tendency toward upcoming forms of discrimination.

Gathering these social intricacies into one room, narratives are used as crucial tool to make sense and connection between social suffering and chronic illness. After focusing on the importance of illness narrative in many health disciplines; psychology, social science and pathology, it ensures a useful connection between personal suffering revealed through discriminatory experiences, and illness that showed up with different types of stress. As such, seven to nine categories of stress are well examined. For Mexican immigrant women interpersonal abuse stress represents a lion's share in these narratives with its both categories physical and emotional ones whereas transition stress represents a large share within Tuareg women narratives.

Though these narratives can be colored by both epidemiological and cultural perspectives, they are the only way in Syndemics studies that communicates tangible understanding of disease. Stress is approved to have many features, yet there are two of them that play as basic approach which systematically examines how social distress interacts with psychological (depression) and physiological illnesses (diabetes). The cumulative aspect of stress explains the association between perceiving numerous negatives events in early life with damaged psychology in adulthood the fact that helps to link stress with many psychological disorders like depression and post-traumatic stress damaging. Nevertheless, the Allostatic theory measures the extensity of each stress on the psychology.

In the present data set, interpersonal abuse is interrelated with depression among all other social stressors in the narratives. Depression mediates to diabetes. The latter exemplifies a particularity

to Mexican and Tuareg groups as they are at higher presentation within this syndrome especially among females. Though diabetes is dressed a genetic basis in terms of its origin, diabetes is also proved to stem from social inequalities, the stand grants another justification to adopt it as disease of Syndemics.

There are many scientific ways mediating the bidirectional relationship between depression and diabetes. Firstly, blood sugar fluctuations damage mental health functioning, secondly, chronic stress provokes the body to overuse insulin hormone that develops diabetes. Thirdly, depressant individuals are vulnerable to weight gain which is the common cause to diabetes. In another way, diabetes management requires a will force which in itself may be stressful and increase the severity of diabetes.

VIDDA and TADDMERT Syndemic are good models to understand clearly how tough social circumstances exacerbate unequal health status among marginalized individuals among them Mexican immigrant in the US and Tuareg women of Ghardaia. It acknowledges the social context through different forms of violence. Then, it put them into emotional suffering that categorizes stress from different abuse incidences. The latter is fueled within a status of immigration where social isolation is common place. The large political, economic and social sufferings are intersected with the micro-level understanding via the clustering of depression with diabetes at the biological level. What this thesis comes out with is in fact an open window for upcoming research investigators who are interested in minorities' health. Syndemic study offers an interdisciplinary approach that brings both social and medical sciences to solve the problem behind the prevalence of cardiovascular disease as the latter represents the second prevalent illnesses after diabetes among the target minorities. This kind of disease is with high pervasiveness due to certain social

aspects among them social isolation. This societal particularity along with the medical ones put it in suitable case that fits the Syndemic model.

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APPENDICES

Appendix A

Questionnaire

Put a tick (✓) or fill in with what is appropriate.

SECTION - I: 1. Tuareg women' Demographic and Anthropometric Information

Participants	<i>n</i>	%
Gender		
Female		
Age		
18-29 years old		
30-49 years old		
50-63 years old		
Weight (body mass)		
Medium weight 56-70 kg		
Overweight 79-100 and over kg		
Marital status		
Single		
Married		
Divorced		
widows		
Educational level		
less than high school		
less than middle school		
Associated degree		
Illiterate		
Employment		
1-39 working hours week		
1-42 working hours per week		
Unemployed		
Place of residency		
Atef remotes		
Numerate remotes		
Bouhraoua remotes		

SECTION - I: 2. How often do you practice the following cultural exhibitions? Put a tick (✓) where appropriate, please.

	Acculturation practices	Always	Rarely	Never
Arabic language use				
Ethnic interactions				
Visiting non-Tuareg women				
Celebrating with non-Tuareg speaking women				
Dressing <i>Tiseghnest</i>				

SECTION - II: Tuareg Women's Psych-analytic Status

1. How many times did each of the following PTSD symptom happen over the past month? to rate each along a 5-point scale from 1 (not at all) to 5 (extremely). Put a tick (✓) or fill in with what is appropriate

PTSD	0 to 1	2	3	4	5
Repeated disturbing memories/ dreams					
Feeling stressful events happening again					
Feeling upset					
Having physical reaction to past events					
Having trouble sleeping					
Feeling distance from family and friends					

SECTION - II: Tuareg Women's Psych-analytic Status

2. How many times did each of the following depression symptom occur over the past week? To rate each along a 5-point scale from 1 (not at all) to 5 (extremely). Put a tick (✓) or fill in with what is appropriate

Depression	0 - 1	2	3	4	5
Depressed mood					
Changes in appetite & moods					
Low energy					
Loneliness					

SECTION - III. Tuareg Women Endocrinological Status

1. How often did you suffer from the following symptoms during the past six weeks? To rate each along a 5-point scale from 1 (not at all) to 5 (extremely). Put a tick (✓) or fill in with what is appropriate

Diabetes Severity	0-1	2	3	4	5
Foot Pins					
Sweating					
Weakness					

Anxiety
Trembling
Hunger
Headache
Sight problems
Kidney problems

SECTION - III Tuareg Women Endocrinological Status

2. How often do you rate stress in relation to the following diabetes distress? Put a tick (✓) or fill in with what is appropriate

Diabetes distress	A*	B*	C*
Feeling that diabetes taking too much from your energy			
Scared living with diabetes			
Feeling that diabetes controls my life			
Feeling that I will end up with serious long-term complications			
A*: Not at all	B*: Occasionally	C*: All the time	

Appendix B

Interview

How often do you rate stress in relation to the following stressful themes? Put a tick (✓) or fill in with what is appropriate

Stressful themes narrated	Frequency
Transition' stress	
Social isolation/labelling stress	
Financial stress	
Neighbourhood violence stress	
Health stress	
Loss of family stress	
Work stress	

Interpersonal abuse stress: physical and emotional	
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