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UNIVERSITY OF SAN DIEGO
Hahn School of Nursing and Health Science
DOCTOR OF PHILOSOPHY IN NURSING

FACTORS AFFECTING HEALTH PROMOTION LIFESTYLE BEHAVIORS
AMONG ARAB AMERICAN WOMEN

By
Kholoud Khalil

A dissertation presented to the
FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCES
UNIVERSITY OF SAN DIEGO

In partial fulfillment of the requirements for the degree
DOCTOR OF PHILOSOPHY IN NURSING
April 2014

Dissertation Committee

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Abstract of The Dissertation

Factors Affecting Health Promotion Lifestyle Behaviors Among Arab American Women

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Guided by Pender and colleagues' (2006) revised health promotion model (HPM), this descriptive correlational study was designed to explore the relationships between personal factors (comprised of sociodemographic factors, degree of acculturation, and perceived stress), perceived health self-efficacy, perceived social support, and health promotion lifestyle behaviors (HPLBs) among a group of Arab American women (AAW) living in Southern California. A second purpose was to explore the psychometric properties of the translated version of the perceived health competence scale (PHCS). A convenience sample of 267 AAW were administered a paper copy of a self-reported survey. Four of the study's five standardized measures were available in Arabic and were tested in the Arab American populations; only the PHCS was translated into Arabic. The HPM guided the synthesis of relevant literature concerning AAW's health promotion behaviors; the model facilitated understanding of their health needs, risks, and challenges. The analysis revealed a bivariate association between the health-promotion lifestyle profile II (HPLP II) total score and the participants' age, years of residency in the United States, acculturation, perceived stress, self-efficacy, and social support. Multiple linear

regression was used to examine the relationship between the study variables.

Acculturation, perceived stress, perceived health self-efficacy, and perceived social support explained 46% of the variance in HPLBs scores. The Cronbach's alpha for the PHCS was .819 in both versions. Based on the participants' language preference- Arabic or English- two study groups were formed. The groups' responses on HPLP II and PHCS were compared. The Pearson product moment correlation coefficient indicated a lack of association between the participants' spoken language and their responses on both scales. Independent sample *t*-tests showed statistically significant differences in the physical activity, interpersonal relations, and spiritual-growth HPLP II subscales. No statistically significant differences were found on the PHCS groups' responses. The findings of this study can inform future intervention studies to address specific health promotion behaviors such as nutrition, eating behaviors, stress management, and physical activity among AAW and women from other minority groups.

Dedication

This dissertation is dedicated to my mother and father, who taught me the value of knowledge and whose examples have taught me to work hard for the things that I aspire to achieve. They continue to support the achievement of my professional goals with their unconditional love and caring. I am particularly indebted to my mother who has always been there for me. She kept me in her prayers and I am fortunate to have her in my life.

I dedicate this dissertation to my husband Nasfat Khalil. I give my deepest expression of love and appreciation for the encouragement that you gave, and the sacrifices you made during this program. I also dedicate this work to my lovely children, awesome Bana, adorable Mohammad, and sweet Safwat. They have always stood by me.

This work is also dedicated to my brothers and sisters. I cannot find words to express my gratitude for their unconditional love, caring, and support. I would also like to dedicate this dissertation to all the Arab women who sacrificed living in their homelands and chose family unification in the United States.

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I have deep gratitude for Dr. Jaser Khalil, who helped me to develop my statistical analysis plan. Without his expertise I would not have been able to analyze my data and reflect on my study findings. It gives me great pleasure in acknowledging Mr. Tawfeeq Abuaishe for his professional efforts in reviewing my manuscripts. I would like to acknowledge the people who helped me translate the research tool into formal Arabic, specifically Mrs. Majd Hardan- Karakra, Mr. Hussein Karakra and Mrs. Najwa Jarrar-Hardan. Also, I would like to acknowledge Dr. Abdulrahim Yosef and Dr. Mohammad Asia for their back-translation of the tool.

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List of Abbreviations

AAI: Arab American Institute

AAIF: Arab American Institute Foundation

AAW: Arab American Women

ArA: Arab American

ARSMA II: Acculturation Rating Scale for Mexican American II

ARSAA II: Acculturation Rating Scale for Arab American II

β : Beta

BCS: Breast Cancer Screening

BMI: Body Mass Index

HPLP: Health Promotion Lifestyle Profile

HPLP II: Health Promotion Lifestyle Profile II

HPLBs: Health Promotion Lifestyle Behaviors

HPM: Health Promotion Model

HR: Health Responsibility Subscale

IPRs: Inter Personal Relations

M: Mean

MSPSS: Multidimensional Scale of Perceived Social Support

N: Number of Subjects

N: Nutrition Subscale

P: Probability

PA: Physical Activity Subscale

PHCS: Perceived Health Competence Scale

PSM-9: Psychological Stress Measure-9

r: Correlation Coefficient

SD: Standard Deviation

SG: Spiritual Growth Subscale

SPSS 21: Statistical Package for the Social Sciences 21

SRH: Self-Rated Health

t: Test Statistic

U.S.: United States

WHO: World Health Organization

X: Mean

INTRODUCTION

Health promotion behaviors are gaining attention from stakeholders. Health promotion is currently considered one of the primary health objectives in the United States (U.S.). Catalano (2000) defined health promotion as “interventions and behaviors that increase and maintain the level of well-being of persons, families, groups, communities, and society” (p. 242). The adoption of health promotion behaviors will result in a healthier population and savings in healthcare costs (Galloway, 2003). *Healthy People 2020* (Healthypeople.gov, 2013) focused on a wide range of health goals, such as achieving health equity, eliminating health care disparities, improvement of health for all people, promoting quality of life, healthy development, and health behaviors across all life stages. The shift in the public’s attention away from health prevention to health promotion began late in the last century (Pender, 1996). Since that time many wellness programs and initiatives were launched (Galloway, 2003).

The U.S. is a racially and ethnically diverse nation with a wide range of cultures, religions, and ethnic groups. According to the U.S. Census Bureau (2002), approximately 20% of the U.S. population is non-Caucasian. Minority groups’ health status is an indicator of the nation’s health; national health promotion goals will not be fully achieved until the health needs of ethnic minorities and disadvantaged groups are addressed (Mead, Cartwright-Smith, Jones, Ramos, Wood, & Siegel, 2008). The World Health Organization (WHO, 2014) identified promoting health and reducing health inequities as one of the social determinants of health.

Arab Americans (ArAs) are U.S. residents who trace their ancestral, cultural heritage to one of 22 Arab countries (El-Sayed & Galea, 2009). ArAs started immigrating to the U.S. in the late 19th and early 20th centuries. More recently, there has been rapid growth in the ArAs population, and it is expected to increase due to the ongoing political instability in the Middle East. While ArAs share broad cultural and background similarities, they vary slightly because they originate from different countries in the Arab world (AAIF, n.d.).

The Arab American population is considered one of the fastest growing minority groups in the United States according to the Arab American Institute (AAI, n.d.), one of the largest national Arab American organizations. Based on the 2010 American Community Survey– U.S. Census Bureau, the size of the U.S. population with Arab ancestry is 1,967,219. This figure represents a 72% increase in this population between 2000 and 2010 and the number has doubled since the census first measured ethnic origin in 1980 (AAIF, n.d.). However, the AAIF estimated the Arab American population at more than 3.5 million (AAI, n.d.). California contains the largest concentration (272,485) of Arab Americans and its Arab population doubled since the U.S. Census first measured ethnic origin in 1980. Additionally, it is estimated that the Arab population in California, adjusting for under-reported cases, may be as large as 817,455, with Arab Americans residing in 55 out of 58 California counties (AAI, n.d.).

The U.S. health care system does not officially recognize ArAs as a distinct minority or as having their own census category (Forzley, 2005). Multiple reasons have been cited for the non-recognition of ArAs within larger minority census and national database studies. According to El-Sayed and Galea (2009), there is a paucity of studies

that investigate the relationship between the prevalence of morbidities and chronic diseases and health indicators in the ArAs population. Most studies of ArAs focus on issues central to acculturation (Jadalla & Lee, 2012), immigration, and discrimination. The use of convenience samples and research conducted mainly in metropolitan localities with a high-density population of ArAs is not a true representation of the national grouping (Abdulrahim & Baker, 2009; El- Sayed & Galea, 2009).

For the past decade, disparities in health across racial and ethnic groups have been a national priority and heavily integrated in research spanning a number of diverse studies. Ethnic and minority groups in the U.S. still suffer from health disparities (Williams, 2005) due to linguistic and cultural barriers, discrimination, and limited access to healthcare (Hattar-Pollara & Meleis, 1995; Pender, Murdaugh, & Parsons, 2006). Healthcare statistics and figures regarding ArAs in general and AAW in particular are scarce. These people are often overlooked in research documentation in comparison with other racial and minority groups (Aboul-Enein, 2010). The current paucity of research regarding the healthcare needs and risks of ArAs constitutes a limitation in the understanding of this minority group's health needs and challenges (El- Sayed & Galea, 2009).

It is critical to understand the health behaviors, pattern of diseases, pattern of care, and health status of this minority group. The increasing diversity in the U.S. population mandates an examination of diversity in health care provision. Montgomery and Schubart (2010) indicated the need for healthcare providers to be more culturally sensitive to provide increased quality of care and equitable healthcare resulting in healthy outcomes and greater healthcare cost containment.

Background and Significance of the Problem

The focus of health policymakers, healthcare professionals, and the public has shifted from illness prevention to health promotion behaviors (Galloway, 2003). Pender (1996) highlighted the shift in focus to “provide access to knowledge and services that promote health and prevent disease for all segments of an increasingly diverse world population” (p. 3). Consequently, there is a growing body of research on health promotion behaviors and evidence that the adoption of such behaviors is significantly related to well-being and self-actualization (Peterson & Bredow, 2013).

Health promotion behaviors enhance protection from and help to reduce chronic diseases and conditions, such as cardiovascular disease, diabetes mellitus, obesity, and cancer. The outcomes of health promotion behaviors include longevity and high quality of life (Peterson & Bredow, 2013), and are associated with decreased healthcare costs and expenditures (Galloway, 2003). Peterson and Bredow (2013) highlighted that adoption of health promotion behaviors can energize individuals and reduce social problems such as violence and suicide.

Nevertheless, enhancing women’s health promotion behaviors is challenging for ethnic minorities in developed and developing countries. Cooper (2002) found that women in all minority groups residing in the U.K. suffer from poorer health when compared to their counterparts from the majority group. Cohen and Azaiza (2007) found that women who belong to minority or disadvantaged groups have a decreased ability to engage in health promotion behaviors or control their health promotion choices. Identifying of barriers to health promotion behaviors within minority groups have

helped nurses and other healthcare providers to develop strategies to overcome those barriers (Montgomery & Schubart, 2010).

The National Health Care Quality Report and the National Health Care Disparities Report (2011) focused on quality of care delivered to minority and ethnic groups. In these major reports, women were categorized as a priority population. The reports addressed a myriad of health issues and statistics and revealed that women from ethnic and minority groups experience greater disease prevalence and low-quality healthcare provision. However, Arab-American women were not included as a separate ethnic group in these reports. Consequently, there is a lack of evidence about AAW's health status and HPLBs. This represents an important gap in current knowledge.

AAW are a minority within a minority, which amplifies their health risks and needs. In general, AAW are considered as an at-risk population due to a lack of congruency between their culture and the dominant American culture (Hattar-Pollara & Meleis, 1995). While AAW share health needs and challenges with other minority groups, their beliefs and practices are directly influenced by a specific set of cultural norms, traditions, and faith-based practices (El- Sayed & Galea, 2009). A recent study by Williams et al. (2011) compared factors related to breast cancer screening in Arab, African-American, and Latina women. The results revealed similarities between the Arab and Latina women in the areas of cancer screening knowledge, levels of education, and insurance coverage. Arab women and Latina women showed significant increase in knowledge after they participated in an education intervention program (Williams et al., 2011).

Adoption of health promotion behaviors will not be fully successful unless supported by a key family member (Montgomery & Schubart, 2010). AAW have the

potential to play a significant role in their families' wellbeing if they have the opportunity and resources to enhance their knowledge and their adoption of health promotion behaviors. Hattar-Pollara and Meleis (1995) highlighted the entrusted role of Jordanian women in their children's discipline. Additionally, Gastaldo, Gooden, and Massaquoi (2005) conducted two qualitative studies in Canada to explore the role of immigrant women as transnational health promoters. In both studies, women contributed positively to their families' wellbeing through fostering their physical and psychological health.

Despite the wide range of activities related to health promotion behaviors such as nutrition, exercise, stress management, avoidance of smoking, adequate sleep, and general safety (Von Ah, Ebert, Ngamvitroj, Park & Kang, 2004; Walker & Hill-Polerecky, 1995), most studies of AAW's health promotion behaviors have focused on early screening for breast cancer (Ayash et al., 2011; Kavar, 2013; Salman, 2012). There limited studies addressing AAW's other health promotion activities. Tami, Reed, Boylan, and Zvonkovic (2012) studied acculturation among Arab mothers in Texas and its impact on some health promotion behavior outcomes. In their mixed approach study, Tami et al. found a significant relationship between acculturation and aspects of health promotion behaviors, bicultural dietary patterns, high consumption of fatty food, and a lack of traditional physical exercise among Arab mothers.

Aqtash and Servellen (2013) conducted a descriptive study exploring the determinants of health promotion lifestyle behaviors among Arab immigrants from the region of the Levant; the study focused on immigrants only from those selected Arab countries. Health promotion lifestyle behaviors among women from different minority groups have been studied (Duffy, Rossow, & Hernandez, 1996; Eun, Ae, & Kyung 2010;

Johnson, 2005), but this concept has not been explored among AAW. Thus, the extant healthcare literature provides scant documentation of the factors impacting HPLBs in AAW women. Factors documented to be related to health promotion in other populations- including individual characteristics such as relevant personal factors (biological, sociocultural, and psychological), acculturation, perceived stress, perceived self-efficacy, and perceived social support- are unexplored among AAW.

Following an intensive review of the literature, this study is known to be the first to identify factors influencing health promotion behaviors in this particular group of women. Thus, this study is being undertaken to fill the gap in current knowledge. The findings of this study will provide a basis for future research, including intervention studies and the development of policy initiatives and programs for health promotion among AAW.

Purpose

The primary purpose of the study was to explore the relationships between personal factors (comprised of relevant sociodemographic factors, degree of acculturation, and perceived stress), perceived health self-efficacy, perceived social support, and health promotion lifestyle behaviors in a group of AAW living in southern California. A second purpose was to explore the psychometric properties of the translated version of the PHCS.

Specific Aims

The specific aims of this study were to:

- Describe the personal factors (sociodemographic factors, degree of acculturation, perceived stress), perceived health self-efficacy, perceived social support, and

health promotion lifestyle behaviors in a group of AAW applying Pender's (1996) health promotion model.

- Examine the relationships between the personal factors (sociodemographic factors, degree of acculturation, perceived stress), perceived health self-efficacy, perceived social support, and health promotion lifestyle behaviors in this group.
- Compare the scores on the health promotion lifestyle profile (HPLP II) and perceived health competence scale (PHCS) between AAW who completed the English version of the study survey and those who completed the Arabic version.

Research Questions

Based on the conceptual framework and the review of the literature, this study addressed the following research questions:

- What are the personal factors (comprised of relevant sociodemographic factors degree of acculturation, and perceived stress), perceived health self-efficacy, perceived social support, and health promotion lifestyle behaviors in a group of AAW?
- What are the relationships between personal factors (comprised of relevant sociodemographic factors degree of acculturation, and perceived stress), perceived health self-efficacy, perceived social support, and health promotion lifestyle behaviors in this group?
- What are the differences in the findings on health promotion lifestyle profile (HPLP II) and perceived health competence scale (PHCS) between AAW who completed the English version of the study survey and those who completed the Arabic version?

Associated Assumptions

Based upon PI' cultural and professional knowledge, the following assumptions informed this study:

- Health promotion behaviors in AAW are influenced by their cultural, traditional, and religious beliefs and practices;
- While AAW may share the same barriers to health experienced by women from other ethnic and minority groups, AAW are a unique group with specific characteristics and needs.
- English language proficiency influences AAW's adoption of health promotion life style behaviors.

Conceptual and Theoretical Background

The review of relevant literature established the basis for this study regarding the factors affecting HPLBs among AAW. The main components of this literature review are: (a) an explication of the conceptual model guiding the study; and (b) a detailed analysis of previous research regarding major factors affecting HPLBs, including degree of acculturation, perceived stress, perceived health self-efficacy, and perceived social support.

Study Conceptual Framework

The revised version of Pender's health promotion model (HPM; Pender, Murdaugh, & Parsons, 2006) was employed to guide this study. This revised model is based upon the original model developed by Pender in 1982 (Peterson & Bredow, 2013). Based on the findings of studies that utilized HPM, Pender and co-authors revised the model in 1996 (Pender, 1996; Peterson & Bredow, 2013) by adding and removing

selected constructs. Expectancy value theory and social cognitive theory are considered the foundation of the model. According to Fishbein and Ajzen (1975), expectancy value theory predicts the degree to which an individual engages in specific health promotion behaviors. Reinforcement or avoidance of a selected behavior might occur because of the expectation value. Social cognitive theory (Bandura, 1986) was the foundation of another dimension of the model. Social cognitive theory proposes that an individual's perception of self-efficacy in achieving the health behavior predicts its actual implementation. HPM incorporates an assumption that humans will engage in activities to maintain and promote healthy behaviors. The model (see Figure 1) consists of three main components: (a) individual characteristics and experiences, (b) behavior-specific cognition and affect, and (c) behavioral outcomes.

Individual characteristics and experiences component in this study includes (a) personal factors, which are comprised of biological, psychological, and sociocultural aspects; and (b) experiences in relation to previous health behaviors. The individual characteristics and experiences constructs directly influence the individual's perceptions, thoughts, and feelings. Furthermore, they indirectly affect behavioral outcomes through the commitment to a plan of action. Perceived self-efficacy, motivation, barriers to engage in healthy behaviors, and feelings about the behavior are directly linked to personal experiences. The more perceived self-efficacy and benefits of action the individual perceives, the more commitment he or she will make to engaging in health promotion behavior. Conversely, the opposite will occur if the individual perceives barriers to action or has negative feelings toward the action. In addition, personal factors,

such as age or perceived health status, influence the health promotion behavior either directly or through altering the interpersonal influences and situational influences.

The second component of the HPM, behavior-specific cognitions and affect, mediates between the personal experiences and characteristics and behavioral outcome components. It includes six areas of perceptions and feelings about self and health action, and interpersonal and situational influences. All these areas might affect the individual's level of commitment to carry out a specific health behavior. Perceived high self-efficacy leads to engagement in healthy behaviors, just as the perception of the benefits will motivate the individual to increase his or her commitment to the action. Perceived barriers to action lead to an avoidance of healthy behaviors. The third and last major component of the model is behavioral outcome. Thus, the degree of engagement in any specific health promotion behavior is based on the commitment to a plan of action for that behavior. This commitment is susceptible to alteration, as it might be affected by intermediate competing demands and preferences.

Nurse researchers have utilized the HPM widely in nursing studies examining the relationships between individual characteristics/experiences, behavior-specific cognitions and affect, and health behavioral outcomes. For this study of AAW, the HPM was utilized as a conceptual model to guide the exploration of the relationships between individual characteristics and experiences (personal factors comprised of relevant sociodemographic factors, acculturation, perceived stress), behavior-specific cognitions (perceived health self-efficacy and perceived social support), and behavioral outcomes (health promotion lifestyle behaviors.) Thus, the HPM constitutes an appropriate

organizing framework for examining the relationships between multiple factors affecting health promotion lifestyle behaviors in AAW.

Conceptual and Operational Definitions

This section includes the conceptual and operational definitions of the study's main concepts, including individual characteristics and experiences (personal factors, comprised of relevant demographic factors, acculturation, perceived stress), behavior-specific cognitions and affect (perceived health self-efficacy and social support) and behavioral outcomes (health promotion lifestyle behaviors). The theories and conceptual frameworks that explain the main concepts and how they are utilized in empirical research studies are discussed.

The literature review was conducted using many search engines including Pub Med, Psych Info, CINHAI, and Google Scholar. The key words used in the literature were Arab Americans, women, self-efficacy, acculturation, stress, social support, and health promotion lifestyle behaviors. Searches were limited to the English language and information related the Arab American demographic was found by searching the Arab American Institute (AAI), the Arab American Institute Foundation (AAIF), and the U.S. Census Bureau. Relevant web sites for these sources are included in the reference section.

Personal Factors

This section identifies the personal factors utilized in this study that contribute to “multivariate paradigm for explaining and predicting health promoting component of lifestyle” (Pender, 1990, p. 326). In this study, personal factors included individual characteristics and experiences that may directly or indirectly influence AAW's health outcome through the model's behavior-specific cognitions and affect component. Pender

et al. (2006) classified personal factors into three categories. The first set of factors is biological factors that include age and body mass index (BMI). Second, psychological factors include perceived health status and perceived stress. Third, sociocultural factors include (a) country of origin, (b) length of residency in the U.S., (c) religious affiliation, (d) mother tongue and spoken language, (e) marital status, (f) highest educational level completed, (g) insurance status and type, (h) household annual income, (i) number of people living in the same household, (j) employment status, and (k) acculturation.

Personal Factors Conceptual and Operational Definitions

Age. *Conceptual definition:* number of lived years to present. *Operational definition:* the participant's response on the Personal Factors Survey (PFS) to "How old are you?"

Body Mass Index (BMI). *Conceptual definition:* the number calculated from a person's weight and height. BMI is a reliable indicator of body fatness (CDC, 2013). *Operational definition:* the participant's response on the Personal Factors Survey (PFS) to "What is your approximate weight in kilograms, and what is your approximate height in centimeters?" The PI calculated BMI using the formula of weight in kilograms divided by height in meters squared.

Perceived health status. *Conceptual definition:* the individual's perception of his or her own current health status in general (Pullen, Walker, & Fiandt, 2001). *Operational definition:* the participant's response on the personal factors survey (PFS) to the question "In general, how would you rate your health?"

Perceived stress. *Conceptual definition:* "a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation"

(Merriam-Webster Online, 2013). *Operational definition*: the participant's response on the Psychological Stress Measure-9 (Lemyre & Tessier, 2003).

Country of origin. *Conceptual definition*: the country where an individual was born. *Operational definition*: the participant's response on the PFS to the question "What is your country of origin?"

Length of residency in the U.S. *Conceptual definition*: the length of time living in the United States. *Operational definition*: the participant's response on the PFS to the question "How long you have been living in the U.S.?"

Religious affiliation. *Conceptual definition*: a person's self-identified association with a religion or a religious group. *Operational definition*: the participant's response on the PFS to the question "What is your religious affiliation?"

Mother tongue and spoken language. *Conceptual definition*: the primary language that the individual speaks best. *Operational definition*: the participant's response on the PFS to the question "What is your primary language? And what is your spoken language?"

Marital status. *Conceptual definition*: a person's state of being single, married, separated, divorced, or widowed. *Operational definition*: the participant's response on the PFS to "What is your current marital status?"

Highest educational level completed. *Conceptual definition*: The individual's highest education level completed. *Operational definition*: the participant's response on the PFS to the question "Highest level of education completed."

Insurance status and type. *Conceptual definition*: to have health insurance or not, and (if the participant has health insurance) what type of that insurance. *Operational*

definition: the participant's response on the PFS to the question "Do you have health Insurance?"

Annual household income. *Conceptual definition:* the total annual amount of money in dollars brought by the entire household. *Operational definition:* the participant's response on the PFS to the question "What is your approximate household annual income?"

Number of people living in the same household. *Conceptual definition:* the number of people living in the same house. *Operational definition:* the participant's response on the PFS to the question "How many people do you live with in the same household?"

Employment status. *Conceptual definition:* if employed, refers to a recognized work schedule of part time or full time. *Operational definition:* the participant's response on the PFS to multiple-choice question "Which of the following describes your current employment status?"

Acculturation. *Conceptual definition:* "the dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members" (Berry, 2005, p 698). *Operational definition:* the participant's response on the Acculturation Rating Scale for Arab American II (Jadalla & Lee, 2013).

The prior health-related behaviors and experiences are the health behaviors used to be performed by the women in the Arab world. Women's health behaviors are influenced by many factors including but not limited to the culture, traditions, religion, health beliefs, and the healthcare system in these countries. Some of these health behaviors and experiences such as breast cancer screening, nutrition, physical activity,

stress management, and smoking are expected to influence their subsequent adoption of such health behaviors in the United States. Thus, an examination of some habits and behaviors of the women in Arab world and comparison with AAW health practices is presented.

Azaiza and Cohen (2006) conducted a study targeting Muslim and Druz Arab female populations; women reported feelings of embarrassment and discomfort as main barriers to mammography screening and clinical breast exams (CBE). Additionally, the participants reported perceiving the procedures as either hazardous or painful (Azaiza & Cohen, 2006). Lack or limited breast cancer screening behavior was also found among Arab women in the U.S. Eighty-three percent of AAW had heard about breast self-examination (BSE) from different sources; only 54% reported practicing BSE, with less than half of them practicing it on monthly bases (Petro-Nustas, Norton, Vilhauer, & Connelly, 2012).

Mammography rates were decreased by one third in a group of AAW who were uneducated, uninsured, and unmarried (Schwartz, Fakhouri, Bartoces, Mansur, & Younis, 2008). In contrast, Salman (2012) studied Arab Muslim women's health beliefs and practices related to cancer screening and found dissimilar findings. In this study, 87% of women 41 years or older had a mammography screening, and a majority of the women surveyed were aware of the purpose and importance of the procedure. Screening timing, insurance coverage, modesty, and embarrassment were perceived as barriers to participate in the screening. These findings are consistent with the HPM assumptions regarding the influence of prior related health behaviors on an individual's engagement in specific health behaviors.

In relation to smoking behaviors, a structured interview questionnaire was administered to 864 Lebanese pregnant women to assess their attitudes toward smoking. The women were relatively knowledgeable regarding the consequences of smoking behavior. However, one-fourth of the participants reported they smoked and expressed a permissive attitude toward all forms of smoking (Chaaya, Jabbouri, El-Roueiheb, & Chemaitelly, 2004). Similarly, 6% of undereducated and low socioeconomic status pregnant Arab Americans reported smoking during pregnancy (Kulwicki, Smiley, & Devine, 2007). In a study conducted by Sarsour, Tong, Jaber, Talbi, and Julliard (2010), 8% of AAW reported that they are current smokers.

The majority of people in the Arab world are Muslims. Yosef (2008) described Islam as a way of life guiding Muslims' health practices through the Quran and Hadith (the sayings or actions of Muhammad or his companions, together with the tradition of its chain of transmission). According to Yosef (2008), Islamic tenets encourage Muslims to live healthy lives and to refrain from unsafe health practices. However, modesty, gender-related issues, and misinterpretation of predestination are factors hindering Muslims' health promotion practices, especially among women.

Biological individual characteristics including age, gender, and BMI, can affect AAW's HPLBs adoption. Advanced age was negatively correlated with perceived health status among older Arab Americans in general, but there was no significant difference between men and women (Sarsour et al., 2010). Despite higher education status and higher income, AAW recorded a higher mortality rate and 1.4 years less life expectancy in comparison to White non-Hispanic women (El-Sayed, Tracy, Scarborough, & Galea, 2011).

Perceived Health Status

“Health is a condition of being sound in body, mind or spirit; especially freedom of physical disease or pain” (Merriam- Webster’s online Dictionary, 2013a). The WHO (1946) defined health as “a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity” (p. 100). Perceived self-health status is a subjective measure of health; it comprises the individual’s perception of his or her own current health status in general (Pullen et al., 2001). The individual’s responses to the perception of health status are will ultimately influence his or her seeking of various levels of health-related services. Abdulrahim and Baker (2009) examined the predictors of self-rated health (SRH) among ArAs in Detroit; immigration status and language preference were found to predict SRH. The Arab immigrants who speak only Arabic reported poorer health status in comparison with their counterparts who speak English and were born in the United States (Abdulrahim & Baker, 2009).

The Institute for Social Policy and Understanding (ISPU, 2011) issued a report regarding participatory research among the Muslim community in Michigan. The research examined how the participants perceive health, illness, and the healing process. Most participants perceived health and illness as coming from God and a way of removing sins. The report recommended health services to be more accommodating and culturally sensitive to this community.

Acculturation

Acculturation is a complex construct that embraces both social and psychological aspects of human behavior. According to Merriam Webster Online Dictionary (2013b), acculturation is a “cultural modification of an individual, group, or people by adapting to

or borrowing traits from another culture, or a merging of cultures as a result of prolonged contact.” Berry (2005) defined acculturation as “a dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members (p. 698). Acculturation in this study is viewed as a bidimensional process, by which AAW’s acculturative status is characterized by integration of some values and beliefs from the host culture while keeping their cultural identity.

Literature documented two main acculturation frameworks: unidimensional and bidimensional; both perspectives highlight change in the immigrant’s acculturation status. The unidimensional perspective views the individual as either immersed in his or her original culture or immersed in the host culture (Gordon, 1964). However, according to the same perspective, assimilation is the result of the acculturative process. The bidimensional perspective views the acculturation process as a combination of two cultures’ values and identities. It results in an acculturation status that incorporates the individual’s original culture’s values and identity with those of the host culture (Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005). Berry’s model (2003) is one of the popular bidimensional acculturation models. Berry identified four acculturation strategies: (a) assimilation, (b) integration, (c) separation, and (d) marginalization.

Acculturation can be viewed on both a micro (personal) and macro (group or community) level. Psychological acculturation occurs on the micro level where the individual experiences changes in his/ her own beliefs, attitudes, and behaviors. Macro-level acculturation entails physical, biological, political, and economic changes in the whole group or society (Marger, 2000). Acculturation at the individual level is influenced

by many personal and social factors (Berry, 2003). Education level, employment, older age at the time of immigration, and social isolation are factors associated with dysglycemia among older Middle Eastern immigrants. Lack of acculturation was a factor for diabetes among Arab immigrants to the United States. Women with less education, who were raised in rural areas in their country of origin, and unemployed were less acculturated and more susceptible to dysglycemia (Jaber, Zhu, Brown, Herman, & Hammad, 2003).

Generally, the traditional patriarchal role of the Arab male in the family influences immigration decision-making. The decision to immigrate is controlled by the chief male family member who may be seeking employment or educational opportunities in the host country. Similar to the findings from Hill and Wong's (2005) study examining gender immigration rates from Mexico to the U.S., Arab men have a higher immigration rate than their female counterparts due to multiple reasons. Usually, it takes Arab women more time to join their immigrating husbands, due mainly to the husband's financial difficulties and lengthy immigration process. Arab women's major focus for immigration is the reunification of the family, with less focus on job or study opportunities.

Significant changes in the roles of Arab parents might take place after immigration. For instance, women are usually in charge of managing domestic life, while most of the tasks that require societal contact are left to men. The male is viewed as the one most able to manage the later-arriving family due to his exposure and experience with the host culture.

Language proficiency and length of stay in the host country have the greatest impact on an individual's level of acculturation. Gender and language are associated in the acculturation process. Similar to women from other minority groups, AAW face

many acculturation challenges. Arcia, Skinner, Bailey, and Correa (2007) found that Latinas have less language proficiency due to a lack of cultural orientation to the new society. Limited English language proficiency among Medicare beneficiaries was negatively correlated with access to health care and receiving cancer-screening (Ponce, Ku, Cunningham, & Brown, 2006). Forty-three percent of Arab Americans reported language as one of the barriers in obtaining healthcare. Additionally, 58% of the same participants chose their healthcare provider based on language consideration (Sarsour et al., 2010).

In this study, acculturation was measured by the Acculturation Rating Scale for Arab American-II (ARSAA-II); the measure is based on the acculturation rating scale for Mexican American-II. Jadalla and Lee (2013) translated the ARSAA-II to Arabic and tested it with the Arab Americans.

Perceived Stress

Recently, researchers focused on the physiological and cognitive impact of stress, but less is known about variation in stress perception and its influence on the women's health and health-behavior adoption. Stress has been conceptualized through multiple theories and models, but little consensus exists on a standard definition or measures. Selye (1982) suggested the lack of a standard definition of stress, may be attributed to the wide variation in the concept's antecedents, responses, and consequences. According to the Merriam Webster Online Dictionary (2013c), stress was defined as "a physical, chemical, or emotional factor that causes bodily or mental tension and may be a factor in disease causation." Nevid and Rathus (2003) defined stress as the physiological demand on the body when adaptation or coping is needed.

The biopsychosocial model of stress developed by Bernard and Krupat (1994) is one of the most comprehensive models that explain stress phenomena. The model identifies three components of stress: (a) internal, (b) external, (c) and their interactions. Environmental or surrounding factors are related to the external component of the model and are considered as antecedents to the stress response. The duration of the stress is associated with health status; prolonged stressors, in most cases, lead to serious health risks. The second component of the model focuses on internal stress, which comprises the set of physiological reactions involving the central nervous system and hormonal response. The human body's response to prolonged stress exposure is comprised of three stages: (a) an alarm stage, (b) a resistance stage, and (c) eventual exhaustion. Although the individual's body continues to adapt to alleviate the stress response, chronic exposure to stress leads to serious health conditions. The third component of the biopsychosocial model is the interaction between its internal and external components as it involves the individual's cognitive and perceptual level. The biopsychosocial model incorporates social aspects that address stress perceptions and responses within different social and cultural structures. Given the multiple dimensions of stress contained in this model, research examination of individuals from different cultural backgrounds perceptions, response, and adaption to stressful events is extremely important.

Lazarus and Folkman (1984) developed the transactional theory of stress. This theory proposes that stress is a process of interaction between the individual and environment. The perceiver of the stress evaluates the stimuli in a two-step process based on previous experiences and learning. During primary appraisal, the individual evaluates the severity of the event, including whether it is positive, controllable, stressful,

challenging, or irrelevant. Each category generates different sets of emotional responses. Secondary appraisal follows the primary assessment of the event in which the individual evaluates his/her own coping resources and options. Thus, the event is evaluated as stressful in two conditions, initially in its relevance to the perceiver and subsequently in the adequacy of the perceiver's resources to cope with it.

The literature documented an association between stress and unhealthy behaviors. Ng and Jeffery (2003) found that high levels of stress perception lead to an increase of fatty diet consumption, less physical activity, and increase in the number of cigarettes smoked per day with less successful quit smoking trials. Hattar-Pollara and Meleis (1995) studied stress associated with immigration and the daily living experience of American Jordanian women. Three themes emerged for perceived sources of stress in this population, "the daily living of settling in, a quest for maintaining an ethnic identity, and the work attached to recreating familiarity with their new host country" (Hattar-Pollara & Meleis, 1995, p. 528). In the same study, the researchers included quotes about women's living experiences in many issues. Learning English, dealing with children's schooling issues, daily living skills, and challenging relationships with neighbors were sources of stress as well as motivators to successful resettlement. In conclusion, stressors associated with living as an immigrant may amplify women's health risks.

In this study, perceived stress was measured by the Psychological Stress Measure-9 (PSM-9); Lemyre and Tessier (2003) developed this short measure. The Arabic version of the PSM-9 was translated and tested by Hamdan-Mansour, AlBadawi, Haourani, and Marmash (2013). Thus, personal factors comprised of relevant sociodemographic factors, acculturation, and perceived stress form the first conceptual construct of this study. The

other major study concepts, including perceived health self-efficacy, perceived social support, and health promotion behaviors, are discussed and defined below.

Perceived Health Self-Efficacy

Self-efficacy is the main construct of Bandura's (1986) social learning theory that was later renamed to social cognitive theory. Bandura defined perceived self-efficacy (henceforth, self-efficacy) as the perception of one's capabilities to perform the courses of action needed to produce the desired effect. Self-efficacy has been used in the health care literature as a predictor of health behavior change and maintenance. A key element of self-efficacy theory is expectancy beliefs. Bandura (1977, 1986) elucidated two types of expectations: (a) efficacy expectation, which is closely related to the person's belief in their own ability or capacity to perform a certain behavior; and (b) outcome expectations, which are related to the individual's beliefs about the outcome or success in relation to a specific behavior.

Self-efficacy theory includes different types of efficacies within a social system, and it classifies four sources of information that influence self-efficacy: (a) previous performance accomplishments, (b) vicarious learning, (c) verbal persuasion, and (d) physiological or social arousal Bandura (1977,1986). The sources are arranged according to their level of importance. Performance accomplishments develop through the individual's own experiences in performing tasks, with more repetition of success resulting in enhanced self-efficacy. As the individual experiences repetitive successes for specific tasks, he or she will increase perceived self-efficacy, and any single failure will be attributed to different factors rather than personal efficacy. Congruently, individuals with low self-efficacy will attribute their failures to self-incapacity or inadequacy (Bijl &

Shortridge-Baggett, 2001).

Vicarious experience is another source of information involving the perception of others who successfully performed a task (role models). Vicarious experience involves the individual observing the role model and comparing his/her own capacities, thus evaluating the chance for success or failure. It is a less informative source of efficacy in comparison to personal experiences, although a commonality between the observer and the role model and a similarity in task will enhance its efficacy (Bijl & Shortridge-Baggett, 2001).

Verbal persuasion is a supplementary source through which an individual will try verbally to convince others of their ability to perform a specific behavior. In this situation, there is no contribution of personal experiences or a role model as self-efficacy information sources (Bijl & Shortridge-Baggett, 2001). Physiological information is the last source of information; it explains how the body or emotional status will inform the individual about own capacities in performing tasks. Other factors play a role in determining the individual's self-efficacy, including internal or personal factors and external or environmental factors. Self-esteem, self-confidence, locus of control, and hardiness are all personal traits related to self-efficacy expectations (Strecher, DeVellis, & Rosenstock, 1986).

Self-efficacy is conceptualized as task-specific and is not considered a general personality trait like self-confidence or self-esteem. More specifically, self-efficacy might change from task to task and from time to time for the same task (Strecher et al. 1986). It is temporary, can be influenced, and is task-related (Bijl & Shortridge-Baggett, 2001).

Bandura's (1986) work provides a theoretical foundation for self-efficacy and its impact on the person's motivation and action. A belief in personal abilities or perception of self-efficacy will lead to pursuing a course of action based on judgment of one's abilities to perform the task. Self or personal efficacy can change. Bandura (1995) linked self-efficacy beliefs with the person's level of self-regulation and motivation. Thus, the more one believes in one's own ability to perform a task, the more one will be motivated to achieve the expected outcomes. Stress, depression, and despair are associated with a lack of self-efficacy. Self-efficacy beliefs determine an individual's level of motivation, as reflected in how much effort he or she will exert in an endeavor and how long he or she will persevere in the face of obstacles (Bandura, 1989).

Self-efficacy could predict the individual's behavior, effort expenditure, persistence, thought patterns, and emotional reaction (Bandura, 1986). The individual makes a decision to pursue a behavior or not based on his or her perceived self-competency. Self-efficacy is related to motivation and persistence to engage in certain behavior regardless of its level of difficulty. Cognitive focus differs in terms of goal setting and the focus on performance scenarios. The high self-efficacy individual principally views the successful part of the performance, while the focus of individual with low self-efficacy is on failure scenarios. Lastly, performance difficulties initiate a high quality of individual analytical thinking aiming to overcome difficulties.

Dimensions of the self-efficacy concept. Bandura (1977) defined three dimensions of self-efficacy: (a) magnitude refers to the difficulty in behavior adoption; (b) strength is related to the individual's capability to perform specific action; generality refers to the positive relatedness of self-efficacy beliefs and the scope of measurement;

(c) self-efficacy is specific to the task to be performed; it is not a general personality trait. More specifically, self- efficacy might change from task to task on the same level and from time to time for the same task (Strecher et al., 1986). It is a temporary state and could be influenced by other factors as well as being task related (Van der Bijl & Shortridge- Baggett, 2001).

Health self-efficacy. Health self-efficacy is defined as the individual's perception of his/her ability to take actions that will result in healthy outcomes. For the purposes of this study, the assumptions contained in Bandura's self-efficacy theory and its impact on the individual's motivation and action are operant in the process of adopting health promotion behaviors. The PHCS was used to measure perceived health self-efficacy. Smith, Wallston, and Smith (1995) developed the PHCS to measure diversity in health behaviors and outcomes in many conditions. For the purposes of this study, the measure was translated to Arabic.

Perceived Social Support

Social support is a complex phenomenon that directly impacts the individual's physical and psychological wellbeing and health behaviors (Pender, 1996). The concept is defined in many ways ranging from general to specific. Sarason, Levine, Basham, and Sarason (1983), the developers of Social Support Questionnaire, defined social support as "the existence or availability of people on whom we can rely, people who let us know that they care about, value, and love us" (p. 127). Additionally, Shumaker and Brownell (1984) defined social support as an exchange of resources between the provider and recipient in order to promote the wellbeing of the recipient.

Pender's revised health promotion model integrated social support as one of the

six areas in the domain of behavior-specific cognitions and affect, specifically under interpersonal influences. Pender (1996) highlighted source, function, and intimacy characteristics of the relationship as critical aspects of social support assessment. According to Pender, support can be emotional, instrumental, and informational. Social support interaction varies across gender, race, and ethnic groups. Immigrant women are prone to two forms of social support deficit, as they left their homelands where their social support exists. Additionally, immigrant women face many challenges in their adaptation to the host society (Aroian, 1992; Aroian, Spitzer, & Bell, 1996). This diversity in the nature of social support makes it critical for health and social scientists to investigate this area and assess its impact on different groups.

In this study, the Multidimensional Scale of Perceived Social Support (MSPSS) was used to measure the concept of perceived social support. Zimet, Dahlem, Zimet, and Farley (1988) developed the MSPSS to measure an individual's perceived adequacy of support from family, friends, and significant other. Aroian, Templin, and Ramaswamy (2010) adapted the MSPSS to be culturally appropriate to measure the concept among AAW.

Health Promotion Behaviors

Currently, studies specifically focused on AAW's health promotion behaviors are limited. Health promotion was the focus of the WHO international conference held in Ottawa in 1986. Based on this conference, the WHO (1986) released the definition of health promotion as "the process of enabling people to increase control over and to improve their health" (p. 2). In addition, the WHO proposed a health promotion action plan that includes 5 items: (a) build healthy public policy; (b) create supportive

environments; (c) strengthen community action; (d) develop personal skills; and (e) reorient health services.

Pender et al. (2006) defined “health promotion” as “behavior motivated by the desire to increase wellbeing and actualize human health potential” (p. 7). In this definition, Pender et al. considered the individual’s motivation as the foundation to achieve health and wellbeing, a consideration more expansive than previous limited conceptualizations of disease prevention. Health promotion is an activity adopted to enhance the individual’s potentials, through goal directed behavior, health self-effectiveness, and adequate meaningful relationships with others taking into consideration adjustments in the surrounding environment (Pender, Murdaugh, & Parsons, 2010). HPLBs have been defined as “multidimensional pattern of self-initiated actions and perceptions that serves to maintain or enhance the level of wellness, self-actualization, and fulfillment of the individual” (Walker, Sechrist, & Pender, 1987, p. 77).

Walker et al. (1987) developed the Health Promotion Lifestyle Profile (HPLP) to measure HPLBs. Six dimensions were identified: (a) health responsibility, (b) nutrition, (c) interpersonal relations, (d) exercise, (e) stress management, and (f) self-actualization. Walker and Hill-Polerecky (1995) developed an updated version of the HPLP, which was The Health Promotion Lifestyle Profile II (HPLP II). The updated version included an increase in the number of items from 48 to 52 and a change in the labeling of two dimensions from exercise and self-actualization to physical activity and spiritual growth. Haddad, Al-Ma’aitah, Cameron, and Armstrong-Stassen (1998) developed and tested the Arabic version of the HPLP II with a group of adult Jordanians.

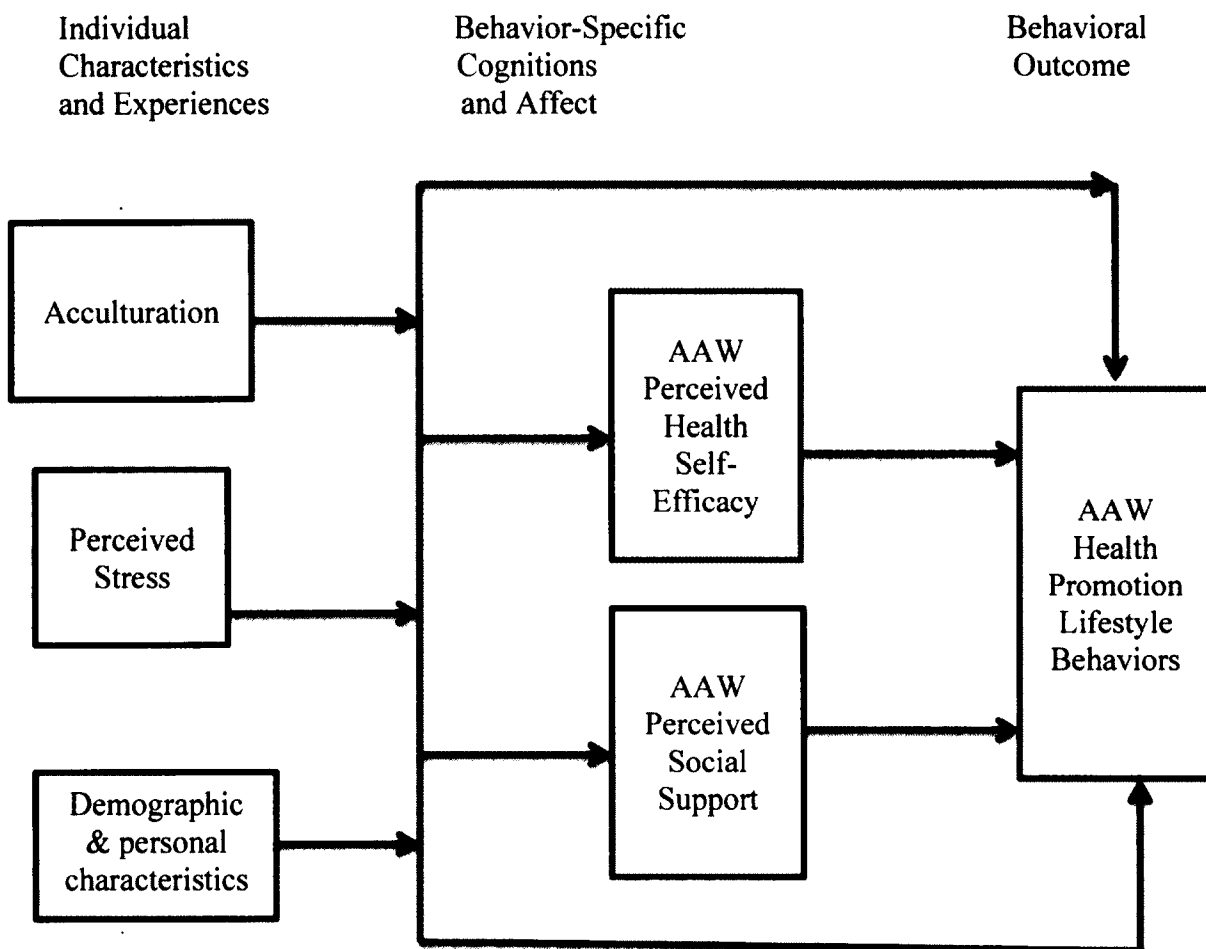


Figure 1. Conceptual framework for the study adapted from the health promotion model.

Adapted from the revised health promotion model. Pender, N., Murdaugh, C. L., & Parsons, M. A. (2006). *Health promotion in nursing practice* (5th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

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Arab American Women's Health Promotion Behaviors: Applying Pender's Model

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Abstract

The purpose of this manuscript is to synthesize relevant literature concerning Arab American women's health, applying Pender's health-promotion model to facilitate clearer understanding of their health needs, risks, and challenges. "Arab" is a linguistic and cultural term used to identify people who have the Arabic language as their mother tongue, as well as a historically shared broad culture with diverse traditions. The health-promotion model was employed as a framework to elucidate factors that might influence Arab American women's decisions to engage in healthy behaviors. The resulting conclusions about Arab American women's health-promotion behaviors might be applicable to other ethnic groups, particularly those who share similar life experiences. This manuscript is expected to raise the awareness of healthcare professionals, especially community health nurses and health policy makers, regarding the needs of this population.

Key words: Arab American. Women. Health-promotion behaviors. Health-promotion model

Health promotion is a focus of the public as well as healthcare professionals. One of the major goals of *Healthy People 2020* is creating social and physical environments that promote good health for all (Healthypeople.gov, 2013). Additionally, health promotion is one of the main functions of nursing: Nurses are committed to promoting the health of individuals, families, and communities through culturally competent services and programs. This manuscript provides a synthesis of the relevant theoretical and empirical literature about factors that might influence the decisions Arab American women (AAW) make in adopting health-promoting lifestyle behaviors. Factors are examined in the context of Pender's health-promotion model. The literature review was conducted using many search engines, including but not limited to (a) Pub Med, (b) Psych Info (c) CINHAL, and (d) Google Scholar. The keywords used in the literature search were Arab Americans, self-efficacy, acculturation, stress, social support, and health promotion. Searches were limited to English language, and the information related the Arab American demographics was found by searching via the Arab American Institute (AAI), the Arab Community Center for Economic and Social Services (ACCESS), and the U.S. Census Bureau. A search also was conducted through Healthy People 2020 for studies available in gray literature.

Arab American Women

Arab

According to the American-Arab Anti-Discrimination Committee (ADC), one of the largest national Arab American organizations, Arab is a linguistic and cultural term used to identify people who speak the Arabic language as their mother tongue and have a historically shared broad culture with diverse traditions. Meleis (1981) defined Arab as a

person who speaks the Arabic language and shares the values and beliefs of Arab culture. Arabs vary in their physical characteristics and religious background. The majority are Muslims; however, millions are Christians, and thousands are Jewish (ADC, 2013). Arabs live in 22 countries in the Middle East and North Africa.

Arab American

The designation Arab Americans (ArAs) indicates Americans of Arab descent, most of whom originated from Lebanon, Syria, and Palestine. There are also substantial communities from Egypt, Yemen, and Iraq (Arab American Institute [AAI], n.d.). Arabs migrated to the United States in waves, with the first immigrants arriving in the late 19th century. A second wave of immigration started after World War II and continues. The total population of ArAs is more than 3.5 million, with 72% population growth occurring between 2000-2010. They live in all 50 states, with 94% concentrated in metropolitan areas. Los Angeles, Detroit, New York, Washington D.C., and Chicago are the top localities where ArAs are concentrated (AAI, n.d.).

Health Models and Theories

Different theories and models explain the determinants of healthy behaviors. The health belief model (HBM) and protection motivation theory (PMT) play a role in altering health behaviors through motivating health-protective behaviors (Pender, 1996). Pender's HBM proposes that an individual's perception of a threat or the benefits of an action are the motivators to protect personal health. Similarly, the PMT motivates individuals to change health-damaging behaviors through focusing on a health threat or the fear of negative health consequences (Pender, 1996). Fishbein and Ajzen (1975) developed the theory of reasoned action and theory of planned behavior. These theories

explain the roles of beliefs and attitudes in shaping an individual's health behavior. Perceived self-efficacy is a central concept in Bandura's (year) Social Cognitive Theory (SCT) and is important in explaining and predicting health behavior. According to Bandura (1986), self-efficacy depends on an individual's judgment of his or her own ability to accomplish a certain level of performance by employing a specific health behavior.

Many other models that explain health behaviors—such as transtheoretical, ecological, and interaction models of client health behavior—have been developed but are beyond the scope of this work. For the purposes of this manuscript, Pender's (1996) health promotion model (HPM) will be the focus. The HPM will be described, followed by a discussion of its application to research regarding Arab American Women's health-promotion behaviors. Figure 1 includes a visual representation of the revised HPM (Peterson & Bredow, 2013).

The Health Promotion Model

Pender's revised HPM was employed to guide this review. Expectancy value theory and social cognitive theory are considered the foundation of the model. Expectancy value theory proposes that individual engagement in a specific health-promotion behavior is related to the anticipated outcomes of that behavior. Reinforcement or avoidance of the behavior might occur as a consequence of the value placed on the expected outcome. Social cognitive theory (Bandura, 1986)—the perception of self-efficacy in one's ability to achieve the health behavior—added another dimension. Pender's model incorporates an assumption that humans will engage in activities to maintain and promote health. The HPM consists of three main components:

(a) individual characteristics and experiences, (b) behavior-specific cognition and affect, and (c) behavioral outcomes (Pender, Walker, Sechrist, & Stromberg, 1990). Each component will be addressed with respect to its relevance to AAW. However, there is paucity of literature to support some of the model components in this group. Further research is needed to bridge the knowledge gap to facilitate deeper understanding of the health behaviors of this population.

Health Promotion Behaviors

Health promotion was the focus of a World Health Organization (WHO) international conference held in Ottawa in 1986. Based on the conference, the WHO developed a definition of health promotion as the “process of enabling people to increase control over, and to improve, their health” (WHO, 1986, p. 2). The conference also developed a health-promotion action plan that included five components: (a) building healthy public policy, (b) creating a supportive environment, (c) strengthening community action, (d) developing personal skills, and (e) reorienting health services (WHO, 1986). Subsequently, health promotion was defined as “behavior motivated by the desire to increase well-being and actualize human health potential” (Pender, Murdaugh, & Parsons, 2006, p. 7). In this definition, Pender and colleagues considered the individual’s motivation as the foundation for achieving health and wellbeing.

Health-promotion behavior is the outcome identified by the HPM and includes different aspects of health behaviors. According to Pender (1996) health-promotion behaviors are directed toward attaining positive health outcomes in all aspects of living throughout the individual’s lifespan. Health behaviors might include quality sleep,

exercise, nutrition, avoidance of smoking, safe consumption of alcohol, and general safety.

Individual Characteristics and Experiences

The first component of HPM addresses the characteristics and prior experiences of the individual that can influence health-promotion decisions. This component includes the individual's experiences related to previous health behaviors, and personal biological, psychological, and sociocultural factors. Prior related behavior has a direct influence on engaging in health behavior through habit formation. This engagement is also indirectly influenced through the behavior-specific cognitions and affect component of the model. Personal factors influence health promotion behavior either directly or through altering behavior-specific cognitions and affect (Pender, 1996).

Prior Experiences

Pender's model was used to examine how prior related behaviors of AAW in their home countries might directly influence their adoption of health-promotion behaviors (such as breast cancer screening, eating behaviors, physical exercise, and smoking) after immigrating to the United States. Through habit formation, prior related behaviors might influence the women's decisions to adopt new healthy behaviors. Some health-promotion behaviors of women in the Arab world will be discussed and compared to practices adopted by AAW.

Arab women's mammography screening behavior has been not fully studied in either the United States or the Arab world (Donnelly et al., 2013; Schwartz, Fakhouri, Bartoces, Mansur & Younis, 2008). Despite many shared cultural and religious practices among most Arab countries, specific factors might influence screening behavior in each

country. Generally, there is a lack of centralized programs for mammogram screening in most Arab countries. Women in Arab countries who participated in screening were either aware of the procedure's benefits or received a provider referral (El-Saghir et al., 2007). Mammography screening is decreased among one third of AAW who are uneducated, uninsured, and unmarried (Schwartz et al., 2008).

Kawar (2013) studied barriers to breast cancer screening (BCS) among 107 Jordanian and Palestinian women in the United States. Some women considered the lack of BCS as a habit, and the annual screening is not part of their cultural health practices. Other women devalued the importance of health and considered that annual screening would not make a difference. This is congruent with the HPM assumptions of the influence of prior related behaviors on an individual's decisions to adopt specific health behaviors.

In another study, structured interviews were conducted with 864 Lebanese pregnant women to assess their attitudes toward smoking. The women were somewhat knowledgeable of the consequences of this behavior. Lack of knowledge contributed to one fourth of the participants smoking and having permissive attitudes toward all forms of smoking (Chaaya, Jabbouri, El-Roueiheb, & Chemaitelly, 2004). Similarly, 6% of undereducated and low-socioeconomic status pregnant AAW reported smoking during pregnancy (Kulwicki, Smiley, & Devine, 2007). Likewise, 8% of AAW in another study reported current smoking (Sarsour, Tong, Jaber, Talbi, & Julliard, 2010).

Personal Characteristics

Pender's (1996) revised model categorized personal characteristics into biological, physiological, and sociocultural aspects. Pender assumed that personal

characteristics directly affect and predict the rest of the model concepts.

Biological characteristics. This component includes several factors such as age, gender, race, body mass index, and physical health status. Age is related negatively to perceived health status among older Arab Americans in general, but without significant differences between men and women (Sarsour et al., 2010). Despite the established evidence that people of higher socioeconomic status in the United States have lower mortality (Elo, 2009), AAW with higher income and higher educational status have higher age-related mortality, with 1.4 years less life expectancy, than white non-Hispanic women. This discrepancy has been attributed to cultural practices that foster lower physical activity and less healthy diets (El-Sayed, Tracy, Scarborough, & Galea, 2011). However, Dallo, Schwartz, Ruterbusch, Booza, and Williams (2012) found AAW to have a lower mortality rate from heart disease, cancer, stroke, and diabetes compared to their White and Black counterparts. These findings may explain some of the factors that encourage AAW to stay inactive or not be actively involved in health promotion behaviors.

Psychological characteristics. Stress and perceived health status are other personal factors that might influence health behavior. Recently, studies have focused extensively on the physiologic and cognitive influence of stress, but less is known about variations in stress perception among different cultural groups. Hattar-Pollara & Meleis (1995) studied immigration stress and the daily living experiences of American Jordanian women. Three themes emerged out of the study as perceived sources of stress in this population: “the daily living of settling in, a quest for maintaining an ethnic identity, and the work attached to recreating familiarity with their new host country” (Hattar-Pollara &

Meleis, 1995, p. 528). Learning English, dealing with children's school issues, daily living skills, and challenging relationships with neighbors were sources of stress as well as motivators to successful resettlement. Stressors associated with living as an immigrant may amplify women's health risks and influence health behaviors.

Perceived health status (PHS), or self-rated health, is measured in surveys by a single item asking participants to rate their health status on a scale from *poor* to *excellent* (Pender, Walker, Sechrist, & Frank-Stromborg, 1990). Perceived health status has been found to moderate the relationship between an individual's critical thinking and participation in health-promotion behaviors (Settersten & Lauver, 2004). Abdulrahim and Baker (2009) examined the predictors of self-rated health among Arab Americans in Detroit. Immigration status and language preference were found to predict self-rated health. Arab immigrants who speak only Arabic and little or no English have poorer self-reported health status in comparison with their counterparts who speak English and were born in the United States.

Sociocultural characteristics. Ethnicity, acculturation, education, and socioeconomic status are sociocultural characteristics influencing AAW's decisions regarding health-promotion behavior adoption. The majority of the Arab world is Muslim; Yosef (2008) described Islam as a way of life guiding Muslims' health practices through the Quran and Hadith (the sayings or actions of Muhammad or his companions, together with the tradition of its chain of transmission). Islamic tenets encourage Muslims to live healthy lives and to refrain from unsafe health practices. However, modesty, gender preference, and personal interpretations of predestination may hinder Muslims' health-promotion practices. Acculturation is a complex construct that embraces social

and psychological aspects. It was defined by Berry (2005) as a “dual process of cultural and psychological change that takes place as a result of contact between two or more cultural groups and their individual members” (p. 698).

Generally, the traditional patriarchal role of Arab men in the family influences the process of immigration decision making that is mainly controlled by the men who seek jobs or study opportunities in the host country. Arab women usually join their husbands later due to financial difficulties and lengthy immigration processes. Arab women’s main intention in immigration is family reunification, with less focus on job or study opportunities. Traditional separation of family members’ roles after immigration leave the woman to manage domestic life, while most of the tasks that require societal contact are left to the man.

Language proficiency and length of stay in the host country have the greatest impact on the level of an individual’s acculturation. Tami, Reed, Boylan, and Zvonkovic (2012) studied acculturation by Arab mothers and its relationship with dietary and physical-activity behaviors. Like women from other ethnic minority groups, Arab women experience many acculturation challenges, Hattar-Pollara and Meleis (1995) highlighted the tendency of AAW to develop physical and mental illnesses due to the effect of cultural differences.

More than 80% of the mothers reported a preference for using the Arabic language in speaking, reading, writing, and communication in the home and with friends. Gender and language have been found to be associated. For example, Arcia, Skinner, Bailey, and Correa (2001) found that Latina women have less language proficiency than men due to the lack of cultural orientation to the new society.

More than 40% of Arab Americans reported language as one of the barriers to obtaining health care. Additionally, 58% chose their healthcare provider based on language considerations (Sarsour et al., 2010). Additionally, Shah, Ayash, Pharaon, and Gany (2008) studied Arab American knowledge, attitudes, and beliefs about healthcare and cancer. They found that language was perceived as a major barrier to accessing healthcare services. Approximately 12% of the women in their focus group reported that they spoke only Arabic. Despite other AAW's relative proficiency in the English language, many of them are unable to fully explain their health complaints to providers. Consequently, women are forced to use their husbands or children as interpreters. The presence of a family member during a healthcare visit prohibits many women from discussing some female-specific issues.

Currently available documentation shows that health insurance may not be a major factor in limiting AAW access to health-promotion services. Kawar (2013) highlighted that relatively few women reported lack of insurance coverage as a barrier to BCS. Aqtash and Servellen (2013) studied the determinants of health-promoting lifestyle behaviors among Arab immigrants from the region of the Levant, and more than 80% of the participants reported having health-insurance coverage.

Based on this author's experience in Arab culture and observation of AAW attitude toward attending health clubs, AAW refrain from utilizing these facilities due to cultural and sometimes religious considerations. For many AAW, modesty is a major concern; they do not feel it appropriate or comfortable to share the same work-out spaces with men. AAW are also reluctant to join health clubs that are exclusively for women because they are not completely sure that their personal privacy will be protected.

Behavior-Specific Cognition and Affect

Behavior-specific cognitions and affect comprise the second component of the health-promotion model, and include six areas that mediate the influence of personal characteristics and experiences on the behavioral-outcome component of the model. Considerations include (a) perceived benefits of action, (b) perceived barriers to action, (c) perceived self-efficacy, (d) activity-related affect, (e) interpersonal influences, and (f) situational influences. Individual characteristics and experiences influence the individual's perceptions, thoughts, and feelings. Furthermore, individual characteristics and experiences indirectly affect health promotion behavior by influencing commitment to a plan of action.

The greater one's perceived self-efficacy and perceptions of benefits to an action, the greater commitment the individual will have to engage in health-promotion behaviors. Conversely, perceived barriers to action or negative feeling about the action decrease commitment to act. The Institute for Social Policy and Understanding (ISPU) (2011) reported on a qualitative study targeting the Muslim community in Michigan. The study addressed participants' perceptions about health, illness, and healing processes. Most participants perceived health and illness as being from God and as a way to remove sins. Consequently, the report recommended that health services for this community be more accommodating and culturally sensitive.

Perceived Benefits

In theory, the anticipated benefits of certain behaviors motivate individuals to pursue such behaviors. The motivation is based on direct personal experiences or observation of role models engaging in similar behavior. Intrinsic and extrinsic benefits

may result from certain behaviors. Extrinsic benefits play a role in behavior continuation, but more significant is the internal effect (Pender, 1996). In one study, for example, mothers reported the importance of physical activity and correlated physical activity with controlling health issues; however, only a few exercised 3-5 times a week (Tami et al., 2012). Salman (2012) studied Arab Muslim women's health beliefs and practices related to cancer screening and found that 87% of women 41 years of age or older had received mammography screening. The majority of the women surveyed were aware of the purpose and importance of breast cancer screening.

Perceived Barriers

According to Pender et al. (2006), many studies highlighted perceived barriers to action as one of the determinants of behavioral change. For example, perceived barriers constantly had the strongest influence on healthy eating among rural middle-age and older women (Yates et al., 2012). Underserved women face many barriers to health-promotion behaviors. Language and lack of cultural and linguistic support services have been perceived as major barriers in studies of AAW (Kawar, 2013; Shah et al., 2008). Salman (2012) highlighted screening timing, insurance coverage, and modesty as perceived barriers to BCS. Kawar (2013) specified four barriers to BCS: (a) culture-specific barriers, (b) immigration-related barriers, (c) general barriers, and (d) irrelevant barriers. For example, embarrassment related to breast examination by a male physician was one of cultural barriers to BCS.

Qahoush, Scott, Alawneh, and Froelicher (2010) studied physical activity among Arab women in southern California and found 40% of the women had sedentary lifestyles. Time constraints, negative attitudes toward exercise, and lack of knowledge

about how to exercise were reported as barriers to engaging in this health-promotion behavior.

Perceived Self-Efficacy

Self-efficacy is the perception of one's own abilities to perform the actions needed to produce a desired effect. One of the cornerstones of self-efficacy theory is expectancy belief. Bandura (1986) elucidated two types of expectations: efficacy expectations related to the person's belief in his or her ability to perform certain behaviors, and outcome expectations that reflect the individual's beliefs about the probable outcome or success of a specific behavior.

Because perceptions of self-efficacy vary from task to task and from one context to another, multiple studies have been conducted to address different health-promotion behaviors. Many of these studies demonstrated a significant relationship between perceived self-efficacy and health-promotion behaviors. For example, Eisa and Sobayel, (2012) studied women's self-efficacy, health beliefs, and physical activity in Saudi Arabia and found a significant relationship between self-efficacy and physical activity. Conversely, low self-efficacy was a strong predictor of AAW inactivity in another study (Qahoush et al., 2010). Tami et al. (2012) found that many Arab American mothers demonstrated self-efficacy in changing dietary behaviors such as trying new recipes and reading food labels.

Activity-Related Affect

Subjective feelings about a specific health behavior might influence the individual's decision to continue in such behavior; positive affect is more likely to be associated with behavior repetition (Pender, 1996). Feeling great and energetic after

physical activity was reported by one group of Arab American mothers (Tami et al., 2012). Conversely more than 25% of women reported that they hate exercise or feel fine without it (Qahoush et al., 2010).

Interpersonal Influences

Pender's (1996) revised health-promotion model integrates social support as one of the six aspects of behavior-specific cognitions and affects that influence health-promotion behaviors. Interpersonal influences play a very important in influencing health-promotion behaviors among AAW. For example, social support played a significant role in a weight-reduction program targeting Arab Americans with diabetes. No other demographic or psychosocial factors influenced their weight-reduction trials. Women's weight-reduction goal attainment was positively correlated with family social support and negatively correlated with fatty food consumption (Pinelli, Brown, Herman, & Jaber, 2011). Based on this author's experience in Arab culture, it is critical for AAW to feel included in their community to balance the negative effect of immigration. The need for interaction with other women and the need to be accepted within the Arab American culture may influence the adoption of health behaviors among this population.

Situational Influences

AAW's ability to access healthcare and benefit from services, programs, and initiatives is probably inadequate. Consequently, lack of access might limit these women's opportunities to pursue health-promotion behaviors. For example, an unhealthy and fast-paced lifestyle, limited access to healthcare, poverty, and a complex social, cultural, and political situation were the perceived challenges to achieving good health among group of Arab women (Daoud, 2008).

Behavioral Outcomes

The last component in the Pender HBM model is behavioral outcomes, which focus on health-specific behavior. The outcome behaviors are mediated by two factors: (a) immediate competing demands and preferences, and (b) commitment to a plan of action. The degree of engagement in any specific health-promotion behavior is based on the commitment to a plan of action for that behavior. This commitment is susceptible to alteration as it might be affected by competing demands and preferences.

Immediate Competing Demands and Preferences

These are related to the occurrence of alternative behavior prior to the planned health promotion behavior. Individuals have low levels of control over competing demands, but in comparison with high levels of control over the preferences (Pender, 1996). Tami et al. (2012) found that despite dietary changes that were reported by Arab mothers in Lubbock, Texas, the mothers had strong preferences for traditional Arabic foods. However, many dietary changes were adopted as a result of their children's preferences for American food. In relation to physical activity, 48% of the participants preferred indoor physical activities over outdoors ones, and 45% preferred group programs that were exclusively for women as personal modesty is culturally demanded (Qahoush et al., 2010).

Commitment to a Plan of Action

According to Pender's revised model (1996), commitment to a plan of action precedes and initiates the health behavior. It requires an individual's commitment to engage in a specific behavior. The individual is committed to carrying out the behavior regardless of the presence of immediate competing demands and preferences. Lack of

freedom in the decisions to engage in BCS along with patriarchal family structure and relationships, and male disapproval, have been found to limit AAW engagement in BCS behaviors (Kawar, 2013).

Implications for Nursing Practice, Research, and Policy

The shift in nursing focus from acute care-based practice to one that is primarily prevention based parallels the change in focus of the healthcare system in general. The nursing profession is promulgating integration of health-promotion activities into the care of individuals, families, groups, and populations. Promoting healthy lifestyles in different settings will enhance public well-being and attenuate healthcare costs. A variety of health-promotion programs for AAW could be designed and executed by nurses based on individuals' needs in the areas of physical activity, nutrition, and stress management. Nurses' education and academic preparation position the profession to take the lead in this arena.

Nursing research is flourishing in many areas, especially in generating new knowledge that may lead to the development of new evidence-based health interventions. However, nurses need to take into consideration the individualized and cultural needs of vulnerable minority groups. The Health Promotion Model (Pender, Murdaugh, & Parsons, 2006) can serve as an excellent foundation for identifying and addressing influences on health promotion in ethnic population groups such as Arab American women, whose unique cultural needs remain largely unsearched.

Healthcare reform will positively affect women's health through the integration and utilization of cost-covered preventive health services (mammography, screening for cervical cancer, and prevention of sexually transmitted infections). Despite healthcare

reform, further policy initiatives are necessary in cost-covered care services, especially for women in disadvantaged groups more susceptible to loss of healthcare coverage when compared to their male counterparts. Women from ethnic and minority groups need special attention that takes account of their cultural backgrounds and cultural barriers that may impede health promotion activities. The paucity of literature addressing AAW's health-promotion issues may decrease the quality of health services provided.

Summary

This paper demonstrated the unique ways that Pender's revised HPM (1996) could be of particular value in planning future nursing research designed to identify and overcome the unique barriers to health promotion experienced by Arab American women. Future research built upon this multi-dimensional model has the potential to enhance health promotion in this rapidly growing population.

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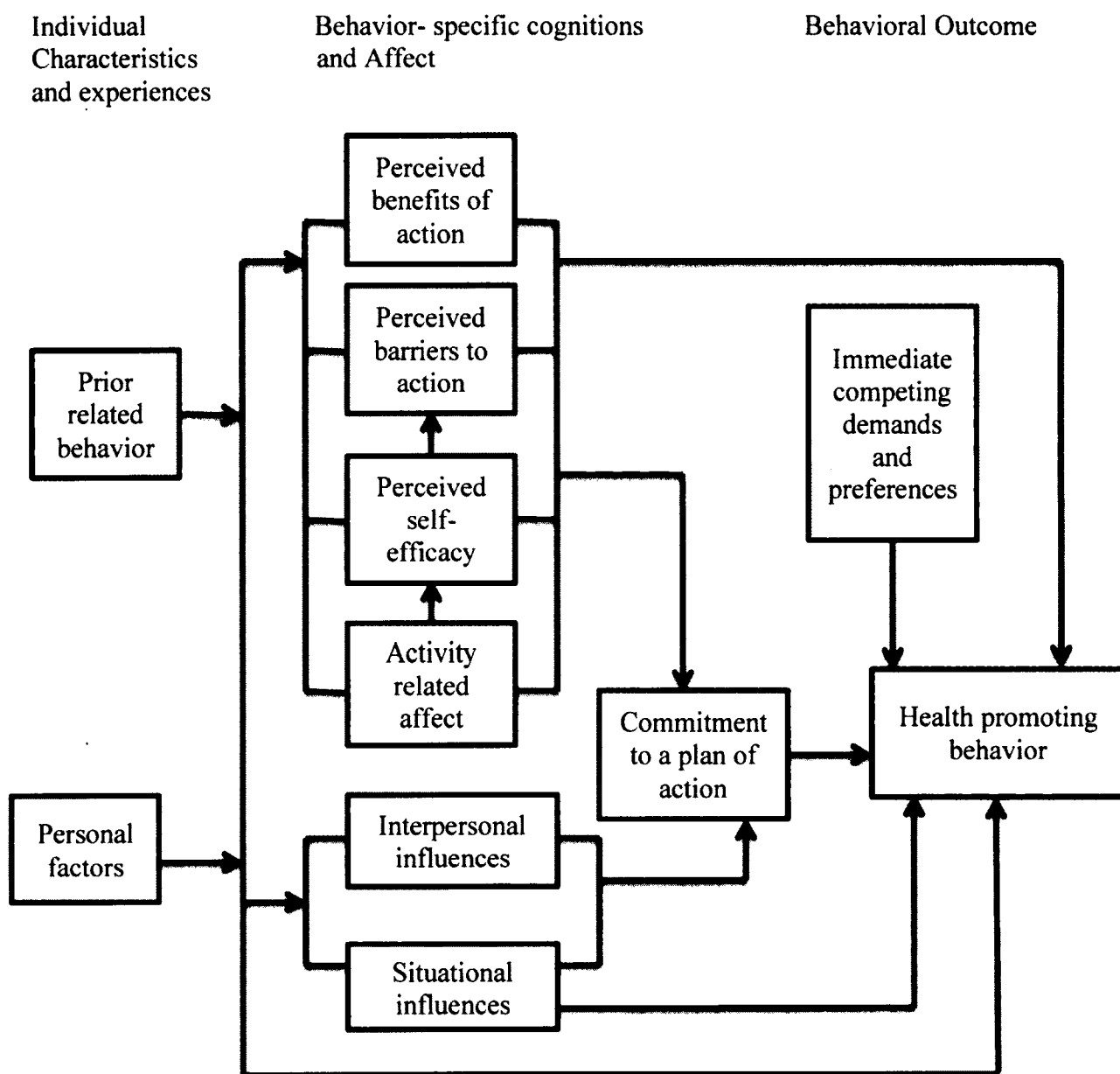


Figure 1. Pender's revised health promotion model.

Source: Pender, N., Murdaugh, C. L., & Parsons, M. A. (2006). *Health promotion in nursing practice* (5th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

**Factors Affecting Health Promotion Lifestyle Behaviors Among Arab-American
Women**

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Abstract

This cross-sectional, descriptive correlational study was conducted to explore the factors affecting health-promotion lifestyle behaviors among Arab American women, based on Pender's revised health-promotion model. A convenience sample of 267 Arab American women residing in four counties in southern California completed a paper self-administered survey. The survey was designed to measure levels of acculturation, perceived stress, perceived self-efficacy, perceived social support, and health-promotion lifestyle behaviors. Descriptive statistics, Pearson's moment correlations, and multiple linear regression analysis were utilized to analyze data. The study findings revealed significant bivariate correlation between health-promotion lifestyle profile II (HPLP II) total score and the participant's age, years of residency in the United States, acculturation, self-efficacy, and social support. The study variables explained 46% of the variance in health-promotion lifestyle behaviors. The total mean score was $M = 2.71$ ($SD = .44$) on a range of 1-4 Likert-type scale. Physical activity and stress management subscales scored the lowest among the six subscales of HPLP II with $M = 2.20$ ($SD = .72$) and $M = 2.54$ ($SD = .53$), respectively. The spiritual growth and interpersonal relations subscales scored the highest mean scores of $M = 3.02$ ($SD = .54$) and $M = 3.01$ ($SD = .50$), respectively.

It is critical for clinicians and policy makers to tailor competent and culturally sensitive programs to meet the health needs of Arab American women.

Keywords: Health-promotion lifestyle behaviors. Arab American women. Acculturation. Psychological Stress. Self-efficacy. Social support.

Introduction

Health-promotion behaviors have become a growing focus of research. Current literature reveals that the adoption of such behaviors is significantly related to an overall sense of wellbeing (Peterson & Bredow, 2013). Additionally, health promotion behaviors enhance protection from, and lead to reductions in, chronic diseases and conditions such as cardiovascular diseases, diabetes mellitus, obesity, and cancer. The confluence of the outcomes of health-promotion behaviors intuitively leads to decreased healthcare costs and expenditures. Nevertheless, enhancing health-promotion behaviors is still challenging for ethnic minorities in both developed and developing countries. Cooper (2002) found that women in all minority groups residing in the United Kingdom (UK) exhibit worse health outcomes when compared to their counterparts from the majority group. Cohen and Azaiza (2007) found that women who belong to minority or disadvantaged groups have a decreased ability to engage in health-promotion behaviors or to control their choices in such practices.

The identification of the barriers to health-promotion lifestyle behaviors (HPLBs) within minority groups can help nurses and healthcare providers to develop effective strategies to overcome those barriers (Montgomery & Schubart, 2010). In particular, the growing Arab American population in the United States constitutes a minority group, and Arab American women (AAW) remain a relatively unstudied group that is facing barriers to HPLBs.

Background and Significance

The National Health Care Quality Report and the National Health Care Disparities Report (2011) focused on the quality of care delivered to minority and ethnic

groups. In these major reports, women are categorized as a priority population. The reports address a myriad of health issues and statistics reflecting the high disease prevalence and lower quality of health care and access among women from ethnic and minority groups. However, AAW are not included as a separate ethnic group in these reports, which demonstrates a lack of knowledge and understanding of this particular population. Consequently, the authors identified an important gap in the literature regarding the vulnerability of this group.

The fact that AAW are a minority within a minority amplifies their health risks and needs. In general, AAW are considered an at-risk population due to the lack of congruency between their culture and the dominant American culture. While AAW share health needs and challenges with other minority groups, their beliefs and health practices are directly influenced by a specific set of cultural norms, traditions, and faith-based practices (El-Sayed & Galea, 2009). A recent study that was conducted by Williams et al. (2011) compared socio-demographic factors among Arab, African American, and Latina women related to breast cancer screening. The results revealed similarities between the Arab and Latino women in the areas of cancer-screening knowledge, levels of education, and insurance coverage. Arab and Latino women showed a significant increase in knowledge after having received an interventional education program (Williams et al., 2011).

Recently, limited studies addressing AAW health-promotion behaviors have focused on early screening for breast cancer (Ayash et al., 2011; Salman, 2012). Palestinian and Jordanian American women reported many barriers to participating in breast cancer screening, including immigrant status, language barriers, fear, and lack of

knowledge (Kawar, 2013). Tami, Reed, Boylan, and Zvonkovic (2012) studied acculturation among Arab mothers in Texas and its impact on health outcomes. In their mixed-methods study Tami et al. (2012) found a significant relationship between acculturation and aspects of HPLBs. Additionally, the results revealed bicultural dietary patterns, high consumption of fatty foods, and a lack of traditional physical exercise among Arab mothers.

Conceptual Framework

The revised version of Pender's health promotion model (HPM; Pender, Murdaugh, & Parsons, 2006) provides a useful framework to guide the study of HPLBs in variety of settings and populations. This revised model is based on the original model developed by Nola Pender in 1982. Based on the findings of earlier studies that have used this framework, Pender and her co-authors revised the model in 1996 (Pender, 1996; Peterson & Bredow, 2013) by adding and removing selected constructs. Expectancy value theory and social cognitive theory are considered the foundation of the model. According to Fishbein and Ajzen (1975), expectancy value theory predicts the degree to which an individual engages in specific health-promotion behaviors. Reinforcement or avoidance of a selected behavior might occur as a consequence of the expectation value. Social cognitive theory (Bandura, 1986) added another dimension to the model. It proposes that an individual's perception of self-efficacy in achieving the health behavior predicts its actual implementation. Pender's model incorporates an assumption that humans will engage in activities to maintain and promote healthy behaviors. The model consists of three main constructs: (a) individual characteristics and experiences, (b) behavior-specific cognition and affect, and (c) behavioral outcomes. This model

constitutes a useful starting point in the examination of the factors affecting HPLBs, and was used as the conceptual framework guiding this study.

Current healthcare literature provides scant documentation of the factors affecting HPLBs in AAW. Factors documented to be related to health promotion in other populations, including individual characteristics such as relevant personal factors (sociodemographic factors, acculturation, and perceived stress), perceived self-efficacy, and perceived social support are unexplored in the AAW population. Currently, there are no available published reports that exclusively identify the factors influencing HPLBs in this particular group.

Purpose

This study was conducted to fill the gaps identified in the current knowledge regarding HPLBs among AAW. The overall purpose of this cross-sectional, descriptive correlational study was to explore factors affecting HPLBs among AAW, including acculturation, psychological stress, self-efficacy, social support, and HPLBs. The specific aims of the study were to (a) describe personal factors comprised of sociodemographic factors, degree of acculturation, and perceived stress among AAW; (b) describe levels of perceived health self-efficacy, perceived social support, and health-promotion lifestyle behaviors among AAW; and (c) examine the relationships between relevant sociodemographic factors, levels of acculturation, perceived stress, perceived health self-efficacy, perceived social support, and HPLBs among AAW.

Methods

Design and Setting

The study utilized a cross-sectional, descriptive, correlational, design. Given the relatively unstudied nature of AAW's health, a descriptive correlational design was appropriate at this stage of knowledge development. The study population was targeted within their community settings in four counties in southern California. A multisite strategy was utilized to increase the number of potential study candidates (Polit & Beck, 2012). The site selection was based on the researcher's familiarity with Arab American culture, community events, and social gatherings such as local festivities and activities.

Sample and Recruitment

The sample for this study consisted of 267 women, all of whom met the inclusion criteria of being (a) female; (b) self-identified as Arab; (c) age 18 years or older; (d) fluent in Arabic, English, or both; (e) an immigrant from (or daughter of immigrant parents from) one of 22 Arab countries; (f) a resident of southern California; and (g) has been residing in the U.S. for 1 year or longer.

Both practical and statistical considerations informed the decision on the sample size. Practical considerations included the relative homogeneity of the AAW population—members of this targeted population, while diverse in their places of origin, share a similar set of cultural norms with relatively minor differences. From a statistical standpoint, a sample size of 183 participants would achieve 80% power to detect an R-squared of 0.1 attributed to 15 independent variables using an *F*-Test with a significance level alpha (α) of .05. Multiple linear regressions were employed for this study. According to Cohen (1988), the required sample size for multiple linear regression

determined by power analysis is between 183 and 371 participants. The targeted sample size was 250 participants; the decision of the sample size was based on the sample sizes documented in previous similar studies.

Although California has the highest density of Arab Americans in the United States, accessing AAW to participate in this study was challenging. Several approaches were used to increase the participation rate, and networking and snowballing strategies were employed (Polit & Beck, 2012). Personal relationships with some AAW community leaders and local businesses owners were the starting point in a snowball data-collection procedure. Moreover, recruitment through the Arab community leaders in faith-based institutions was fruitful, and four mosques in southern California were chosen to help to recruit the sample population.

Data Collection Procedure

Institutional Review Board (IRB) approval was obtained, as well as the approval from the leaders and owners of the data collection sites. Telephone contact, face-to-face communication, flyers, and electronic mail channels were utilized to explain the research project to the leaders and the administrators of the data collection sites. AAW were invited to participate in this study after approval was obtained from the Arab American community leaders and data collection site administrators. Specific dates and locations for data collection were announced in flyers posted in places frequented by Arab Americans. The researcher thoroughly explained to each participant the research purpose and aims. Additionally, detailed explanations about confidentiality and privacy of information were provided to each participant prior to obtaining a signed informed

consent. The participants were given time and opportunity to ask questions related to the study.

A paper survey was handed to every participant to complete. The self-administered survey has many advantages: it is a cost-effective method, especially when administered in a community setting; it provides the participant with the opportunity to be engaged in the study in an anonymous manner; and the survey has no interviewer bias (Polit & Beck, 2012). Each participant could complete the questionnaire in the language of her choice, Arabic or English. Some participants were provided with a pre-stamped envelope if they were unable to complete the questionnaire at the data collection sites due to prior personal commitments.

Measures

The paper survey included all the measures employed in the study: (a) a Personal Factors Survey (PFS) that includes sociodemographic factors, (b) Acculturation Rating Scale of Arab-American II (ARSAA II), (c) Psychological Stress Measure-9 (PSM-9), (d) Perceived Health Competency Scale (PHCS), (e) Multidimensional Scale of Perceived Social Support (MSPSS), and (f) Health-Promotion Lifestyle Profile II (PHLP II). Table 1 includes descriptions of the standardized study measures' structures and psychometrics.

Personal Factors Survey (PFS). The primary investigator (PI) developed the PFS based on factors identified as being relevant in prior studies. The participants were asked to answer questions regarding their age, country of origin, length of residency in the United States, religious affiliation, mother tongue, spoken language, marital status, highest educational level completed, insurance status and type, household annual income,

number of people living in the same house, employment status, weight and height to calculate the body mass index (BMI) by the PI, and self-perceived current health status.

Self-perceived current health status. Self-perceived current health status was measured by the woman's subjective evaluation of her current health status. Pullen, Walker, and Fiandt (2001) measured the individual's health rating by asking the participants to answer a single question: "How would you rate your overall health at the present time?" The response was rated on 5-point Likert-type scale where 1 = *excellent* and 5 = *poor*. The use of the spontaneous assessment view in evaluating one's self-status using a single-item universal scale helps to synthesize many aspects of an individual's physical and mental health status (Bailis, Segall, & Chipperfield, 2003).

Acculturation Rating Scale of Arab-American II (ARSAA II). This measure based on the acculturation rating scale of Mexican American II (ARSMA) that was developed by Cue'llar, Arnold, and Maldonado (1995) to assess acculturation among Mexican Americans. Jadalla and Lee (2013) translated ARSMA II into formal Arabic. The data collected using ARSAA II helped to differentiate between acculturation strategies, assimilation, and integration among Arab Americans. In their study, Jadalla and Lee (2013) reported the ARSAA II factor analysis resulted in two emerging factors labeled as (a) attraction to American culture, and (b) attraction to Arabic culture.

Psychological Stress Measure-9 (PSM-9). This measure is a short-form of the original Psychological Stress Measure (PSM) designed by Lemyre, Tessier, and Fillion (1990). The 49 items of the original PSM were generated from different focus groups on stress. The PSM is unifactorial in structure and maintains a test-retest stability ranging from .068 to .80 under constant conditions, while the Cronbach's alpha for two parallel

forms ranges between .92 and .93 (Lemyre & Lalande-Markon, 2009). The participant was asked to point out how good the indicator and statement applied to him or her in the last 4 to 5 days. The responses were recorded using a Likert-type scale ranging from 1 = *null* to 4 = *much*. A higher score on the scale indicates a higher level of psychological stress. The PSM was validated through comparing groups from different backgrounds. Convergent validity was established through comparing the PSM with depression and anxiety scales, while divergence validity was confirmed by using factorial scores with the same scales.

The PSM-9 was developed mainly for a general population survey of health and wellbeing in the workplace. The short version of the tool (PMS-9) has the same psychometric properties as the original measure (Lemyre & Tessier, 2003). The measure uses a Likert-type scale, where 1 = *not at all* and 8 = *extremely*. The score is the total of nine items, but the two positive items (“I feel calm,” and “I feel full of energy and keen”) scores must be reversed. The PSM-9 was translated into Arabic by Hamdan-Mansour, AlBadawi, Haourani, and Marmash, (2013). The Arabic version was pilot tested before utilizing it in studies about depression, psychological distress, and coping among patients with Type II diabetes mellitus.

Perceived Health Competence Scale (PHCS). The perceived health competence scale (PHCS) was developed by Smith, Wallston, and Smith (1995) in order to measure diversity of health behaviors and outcomes in many conditions. In this study, it was used to measure perceived health self-efficacy. The scale ranks on the intermediate level of self-efficacy measures. Smith et al. (1995) stated that the PHCS is the appropriate choice to implement when health self-efficacy is specifically being studied, and other global

self-efficacy measures are not applicable. Smith et al. established the scale's psychometrics through three different populations; stability and high internal consistency were reported (see Table 1).

Multidimensional Scale of Perceived Social Support (MSPSS). The MSPSS was developed by G. Zimet, Dahlem, Zimet, and Farley (1988) to measure an individual's perceived adequacy of support from three different sources: family, friends, and significant other. Zimet, Powell, Farley, Wekman, and Berkoff (1990) conducted a confirmatory study to determine the psychometric properties of the scale (see Table 1). The instrument was tested across three different subject groups: 265 pregnant women, 74 adolescents, and 55 pediatric residents. Validity was established by significant correlations with the depression and anxiety subscales of the Hopkins Symptom Checklist (Zimet et al., 1990).

Health-Promotion Lifestyle Profile II (HPLP II). Health-promotion lifestyle behaviors in the current study were measured using the health-promotion lifestyle profile II (HPLP II). The scale of the HPLP II consists of 52 items developed by Walker and Hill-Polerecky (1995). The HPLP II is designed to measure the patterns and frequency of self-reported health-promoting behaviors in six areas: health responsibility (HR), physical activity (PA), nutrition (NU), interpersonal relations (IPR), spiritual growth (SG), and stress management (SM). The scale responses are rated on a 4-point Likert-type scale (1 = *never*, 2 = *sometimes*, 3 = *often*, 4 = *routinely*). The scale's content validity was established through literature review and experts evaluation. Factor analysis confirmed the scale's six dimensions, while convergent validity established a positive correlation with the personal lifestyle questionnaire. Criterion-related validity was defined by

significant correlation with concurrent measures of perceived health status and quality of life.

The HPLP II is reliable, with a total scale Cronbach's alpha of .943, and ranging between .793-.872 for the subscales. The 3-weeks test-retest stability coefficient is .892. An Arabic version of this scale was developed and validated by Haddad, Al-Ma'aitah, Cameron, and Armstrong-Stassen (1998) using a group of 950 adult Jordanians. Table 1 includes description of ARSAA II, PSM-9, PHCS, and MSPSS structure and psychometrics as reported in the authors' original reports.

Instrument Translation

Four of the standardized measures have an Arabic version: ARSAA II, MSPSS, HPLP II, and PSM-9. For the purposes of this study, The PHCS was translated into formal Arabic by two people who held master's degrees and were fluent in both Arabic and English following Brislin's guidelines (1986). Additionally, the translators were familiar with the Arab and American cultures. Another two bilingual nurses who are working as nursing educators and researchers, performed the back-translation of the PHCS into English. A community panel was consulted to determine and verify the PHCS's cultural equivalency and sensitivity. The panel's comments were incorporated into the repeated forward-backward translation work and the instrument was revised as needed at each step. Table 2 includes all the study measures' Cronbach's Alpha Coefficients as reported in the authors' original reports and those in the current study.

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 21.0 for Mac was used to analyze the data and run the statistical tests. Descriptive statistics were calculated for

the demographics and personal factors, ARSAA, PSM-9, PHCS, MSPSS, PHLP II scales and subscales. Pearson product moment correlation was employed to determine the degree of association between the study variables. Simultaneous multiple regression was used to explain the variance in the HPLP II total score by the personal factors and cognitive variables.

Results

Personal Factors and Sociodemographic

Study participants totaled 267 women from four counties in southern California. The participants had a mean age of $M = 38$ ($SD = 13$), and an age range between 18 and 80 years. The length of residency in the United States ranged from 1- 47 years, ($M = 15$, $SD = 10.15$). The participants' countries of origin broke down as follows: more than 34% came from Palestine, 23.6% from Syria, 19.1% from Jordan, and 7.5% from Egypt, with the remainder (15.3%) coming from other countries including Lebanon, Iraq, Tunisia, Libya, Morocco, Sudan, and Eritrea. The majority of the participants were Muslim (95.5%), and 4.1% were Christians. While Arabic was considered the mother tongue by 92.5% of participants, only 69.7% reported that Arabic was their primary spoken language in the United States.

Approximately 80.5% of the participants were married, with an average of four persons living in the same household ($M = 4$, $SD = 2$). Only 16.2 % of the participants had full-time jobs, while 18% had a part-time job; 57% were unemployed and 8.6% had their own businesses. More than 50% reported that their annual household income was equal to or less than \$50,000. Approximately 10.5 % of the sample were not high school graduates, 24.7 had a high school diploma, and 64.8% were college graduates or above.

Most AAW rated their perceived current health status as excellent (19.1%), very good (34.1%), and good (33%), while less than 13% reported fair or poor perceived health status. The mean body mass index (BMI) was $M = 27$ ($SD = 6.8$). Some 87.3% of the participants reported having insurance coverage. Acculturation scales means were $M = 2.89$ ($SD = 0.43$) and $M = 4.17$ ($SD = 0.56$) for Anglo orientation and Arabic orientation, respectively. Both acculturation scales were measured on a 1 to 5 scoring range. The psychological stress mean ($M = 3.94$, $SD = 1.42$) was measured using a possible score range of from 1 to 8.

Health Scores

The mean score recorded from the PHCS was $M = 3.49$ ($SD = .86$) out of a possible score range of 1 to 5. The perceived social support total score was $M = 5.52$ ($SD = 1.13$) out of a possible maximum score of 7. Table 3 includes the descriptive statistics of three sources of social support using the MSPSS subscales: (a) family, (b) friends, and (c) significant other. The outcome variable of this study was the HPLBs as measured by HPLP II. The mean value for the HPLP II total score was $M = 2.71$ ($SD = .44$) on a scoring scale of 1 to 4. For the HPLP II subscales mean scores calculated as follows: health responsibility— $M = 2.64$ ($SD = .65$), physical activity— $M = 2.20$ ($SD = .72$), nutrition— $M = 2.76$ ($SD = .50$), interpersonal relations— $M = 3.01$ ($SD = .50$), spiritual growth— $M = 3.02$ ($SD = .54$), and stress management— $M = 2.54$ ($SD = .53$).

Significant correlations were found between HPLBs and age, years of residency in the United States, Anglo culture orientation, Arabic culture orientation, perceived psychological stress, perceived self-efficacy, and perceived social support (see Table 4).

Determinants of Arab American Women Health-Promotion Lifestyle Behaviors

The third aim of this research was to examine the relationships between relevant personal factors (sociodemographic factors, levels of acculturation, perceived stress), perceived health self-efficacy, perceived social support, and HPLBs among AAW. Multiple linear regression analysis was conducted to evaluate how well the selected personal factors and cognitive variables were associated with HPLBs.

Personal factors (sociodemographic, Anglo culture orientation, Arabic culture orientation, and perceived stress), perceived self-efficacy, and perceived social support collectively accounted for a significant amount of variance in AAW's health-promotion lifestyle behaviors [$F(18, 208) = 10.657, p < .05, R^2 = .46$ (see Table 5)]. All tolerance values were less than .20, which indicates that there were no issues of multicollinearity.

Discussion

The findings of this study are discussed here in comparison with other relevant studies that were conducted to determine factors that affect HPLBs among women from different ethnic and minority groups in the United States. Table 4 includes HPLP/HPLP II scale and subscale comparisons among women from different ethnic and minority groups. Johnson (2005) studied the gender differences among African Americans. Duffy, Rossow and Hernandez (1996) studied HPLBs among employed Mexican American women. Moreover, Eun, Ae, and Kyung (2010) compared HPLBs among Korean and Korean American women. Table 5 includes comparisons of the HPLP/HPLP II scale and subscale mean scores between AAW and other minority groups.

The total mean score of HPLP II in the current study was found to be the highest in comparison with other minority groups studied by Johnson (2005), Duffy et al. (1996), and Eun et al. (2010). Aqtash and Servellen (2013) studied HPLBs among Arab

Americans who emigrated from the region of Levant, their study findings revealed that the HPLP II mean score was 2.73. Moreover, four main variables were determinants of HPLBs among this group: Health insurance, acculturation, self-efficacy, and social support explained 46% of the variance in HPLP II scores (Aqtash & Servellen, 2013). Despite the difference in the population focus, the mean scores of HPLP II in the current study and as found by Aqtash and Servellen are very close. The current study exclusively addressed AAW from many Arab countries, while the fact that women made up only 41.5% of the study population in Aqtash and Servellen's work makes generalizing their findings to AAWs impractical.

The physical activity (PA) subscale mean score was found to be the lowest among all the HPLP II subscales in this group, which is similar to the findings of other minority studies such as those by Johnson (2005), Duffy et al. (1996), and Eun et al. (2010). Walker and Hill-Polerecky (1995) defined PA as an individual's involvement in different levels of exercise through a planned program, leisure, or part of daily living activities. Qahoush, Scott, Alawneh, and Froelicher (2010) studied physical activity among AAW in southern California. The majority of participants (70%) reported domestic activity as the main source of physical activity, followed by leisure, transportation, and being active at work. Additionally, approximately 40% of the women found to have sedentary lifestyles. Time constraints, negative attitudes toward exercise, and lack of knowledge about how to exercise were reported as barriers to engaging in this health promotion behavior. Only 27% chose a gymnasium as a place to exercise, while many participants (48%) indicated indoor activities with a treadmill or stationary bicycle being the preferred indoor exercise machine (Qahoush et al., 2010).

Two factors predicted inactivity levels of AAW: low exercise self-efficacy and being born outside the US (Qahoush et al., 2010). Additionally, language, acculturation level, and place of birth have been found to be determinants of physical activity in multiethnic working-class populations (Wolin, Colditz, Stoddard, Emmons, & Sorensen, 2006). Although, Arab American mothers acknowledged the importance of PA, their exercising on a regular basis was limited, and most PA happened while walking in shopping centers or during 30 minutes of house cleaning one or two times a week (Tami et al., 2012).

AAW levels of stress management depend on a woman's ability to identify and utilize different types of resources in order to control or reduce her tension (Walker & Hill-Polerecky, 1995). Similar to other minority groups (Johnson, 2005; Duffy et al., 1996; Eun et al., 2010), the stress management (SM) subscale scored the second lowest. This finding indicates poor abilities on the part of AAW to manage daily stress. In the current study, AAW also scored relatively high on the psychological stress measure. In addition to their ordinary daily life stressors, AAW have another source of stress: being a minority within a different host culture. In their qualitative study of immigration stress among Jordanian Christian women, Hattar-Pollara and Meleis (1995) found three themes emerged out of the study as perceived sources of stress in this population: "the daily living of settling in, a quest for maintaining an ethnic identity, and the work attached to recreating familiarity with their new host country" (p. 528).

Health responsibility (HR) is the accountability for an individual's own health by reaching out for professional support when needed (Walker & Hill-Polerecky, 1995). The HR subscale scored third lowest among the subscales in the present study. However, the AAW's health responsibility score was found to be higher than those of their counterparts

in Mexican-Americans (Duffy et al., 1996), and Korean-Americans (Eun et al., 2010), but less than those of African-American women (Johnson, 2005). The culture and faith dimensions are worth mentioning in this area. Salman (2012) mentioned that people from Middle Eastern countries perceive themselves healthy if there is no visible sign of illness or when they can perform the activities of their daily living. The majority of the participants in the current study were Muslims who frequented mosques. Their health beliefs, behaviors, and practices were influenced by the Islamic faith (Salman, 2012). The Islamic faith encourages Muslims to take care of their health. However, Muslims consider that God controls matters of life and death. Health-promotion behaviors such as having a healthy diet, exercising, and general cleanliness are integral parts of Islam's instructions to its followers (Yosef, 2008).

The nutrition (NU) subscale scored the fourth lowest mean of all the HPLP II subscales. It examines AAW knowledge of food selection and consumption based on the food-pyramid guide (Walker & Hill-Polerecky, 1996). When Tami et al. (2012) studied the effect of acculturation on the dietary and physical-activity behaviors of Arab mothers in Lubbock, Texas, they found that acculturation to American culture resulted in bicultural dietary patterns among the 22 mothers who participated in the mixed-method research study. All participants emphasized their preference to continue eating traditional Arabic food. However, due to many reasons such as children's preferences, prices, and unavailability of Arabic food, many changes in dietary patterns occurred (Tami et al., 2012) such as the increased consumption of pasta, meat, milk, desserts, soft drinks, and processed snacks. Similar to other ethnic populations studied by Yeh et al. (2008), Arab American mothers reported decreases in fruit and vegetable consumption. Cost, time, and

inaccessibility were common barriers to consuming fruits and vegetables among all groups.

Interpersonal relations (IPR) are the development of close personal relationships through verbal and non-verbal communication of an individual's feelings and thoughts (Walker & Hill-Polerecky, 1996). It is not surprising that the IR subscale scored the second-highest mean score among the HPLP II subscales. This might be explained by the fact that Arab people value family ties and relations (AbuGharbieh, 1998). Additionally, the observed IR score is consistent with relatively high scores for social support gained from family and significant other. The current study findings showed satisfactory relationships between AAW and their family members and their significant other.

Spiritual growth (SG) was defined by Walker and Hill-Polerecky (1996) as "the development of inner resources and is achieved through transcending, connecting, and developing, p.1". The SG subscale mean score was the highest among all the HPLP II subscales. AAW scored lower than African Americans (Johnson, 2005) and Mexican Americans (Duffy et al., 1996), but higher than Korean-Americans (Eun et al., 2010). As the majority of the participants were Muslims who frequently attended mosques and Islamic centers, it was expected that spirituality would score high as Islamic faith is integrated in those women's daily lives.

AAW's lowest-scoring source of social support came from friends (see Table 3). As the majority of AAW have left their home countries for the purpose of nuclear family unification, they have left behind most of their social-support sources. It is considered challenging for AAW to establish the new supportive network they ultimately need, especially at this point in their lives when most of their social network and relationships

are already established. As time passes, the communication with their old friends diminishes and personal connections vanish. AAW need to replace their support system and create their new supportive network. These findings are consistent with what Jordanian American women reported on the lack of acculturation and challenges in building new solid friendships within American culture. As one AAW reported, “We have been living here for years and we still do not know the names of our neighbors. I tried to get to know them and invited them over for coffee, but all my attempts were frustrated” (Hattar-Pollara & Meleis, 1995, p. 530). In another study, AAW’s friends are mostly from Arab families, as they are more comfortable with Arab friends than with Americans (Tami et al., 2012).

Limitations

The utilization of a convenience sample consisting mainly of mosque-attending Arab women limits the generalizability of the findings. Obtaining access to participants from different faith groups, counties, and social classes was challenging. A paucity of literature addressing exclusively AAW health issues limits the possibility of comparing the findings over time. Moreover, cross-sectional data collection from relatively highly educated Arab women residing in urban areas limits the study’s generalizability to all AAW in southern California. Self-report data collection methods may have increased the social desirability responses, since the researcher was from the same community.

Implications and Summary

Data from this study may help healthcare professionals and researchers to identify AAW’s unique health and social needs, and to have a more in-depth understanding of the critical role of culturally sensitive programs in promoting health behaviors among this

group. Future research in this area can be conducted on the relationships revealed between the factors that may affect an AAW's decision to engage in health-promotion behaviors, specifically AAW's perceived motivators and barriers to health-promotion behaviors. Longitudinal studies with larger and more representative samples are needed to provide a more in-depth analysis of the complex nature of factors affecting health promotion among this population.

Additional studies are needed regarding factors such as the effect of acculturation and English-language proficiency on HPLBs over time among AAW. Future studies of AAW's health focusing on the specific ways that AAW make health promotion decisions can become the basis for intervention studies designed to promote such behaviors. Future intervention research in this area includes the testing of comprehensive and culturally sensitive health initiatives and programs including interpretive services, Arabic-language brochures on health promotion, and the education of health professionals who serve this community. This study was a beginning step in attempting to establish a knowledge base concerning this growing minority population. The findings from this study demonstrate that the AAW population has unique needs in facing challenges to health-promotion behaviors.

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Table 1

Description of the Study Standardized Measures: Structure and Psychometrics

Measure	Subscales/ Number of items	Reliability (α) ^f	Validity
(ARSAA-II) ^a	- 2 scales Anglo orientation (AnO) / 13 Arabic orientation (ArO) / 17 - 30 items-Likert scale (1-5) (1) = <i>Not at all</i> (5) = <i>Almost always</i>	- AnO (α) = .89 - ArO (α) = .81	Construct validity - (FA) ^e
(PSM-9) ^b	- 9 items - Likert scale (1-8) (1) = <i>Not at all</i> (8) = <i>Extremely</i>	- (α) = 0.92	Convergence validity - Depression and anxiety scales
(PHCS) ^c	- 8 items - Likert scale (1-5) (1) = <i>Strongly disagree</i> (5) = <i>Strongly agree</i>	(α)= 0.82-0.90 across 5 samples -Stability over one week period	Construct validity - Support of study hypothesis
(MSPSS) ^d	3 subscales Family (FA) / 4 Friends (FR) / 4 Significant other (SO) / 4 -12 items -Likert scale (1-7) (1) <i>Very strongly disagree</i> (7) <i>Very strongly agree</i>	(Total α) = .84 - .92 - FA (α) = .81-.90 - FR (α) = .90-.94 - SO (α) = .83-.98	Divergent validity -Depression and Anxiety subscales of the Hopkins Symptom Checklist Construct validity

Note: ^a(ARSAA-II) = Acculturation Rating Scale for Arab Americans-II, ^b(PSM-9) = Psychological stress measure, ^c(PHCS) = Perceived health competence scale, ^d(MSPSS) = Multidimensional scale of perceived social support, ^e(FA) = Factor analysis, ^f(α) = Cronbach's alpha.

Table 2

Cronbach's Alpha Coefficients for Measures in Author's Reports and Current Study
(N=267)

Scale / Subscale	No. Of Items	Cronbach's Alpha (Author)	Cronbach's Alpha (Current Study)	Cronbach's Alpha (Arabic)	Cronbach's Alpha (English)
<i>Arabic Orientation Scale</i>	17	.81	.826	.797	.853
<i>Anglo Orientation Scale</i>	13	.89	.91	.89	.83
The Psychological Stress Measure (PSM)	9	.95	.834	.839	.837
The Perceived Health Competence Scale (PHCS)	8	.82- .90	.82	.819	.819
Multidimensional Scale of Perceived Social Support (MSPSS)	12	.88	.90	.892	.903
<i>Significant other subscale</i>	4	.91	.914	.907	.928
<i>Family subscale</i>	4	.87	.843	.846	.827
<i>Friends subscale</i>	4	.85	.878	.849	.919
Health Promoting Lifestyle Profile II (HPLP- II)	52	.94	.938	.936	.943
<i>Health Responsibility subscale</i>	9	.86	.854	.854	.86
<i>Physical Activity subscale</i>	8	.85	.871	.857	.887
<i>Nutrition subscale</i>	9	.80	.706	.678	.756
<i>Spiritual Growth subscale</i>	9	.86	.822	.796	.861
<i>Interpersonal Relations subscale</i>	9	.87	.764	.758	.768
<i>Stress Management subscale</i>	8	.79	.74	.728	.768

Table 3

*MSPSS Scale and Subscales Descriptive Statistics
(N=267)*

MSPSS	M	SD
Total scale	5.52	1.13
Significant other sub scale	5.90	1.40
Family subscale	5.71	1.32
Friends subscale	4.94	1.52

Table 4

Pearson Correlations Matrix between The Significant Individual Characteristics, Behavior-Specific Cognitions Factors, and HPLBs (N= 267)

Variable	1	2	3	4	5	6	7	8
1. HPLBs ^a	—							
2. Acculturation (ArO ^b)	.19**	—						
3. Acculturation (AnO ^c)	.23**	-.26**	—					
4. Perceived stress	-.35**	-.16**	.02	—				
5. Perceived Health	.29**	.10	-.00	-.40**	—			
6. Social support	.52**	.17**	.15*	-.27**	.22**	—		
7. Age	.17*	.17**	-.25**	-.11	-.09	.00	—	
8. Years in U.S.	.19*	-.16*	.45**	-.01	-.09	.12	.34**	—

Note. HPLBs^a: Health promotion lifestyle behaviors, ArO^b: Arabic orientation, AnO^c: Anglo orientation

* $p < .05$ (two tailed)

** $p < .01$ (two tailed)

Table 5

Determinants of Health-Promotion Lifestyle Behaviors in Simultaneous Regression Analysis (N= 230)

<i>Variable</i>	β	<i>T</i>	<i>p</i>
Age	.21*	2.87	.005
Country Recoded	.03	.58	.560
Religion	-.09	- 1.79	.075
Education ^a	-.11*	- 2.12	.035
Insurance ^b	.06	1.22	.223
Years in USA	-.03	-.41	.680
Marital status ^c	-.00	.07	.946
Income ^d	-.02	-.45	.653
Number of people in the household	.03	.55	.586
Employment status ^e	.07	1.24	.214
Spoken language ^f	.03	.50	.613
Body Mass Index	-.03	-.54	.584
Health rating ^g	-.01	-.21	.833
Anglo orientation	.27*	3.96	.000
Arabic orientation	.09	1.62	.106
Psychological stress	-.23*	-4.02	.000
Health self-efficacy	.15*	2.7	.008
Social support	.34*	5.97	.000

Note. Overall $R^2 = .46$, Adjusted $R^2 = .421$, $F(18, 230) = 10.920$, $p < .05$

^acoded as 0 = High school or less, 1 = college or above, ^bcoded as 0 = has no insurance, 1 = has insurance, ^ccoded as 0 = not married, 1 = married, ^dcoded as 0 = more than \$ 30000, 1 = less than \$ 30000, ^ecoded 0 = not employed, 1 = part-time and full-time employment, ^fcoded as 0 = non-Arabic, 1 = Arabic. ^gcoded as 0 = good or above, 1 = fair or less

* $p < .05$

Table 6

HPLP/ HPLP II Scale /Subscales Comparisons Among Women From Different Minority Groups

HPLP ¹ / HPLP II	Current Study Arab-American		Hispanic- American		African- American		Korean- American	
	HPLP II (N=208)		HPLP (N= 397)		HPLP II (N=115)		HPLP II (N=80)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Total Score	2.71	.44	2.7	.46	2.68	.45	2.6	.50
Physical Activity/ (Exercise) ²	2.20	.72	1.9	.79	2.24	.70	2.34	.70
Stress Management	2.54	.53	2.5	.58	2.47	.70	2.52	.50
Health Responsibility	2.64	.65	2.3	.46	2.66	.57	2.32	.60
Nutrition	2.76	.5	2.5	.64	2.47	.54	2.66	.50
Interpersonal Relations	3.01	.5	3	.57	3.1	.54	2.77	.40
Spiritual Growth (Self- Actualization) ³	3.02	.54	3.1	.55	3.19	.53	2.96	.60

Note. ¹HPLP is the older version of HPLP II; ²Exercise was the name of physical activity in HPLP; ³Self-Actualization was the name of Spiritual Growth in HPLP.

Language Preference and Differences in Health-Promotion Lifestyle Behaviors Among

Arab American Women in Southern California

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Abstract

Purpose: To compare, based on language preference, the level of health-promotion lifestyle behaviors and perceived health efficacy among two groups of Arab American women. A secondary purpose was to examine the psychometric properties of a translated Arabic version of the perceived health competence scale. **Design:** A comparative secondary analysis was completed of cross-sectional study data involving 267 Arab American women in southern California. **Methods:** A self-reporting survey (available in both English and Arabic) was administered, and comparisons were made between the women's responses on health-promotion lifestyle profile II, and perceived health competence scale. The perceived-health competence scale was translated to Arabic using Brislin's guidelines. **Findings:** Pearson product moment correlation coefficient indicated lack of association between the participant's spoken language and their responses on both scales. Independent sample *t*-tests were conducted on three levels: (a) scale, (b) subscale, and (c) items level, and significant differences between the study groups were found on the physical activity, interpersonal relations, and spiritual-growth subscales. In this population, the perceived health competence scale's Cronbach's alpha was relatively high (.819) and was equal in both the original and translated versions. **Conclusion:** Language preference was associated with only some of the health-promotion lifestyle behaviors among Arab American women. No significant differences were found in the perceived health competence scale between the study groups. **Implications:** Cultural-and linguistic-sensitive approaches are needed in designing and implementing health-promotion programs.

Keywords. Arab American women. Health-promotion lifestyle behaviors. Perceived-health competence scale. Language preference. Language proficiency.

Introduction

Multiculturalism is one of the prominent features of the social structure of the United States. It incorporates the diversity in languages and cultural heritage of the population. Recently, studies have documented the influence of English language proficiency and spoken language preference on an immigrant's health. Lack of proficiency with English influences many aspects of an immigrant's health status and health practices (Gee & Ponce, 2010; Kandula, Lauderdale, & Baker, 2007). *Healthy People 2020* specified the elimination of health disparity as one of its four main goals (Healthypeople.gov, 2013), and a lack of English language proficiency is considered a source of disparity in health and access to quality healthcare services (Kandula et al., 2007). The healthcare system is challenged in meeting the health needs of clients from different cultural backgrounds; more specifically, the healthcare system is challenged in delivering culturally sensitive services to clients who speak different languages. According to the United States Census Bureau (2012) in its 2008-2012 five-year estimate, among people 5 years old and above, more than 59 million spoke a language other than English at home. Additionally, Ryan (2013) reported that more than 300 languages are spoken in the United States. The total number of Arabic speakers is more than 950,000.

Culture impacts an immigrant's life in many ways (Galanti, 2008). Language preference and language proficiency concepts are used interchangeably in research, and are considered as a proxy of acculturation, as well as defining a person's acculturation

level (Gee, Walsemann, & Takeuchi, 2010). Acculturation, in turn, is one of many factors that influence the immigrant's health in the host society. It involves a transitional period of attitudes, values, and changes in practices (Berry, Poortinga, Segall, & Dasen, 2002). Typically in social research, the level of acculturation is measured by the immigrant's length of residency and proficiency in the language of the host culture (Aycan & Berry, 1996; Lara, Gamboa, Kahramanian, Morales, & Bautista, 2005). As the health of ethnic and minority groups gain more focus in social and health research, multiple studies (Flores, 2006; Kandula et al., 2007; Zhang, Hong, Takeuchi, & Mossakowski, 2012) have been conducted to examine the influence of English proficiency on minority groups' physical and psychological health.

Background

This study is part of larger study conducted to examine the factors affecting health-promotion lifestyle behaviors (HPLBs) among Arab American women (AAW) in 2013. A cross-sectional, descriptive, correlational design was employed on a convenience sample of 267 AAW who met the inclusion criteria of being (a) female, (b) age 18 years or older, (c) fluent in Arabic, in English, or both (d) an immigrant from (or daughter of immigrant parents from) one of 22 Arab countries, (e) resident of Southern California, and (f) residing in the U.S. for one year or longer.

The revised Pender's health-promotion model (HPM) was employed to guide the larger study, and different variables from the model's three main components were included. The larger study explored AAW responses on (a) sociodemographic factors, (b) level of acculturation, (c) perceived stress, (d) perceived health self-efficacy, (e) perceived social support, and (f) health-promotion lifestyle behaviors. The participants

completed a paper copy of self-reported survey that was available in both Arabic and English. A sociodemographic survey and five standardized measures were included in the survey. Table (1) includes a description of the study measures' structure and psychometrics.

Descriptive statistics of frequencies, percentages, and central tendency measures were calculated. Pearson product moment correlation was employed to examine the degree of association between the study variables. Simultaneous multiple regression was used to explain the variance in the HPLP II total score analysis by the demographic, personal, and cognitive variables.

Arab American Women

Arab Americans (ArAs) are one of the fastest growing minorities in the United States. They are defined as U.S. residents who identify themselves as Arabs, speak the Arabic language, and trace their ancestry to one of 22 Arab countries located in Middle East and North Africa. According to the Arab American Institute (AAI, n.d.), approximately 3.5 million ArAs live in all 50 states, with nearly one third residing in California. Generally, Arab Americans' health issues are understudied and overlooked (Meleis & Hattar-Pollara, 1995). Arab American women (AAW) were defined in this study as women who emigrated from the Arab world countries or are daughters of Arab immigrant parents. Similar to women in other ethnic and minority groups, AAW are underserved and vulnerable to many health problems due to differences between their culture and the American culture (Meleis & Hattar-Pollara, 1995). Although AAW share common aspects of Arab cultural practices and heritage, they are considered as a heterogeneous group belonging to different countries of origin (Suleiman, 1999). Hence,

although the existence of some differences in health values and practices are expected, these variations might be also due to different levels of individual adjustment and acculturation.

Limited studies have examined the influence of a lack of English language proficiency on ArAs health and their access to the U.S. healthcare system (Abdulrahim & Baker, 2009; Sarsour, Tong, Jaber, & Julliard, 2010); there are more obstacles to studying AAW in this context. The language barrier has been documented as one of many variables that hinder AAW breast cancer screening behaviors (Arshad, Williams, Mabiso, Dey, & Soliman, 2011; Kawar, 2013; Meleis & Hattar-Pollara, 1995). The purpose of this present study was to compare the findings on the health-promotion lifestyle profile II (HPLP II) scale and perceived health competence scale between AAW who completed the English version of the survey against those who chose to complete the Arabic one. A secondary purpose was to examine the psychometric properties of the translated version of the perceived health competence scale (PHCS).

Methods

Design and Setting

A cross-sectional, descriptive, correlational design was utilized with a comparison approach between the study groups. Based on the participants' language preferences, the study sample was divided into two separate groups of (a) participants who completed the Arabic-language survey and (b) the participants who completed the English-language survey.

Sample

A convenience, non-probability sampling method was utilized to access the target population. A total of 267 AAW met the following inclusion criteria: (a) female; (b) age 18 years or older; (c) fluent in Arabic, English, or both; (d) self-identified as Arab woman or being an immigrant from (or daughter of Arab immigrant parents) from one of 22 Arab countries; and (e) residing in Southern California for one year or longer. Although California has the largest population of Arab Americans, accessing these vulnerable and underserved women to participate in this study was challenging.

Data Collection Procedure

The approval of the university institutional review board (IRB) was obtained, as well as the approval from the leaders and owners of the data collection sites. All the study forms, participant consents, and the surveys were kept in a locked file cabinet in a secure place accessed solely by the researcher. All procedures required to protect the privacy of the participants' information were followed. Telephonic, face-to-face communication, flyers, and electronic mail channels were utilized to explain the research project to the leaders and administrators of the data collection sites. AAW were invited to participate in this study through its endorsement by the Arab American community leaders and the administrators of the data collection sites.

The researcher thoroughly explained to each participant the purpose of the research and its aims. Additionally, a detailed explanation about confidentiality and privacy of information was provided to each participant prior to obtaining a signed informed-consent form. The participants were given time and opportunity to ask questions regarding the study. A paper-copy study survey was handed to every

participant to complete; the participants could choose to complete the questionnaire in the language of their choice, Arabic or English.

Measures

The study utilized a self-report survey instrument that included all the measures employed in the study: (a) sociodemographic survey, (b) perceived health competency scale (PHCS), and (c) health-promotion lifestyle profile II (PHLP II).

Personal Factors Survey (PFS). The primary investigator (PI) developed the PFS based on factors identified as being relevant in prior studies. The participants were asked to answer questions regarding their (a) age, (b) country of origin, (c) length of residency in the United States, (d) religious affiliation, (e) mother language, (f) marital status, (g) highest educational level completed, (h) insurance status, (i) household annual income, (j) spoken language, (k) employment status, and (l) weight and height to calculate the participant's body mass index (BMI).

Perceived Health Competence Scale (PHCS). Smith, Wallston, and Smith (1995) developed the PHCS to measure the concept of perception of health competence. The PHCS ranks on the intermediate level of self-efficacy measures. Smith et al. stated that the PHCS is the appropriate choice to employ when health self-efficacy is specifically being studied, and when other global self-efficacy measures are not applicable. The scale consists of eight items rated on a 5-point Likert scale ranging from 1= *strongly agree* to 5= *strongly disagree*. Four items are negatively worded and their scores need to be reversed before the summation of the eight items. A higher score represents a higher perception of health self-efficacy.

Smith et al. (1995) established the scale's psychometrics: three different populations (persons with rheumatoid arthritis, working adults, and young adult students) across five studies were utilized to determine the stability and internal consistency of the scale. The results of the construct validity supported the hypothesis used to determine the scale properties. The scale demonstrated high internal consistency across the five studies, and the alpha coefficient ranged between .82-.90. The stability of the scale ranged from high (.82) in a study of undergraduates over a 1-week interval to a medium stability (.60) in the rheumatoid arthritis sample over an 18-month interval. Reduction in stability was noted over 4 months in the working adults sample due to the difficulty of the implemented health promotion program.

Health-Promotion Lifestyle Profile II (HPLP II). Health-promotion lifestyle behaviors in the current study were measured using the health-promotion lifestyle profile II (HPLP II). The scale of the HPLP II consists of 52 items developed by Walker and Hill-Polerecky (1995). The HPLP II is designed to measure the patterns and frequency of self-reported health-promoting behaviors in six areas: health responsibility (HR), physical activity (PA), nutrition (NU), interpersonal relations (IPR), spiritual growth (SG), and stress management (SM). The scale responses are rated on a 4-point Likert-type scale (1 = *never*, 2 = *sometimes*, 3 = *often*, 4 = *routinely*). The scale's content validity was established through literature review and experts evaluation. Factor analysis confirmed the scale's six dimensions, while convergent validity established a positive correlation with the personal lifestyle questionnaire. Criterion-related validity was defined by significant correlation with concurrent measures of perceived health status and quality of life.

The HPLP II is reliable, with a total scale Cronbach's alpha of .943, and ranging between .793-.872 for the subscales. The 3-weeks test-retest stability coefficient is .892. An Arabic version of this scale was developed and validated by Haddad, Al-Ma'aitah, Cameron, and Armstrong-Stassen (1998) using a group of 950 adult Jordanians. Table 1 includes description of ARSAA II, PSM-9, PHCS, and MSPSS structure and psychometrics as reported in the authors' original reports.

Data Analysis

The Statistical Package for Social Sciences (SPSS) version 21.0 for Mac was used to analyze the data and run the statistical tests. Descriptive statistics were calculated for the sociodemographic factors, PHCS, and HPLP II scales and subscales. Pearson product moment correlation coefficient (r) was employed to examine the extent and direction of association between AAW reported spoken language and the total score of both PHCS and HPLP II. Independent sample t -tests were employed to examine the PHCS and HPLP II mean score differences between AAW based on the language of the completed survey. Multi-level comparison analysis was run on the PHCS and HPLP II scales, on the HPLP II subscales, and on the PHCS and HPLP II item level.

PHCS Translation Procedure

Measure translation to different languages helps in comprehensive understanding of the health problems across nations and cultures. Additionally, measure translation enhances the development of international understanding and collaboration in various areas of research and knowledge development (Waltz, Strickland, & Lenz, 2010). Smith et al. (1995) originally developed the PHCS in English. For the purpose of this study

PHCS was translated into Arabic using Brislin's (1986) guidelines as they are designed to enhance the validity of the translated measures.

The first step in the translation process was forward translation by two people who hold Master's degrees in English language education. The two translators were fluent in both languages and familiar with the American and Arab cultures.

Independently they translated PHCS from English into formal Arabic. It is worth mentioning that formal Arabic is the common official language shared and understood among all people of all Arab countries. Secondly, two nurses who were working in nursing education and research processed the translation back into English. The back translators were fluent in both English and Arabic and familiar with both cultures. Both translators who performed the back translation were not exposed to the original version of PHCS.

A community panel was consulted to determine and verify the PHCS's cross-cultural equivalence and sensitivity before approval of PHCS's suitability to Arab culture was obtained. Moreover, the community panel's comments were reviewed and discussed in detail, and minor translation modifications were made accordingly as found through repeated forward-backward translation. The final step was a comparison between the original English version of the PHCS and the version from the last round of back-translation. A pilot test was conducted on the PHCS Arabic version employing 10 AAW who were fluent in both Arabic and English to complete both versions of the scale. The women were selected based on the main study inclusion criteria. All participants' responses showed high association between their scores on both versions. This result

indicates the quality of the translated version. Women in the pilot study reported no linguistic misunderstanding or conceptual difficulties in the translated tool.

Psychometric evaluation of the PHCS. The first aim of this study was to explore potential validation issues on the PHCS in a sample of Arab American women. As mentioned earlier, and for the purpose of this study, the PHCS was translated to Arabic. As part of the larger study, PHCS internal consistency and reliability was calculated using Cronbach's alpha (coefficient alpha), which is used to estimate the internal consistency of the instrument and indicates whether all the items are consistently measuring the construct between participants. Cronbach's alpha value ranges between .00 and +1.00, with higher values being more desirable (Polit, 2010). The developers of the PHCS reported a Cronbach's alpha of .89 and .90 in healthy college students, and .83 and .82 in a sample of females with rheumatoid arthritis (Smith et al., 1995).

The larger study showed a relatively high alpha of .819. It is important to note that the alpha was equal in both of the measure's versions (English and Arabic), which was considered as a good indicator of its internal consistency in the population under study. Another reliability SPSS technique—item-total statistics—was employed. This is designed to inform researchers about how each item in the measure is related to the other items (Polit, 2010). PHCS's eight items coefficient alpha was .82; if deleted individually, none of the eight items brought up the PHCS coefficient alpha above .82. This result informed the researcher to keep all eight items in the analysis.

Results

Participant's Characteristics

Only 95 participants (35.6%) chose to complete the English version of the survey. Approximately 95% of the participants were Muslims who emigrated from 11 Arab countries. The mean age of AAW completing the Arabic version of the survey was 41 ($SD = 12$) and the mean body mass index (BMI) was approximately 28.1 ($SD = 7.7$), while the mean age of their counterparts who completed the English version was 34 ($SD = 12$) and the mean BMI was 24.7 ($SD = 4.1$). Most of the participants (92.5%) considered Arabic as their primary language, while 7.5% only reported English as their primary language. Two thirds (69.7%) of the participants completed the Arabic questionnaire as they chose Arabic as their everyday speaking language, while only 30.3% reported English as their day-to-day language. Of the women who completed the English-language survey, 49% reported Arabic as their usual speaking language, while 51% reported using English. Table 2 includes comparisons between the participants' sociodemographic characteristics based on the language of the questionnaire completed.

Comparisons Between Study Groups

The second aim of this study was to compare the mean scores on the PHCS and HPLP II between AAW who completed the translated Arabic version and those who completed the original English version. It is worth noting that 172 women chose the Arabic-language survey, while only 95 women completed the survey in English.

No significant correlation between PHCS and AAW spoken language was found ($r = .070, p = .255$). The first level of PHCS comparison analysis revealed that there is no statistically significant difference in the total mean scores of PHCS between the two groups. However, the item analysis level showed two items out of eight were statistically significant. Item number two ("I find efforts to change things I do not like about my

health are ineffective”) was significant, and the mean score of women who answered the English version was lower ($M = 3.15, SD = 1.28$) than the mean score of women who completed the Arabic version ($M = 3.53, SD = 1.4$), $t(265) = 2.71, p < .05$. Additionally, item number eight (“I am generally able to accomplish my goals with respect to my health”) was significant, and the mean score of women who answered the English version ($M = 3.13, SD = 1.17$) was found to be lower than the mean of those who answered the Arabic version ($M = 3.56, SD = 1.17$), $t(264) = 2.71, p < .05$.

No significant correlation was found between HPLP II and the AAW spoken language ($r = .065, p = .291$). No significant mean score differences were found on the total HPLP II scores between the two groups. This result indicates that AAW scored similarly despite their language preference. However, differences were found at the HPLP II subscales level. There were mean differences on the physical activity (PA), interpersonal relations (IPR), and spiritual growth (SG) subscales. Table 3 includes the comparison statistics of HPLP II subscales.

Item-level analysis revealed the existence of significance in a group of HPLP II items at the level of significance of $p = .05$. Significant items were divided into two groups: The first group that showed statistically significant differences with unequal deviations included items 111 (“Find ways to meet my needs for intimacy”), 125 (“Seek guidance or counseling when necessary”) and 126 (“Expose myself to new experiences and challenges”). A second group of items showed significant but equal deviations, where the majority of the answers remained within range of the same level, these items are 78, 80, 84, 85, 86, 87, 90, 93, 99, 100, 104, 114, 117, 119, 121, 122, and 123. Table 4 includes all HPLP II statistically significant items with equal deviations.

Discussion

In this study, comparisons between two groups of AAW regarding health-promotion lifestyle behaviors and perception of health self-efficacy were conducted based on their language preference. Current study findings revealed lack of significant mean score differences between the study groups on the PHCS and HPLP II total scales. However, significance was found on the three HPLP II subscales of physical activity, interpersonal relations, and spiritual growth. Additionally, significance was found on some items in both areas. Lack of significant association was found between AAW language preference and both perceived health self-efficacy and health-promotion lifestyle behaviors. Many of the current study participants reported the ability to speak both English and Arabic: This finding was congruent with some of the women's selection of English as their spoken language despite their reporting Arabic as their mother language. The shift in acculturation models focus from unidimensional to bidimensional (Van de Vijver & Phalet, 2004), and in strategies from assimilation, separation, or marginalization to integration, may serve as the platform to explain AAW's language preference behavior. A bicultural AAW may prefer to speak predominantly Arabic at home or with her Arab cultural groups, while when with non-Arabic speakers she interacts using English.

Gee et al. (2010) argued that language proficiency is not an indicator of host culture adoption—it is no more than communication skills that might not incorporate changes in the immigrant's original culture. While the language preference and language proficiency concepts have been used in the literature interchangeably, there is a difference in their meanings. Proficiency incorporates the ability to speak a language

effectively based mainly on the degree of immigrant's length of residency and exposure to the host society, while language preference is the individual's choice to speak that language or not. Additionally, language preference indicates the existence of a certain level of proficiency in the host language that enables the immigrant to make the decision to use the language depending on the social context. Every participant was given the choice to complete any of the questionnaires in either Arabic or English, and in most of the cases the selection decision was based on her language proficiency. The participant's decision to complete any of the questionnaire versions reflected her proficiency in that language and her perception of mastering its aspects. Qahoush, Scott, Alawneh, and Froelicher (2010) reported in their study about AAW physical activity that more than 40% of the participants preferred Arabic as their day-to-day speaking language. As expected, almost all the American-born AAW completed the English version and reported English as their spoken language, but a considerable number of AAW who were born out of the United States also completed the English-version questionnaire.

Despite the insignificant findings on the HPLP II scale level, significance on three subscales was documented. The women who completed the English version performed better on both the physical activity and interpersonal relations subscales. A sedentary lifestyle characterized 40% of Arab American women studied by Qahoush et al. (2010). Women who completed the English survey were younger and were more likely to have completed their formal education in the United States, where physical education is integrated and enforced in the schools' curriculums. Women who were born or raised in the Arab world had difficulties engaging in formal physical activity programs due to modesty (Qahoush et al., 2010) and cultural restrictions and considerations.

Lack of language proficiency might hinder AAW social interaction and building strong sustainable relationships. AAW who are proficient in English encounter fewer linguistic barriers in building interpersonal relationships than their Arabic-speaking counterparts. Meleis and Hattar-Pollara (1995) studied the stress of immigration among Jordanian American women, and reported that social isolation, feelings of loneliness and an inability to communicate with the neighbors were consequences of the language barrier among this group of women.

Spiritual growth was stronger among women who completed the Arabic questionnaire; they were most likely born and raised in the Arab world where the Islamic faith and religious beliefs are integrated into daily life. A majority of the participants were Muslim, but despite Islamic tenets that encourage health promotion practices, multiple factors might hinder these behaviors among Muslim women in the United States. Yosef (2008) reported some of these factors such as “modesty, provider gender preference, and misinterpretation of predestination.” The remaining HPLP II subscales of nutrition, stress management, and health responsibility comparisons found no significant difference between the two groups.

Implications

As the number of non-English speakers in the United States continues to rise, language barriers will continue to negatively affect the health of ethnic-minority communities unless the healthcare system is adequately and effectively supported with linguistic access and tools such as translation and interpretation services. Enhancing health-promotion behaviors and eliminating health disparities among AAW and women from other ethnic and minority groups could be achieved through designing and

implementing culturally sensitive health-promotion programs and interventions. Language by itself is not as much of a barrier as the healthcare professionals' understanding of AAW beliefs, behaviors, and preferences. Health providers' understanding of AAW social culture and their expectations from the healthcare system will ultimately help in delivering quality health services.

Limitations

The findings of this study should be interpreted with caution for many reasons. First, convenience sample utilization limits the generalizability of the results to other localities in the United States. Sample size was fairly adequate for statistical comparisons; however, larger sample sizes from both groups are needed—especially from women who preferred to complete the survey in English. Lack of representation from different age groups challenged further comparisons. This study underscores the importance of examining the differences between the two groups based on the other sociodemographic factors such as the participant's age, length of residency in the United States, annual income, and health rating.

Summary

Arab American women's health-promotion lifestyle behaviors were not significantly different between the two groups, and only selected behaviors were found to be different between the two groups. Although AAW differ in their level of English language proficiency, they still share their preference and commitment to their original language, cultural attitudes, and behaviors.

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Table 1
Description of the Study Measures: Structure and Psychometrics

Measure	Subscales/ Number of items	Reliability (α) ^f	Validity
ARSAA-II ^a	- 2 scales Anglo orientation (AnO) / 13 Arabic orientation (ArO) / 17 - 30 items-Likert scale (1-5) (1) = <i>Not at all</i> (5) = <i>Almost always</i>	- AnO (α) = .89 - ArO (α) = .81	Construct validity - (FA) ^e
PSM-9 ^b	- 9 items - Likert scale (1-8) (1) = <i>Not at all</i> (8) = <i>Extremely</i>	- (α) = 0.92	Convergence validity - Depression and anxiety scales
PHCS ^c	- 8 items - Likert scale (1-5) (1) = <i>Strongly disagree</i> (5) = <i>Strongly agree</i>	(α)= 0.82-0.90 across 5 samples -Stability over one-week period	Construct validity - Support of study hypothesis
MSPSS ^d	3 subscales Family (FA) / 4 Friends (FR) / 4 Significant other (SO) / 4 -12 items -Likert scale (1-7) (1) = <i>Very strongly disagree</i> (7) = <i>Very strongly agree</i>	(Total α) = .84 - .92 - FA (α) = .81-.90 - FR (α) = .90-.94 - SO (α) = .83-.98	Divergent validity -Depression and Anxiety subscales of the Hopkins Symptom Checklist Construct validity

Note: ARSAA-II^a = Acculturation Rating Scale for Arab Americans-II, PSM-9^b = Psychological stress measure, PHCS^c = Perceived health competence scale, MSPSS^d = Multi dimensional scale of perceived social support, (FA)^e = Factor analysis. (α)^f = Cronbach's alpha.

Table 2
Comparison of the Participants' Sociodemographic Factors Based on Their Version of the Questionnaire Completed (N= 267)

Factor		Arabic Version Survey		English Version Survey	
		Count	%	Count	%
Marital Status	Single	9	5.2%	24	25.3%
	Married	150	87.2%	65	68.4%
	Divorced	4	2.3%	5	5.3%
	Widow	9	5.2%	1	1.1%
Education Level	Less than high school	21	12.2%	7	7.4%
	High school	44	25.6%	22	23.2%
	College	42	24.4%	32	33.7%
	Bachelor	54	31.4%	25	26.3%
	Masters and above	11	6.4%	9	9.5%
Insurance Status	Insured	146	84.9%	87	91.8%
	Not insured	28	15.1%	8	8.4%
Annual Household Income	Less than \$40,000	96	58.5%	38	40%
	More than \$40,000	68	41.5%	57	60%
Employment Status	Part-time	32	18.7%	16	16.8%
	Full-time	20	11.7%	23	24.2%
	Unemployed	106	62%	46	48.2%
Mother Language	Own business	13	7.6%	10	10.5%
	Arabic	167	97.1%	80	84.2%
Spoken Language	English	2	1.2%	11	11.6%
	Arabic	131	78.4%	44	52.4%
Health Rating	English	36	21.6%	40	47.6%
	Excellent	13	7.6%	10	10.5%
	Very good	50	29.1%	41	43.2%
	Good	58	33.7%	30	31.6%
	Fair	31	18%	3	3.2%
	Poor	2	1.2%	1	1.1%

Note: % = Percentage

Table 3
Comparisons on the HPLP II Subscales Mean Scores (N = 265)

HPLP II Subscale	Arabic version <i>M (SD)</i>	English Version <i>M (SD)</i>	<i>t</i>	<i>df</i>	<i>P</i>
Physical Activity	2.079 (.69)	2.373 (.74)	- 3.25*	265	.001
Nutrition	2.75 (.49)	2.76 (.51)	-.636	265	.526
Spiritual Growth	2.93 (.53)	3.13(.53)	- 2.932*	265	.004
Interpersonal Relations	2.9 (.51)	3.1(.48)	- 3.18*	265	.002
Health Responsibility	2.65 (.63)	2.54 (.66)	1.274	265	.204
Stress Management	2.52 (.52)	2.53 (.54)	-.125	265	.900

* $p < .05$

Table 4
HPLP II Statistically Significant Items with Equal Deviations

Item NO.	Item Statement	Arabic <i>M (SD)</i>	English <i>M (SD)</i>	t	df	P
78	Follow a planned exercise program	1.93 (.93)	2.41 (0.96)	-3.97*	264	.000
80	Feel I am growing and changing in positive ways	2.80 (.80)	3.03 (.78)	-2.26*	263	.025
84	Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stair climber)	1.97 (1.00)	2.47 (.97)	-4.00*	265	.000
85	Take some time for relaxation each day	2.15 (.79)	2.52 (.83)	-3.52*	265	.001
86	Believe that my life has purpose	3.10 (.88)	3.38 (.76)	-2.58*	262	.010
87	Maintain meaningful and fulfilling relationships with others	3.04 (.89)	3.33 (.70)	-2.67*	264	.008
90	Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week)	2.24 (1.01)	2.47 (.95)	-1.84*	264	.047
93	Spend time with close friends	2.77 (.89)	3.02 (.86)	-2.20*	264	.028
99	Find it easy to show concern, love and warmth to others	3.06 (.89)	3.31 (.77)	-2.26*	264	.024
100	Eat 3-5 servings of vegetables each day	2.63 (.89)	2.95 (.80)	-2.83*	262	.005
104	Work toward long-term goals in my life	2.81 (.90)	3.11 (.81)	-2.65*	265	.008
114	Check my pulse rate when exercising	1.79 (.95)	2.16 (1.06)	-2.85*	263	.005
117	Get support from a network of caring people	2.71 (.89)	2.95 (.89)	-2.08*	261	.039
119	Attend educational programs on personal health care	2.60 (1.00)	2.01 (1.01)	4.53*	262	.000
121	Pace myself to prevent tiredness	2.63 (.78)	2.35 (.87)	2.71*	264	.007
122	Feel connected with some force greater than myself	2.87 (.93)	3.32 (.78)	-3.93*	263	.000
123	Settle conflicts with others through discussion and compromise	2.87 (.87)	3.14 (.80)	-2.49*	264	.013

* $p < .05$

Dissertation Summary and Conclusions

This doctoral dissertation comprised of three manuscripts, the focus was on AAW health promotion lifestyle behaviors utilizing Pender's revised health promotion model. The primary purpose of this study was to explore the relationships between personal factors (comprised of relevant sociodemographic factors, degree of acculturation, and perceived stress), perceived health self-efficacy, perceived social support, and health promotion lifestyle behaviors in a group of Arab American women living in Southern California. A second purpose was to assess the psychometric properties of the translated version of the PHCS. A third purpose of this study was to compare the findings on the HPLP II and PHCS among AAW based on their language preference for the study survey.

This study was conducted to answer three research questions: (1) what are the personal factors (comprised of relevant sociodemographic factors degree of acculturation, and perceived stress), perceived health self-efficacy, perceived social support, and health promotion lifestyle behaviors in a group of AAW? (2) What are the relationships between personal factors (comprised of relevant sociodemographic factors degree of acculturation, and perceived stress), perceived health self-efficacy, perceived social support, and health promotion lifestyle behaviors in this group? (3) What are the differences in the findings on health promotion lifestyle profile (HPLP II) and perceived health competence scale (PHCS) between AAW who completed the English version of the study survey and those who completed the Arabic version?

In the first manuscript, Pender's model served as an excellent foundation to explore how the AAW's biological, psychological, socio-cultural, and behavior-specific cognitions impacted their health promotion lifestyle behaviors. Relevant and available theoretical and empirical literature for the population under study was synthesized. Some components of the models were lacking relevant or current studies, such as barriers and motivators to action, situational influences, competing commands, and commitment to plan of action. The paucity of relevant literature weakens the researcher's ability to draw conclusions in relation to AAW's health promotion behaviors.

The second manuscript examined the factors affecting AAW's health promotion life style behaviors. A cross-sectional, descriptive, correlational design was utilized to study 267 women in four counties in southern California. Paper copies of a self-report questionnaire was used to explore the participants' personal factors, level of acculturation, perceived stress, perceived health self-efficacy, perceived social support and health promotion lifestyle behaviors. The questionnaire was available both in Arabic and English languages; each participant had the choice of either one based on her language preference. Age, educational level perceived health self-efficacy, perceived stress, level of acculturation, and perceived social support were significant determinants for this group of AAW. The participants scored relatively high on interpersonal relations and spiritual growth subscales, but scored relatively low on physical activity, health responsibility, and nutrition subscales.

The third manuscript addressed language preference and differences in health promotion lifestyle behaviors among AAW in Southern California. Two thirds of the participants chose to complete the Arabic version of the questionnaire. No significant

relationship was found between the participants' spoken language and the total score of health promotion lifestyle profile. However, there were significant differences between the two groups for the following subscales: (a) physical activity, (b) interpersonal relations, and (c) spiritual growth. Additionally significance was found for the items within each subscale.

The PHCS was translated to Arabic following Brislin guidelines. Cronbach's alpha was equivalent in both versions of the measure. No significant relationship was found between the women's spoken language and their total PHCS score; significance were found for 2 of 8 items.

Study Limitations

Despite the primary goal of conducting a study that gives a clearer picture about AAW health status and behaviors, several factors limited the possibility of its achievement. First, the paucity of the relevant literature dictated the selection of the descriptive, correlational, and cross sectional design. Cross sectional design limited the possibility to study the impact of study variables on AAW's health promotion behaviors change over time. More longitudinal design studies on the topic are needed. Second, the sample size was relatively large to contribute to our understanding about the topic. However, from statistical perspective and based on the participant's language preference in completing the study survey, it was not possible to examine the factors affecting AAW's HPLBs separately for the two study groups. The utilization of a convenience sample limited generalizability of the study findings.

Despite the fact that California has the largest ArAs population, the data collection procedure was challenging and time consuming. Specifically, snowball

sampling and social connections were used to recruit participants. These methods introduced bias and limited generalizability and disproportional representation of different socioeconomic classes and religious affiliations. Signing the study informed consent was a challenge and decreased the participation rate. Many participants were willing to participate but withdrew after being told they needed to sign the consent form.

Utilizing the self-reported paper survey could introduce social desirability. Additionally, the lack of objective tools to measure AAW's health promotion behaviors as well as their weight and height was an issue. The length of the questionnaire added another limitation to this study; many participants withdrew from the study because of the estimated time needed to complete the survey. The translation and adaptation of a study measure to the Arabic language and culture might introduce bias. For the purpose of this study, the measures were translated from English to formal Arabic. The translation might introduce cultural non-equivalence since it was not tested with the AAW population before. Based on all the study limitations, the findings could be representative of AAW in Southern California, but most likely not to other AAW in other localities in the United States.

Implications

The findings of the study have several implications that can affect AAW's adoption of health promotion lifestyle behaviors. Specifically, it is expected that the findings will help improve AAW's adoption of healthy behaviors through recommendations addressing practice, research, and policy.

Recommendation for Practice

The shift in the focus of nursing practice from acute care to primary preventative and promotion care is congruent with the focus of the healthcare system in general. Health promotion is a modern nursing goal; the nursing profession is currently taking steps to establish the principles of health promotion as the foundation of individuals, families, groups, and communities health education programs. Promoting a healthy lifestyle in different settings will attenuate healthcare costs and enhance individuals' and the public's wellbeing.

Based on the findings of this study, a variety of health promotion programs can be designed and administered by nurses based on AAW's needs in the areas of health promotion lifestyle behaviors. As more nurses obtain advanced degrees, it can be anticipated that the nursing profession will take a leading role in this area. Nurses' roles include delivering competent and effective care in a variety of setting and enhancing the health literacy of patients from different cultures and languages. Nurses are prepared to educate patients from different cultures; the improvement of the patients' health literacy will positively affect their health outcomes.

Based on the study results, AAW will be more knowledgeable about the meaning and dimensions of the health promotion life style behaviors, benefits, and consequences of adoption. The study findings revealed that AAW's scores on physical activity, nutrition, and stress management subscale are relatively low; hence culturally and linguistically sensitive educational approaches to increase the health literacy in these areas among AAW are needed. Moreover, translated information such as health-related brochures in Arabic about HPLBs benefits will help to increase the knowledge and

utilization of resources. This may include scheduled classes in local community centers frequented by AAW based on their health needs assessment by nurses and other health professionals who are familiar or belong to the same culture and speak the same language.

Recommendation for Research

Nursing research is flourishing in many areas, especially in generating new knowledge that may lead to the development of new evidence-based health interventions. However, nurse scientists and scholars need to consider both the rapidly changing health care system and the individualized and cultural needs of vulnerable and minority groups. Health promotion is one of the main functions of nursing; nurses are committed to promote health to individuals, families, and communities through culturally competent services and programs.

The health promotion model in this study was an appropriate basis to study the biopsychosocial factors that affect AAW's adoption of healthy behaviors, it is also appropriate for nurse scientists to use in planning further health promotion studies that incorporate different variables. It will assist nurse researchers in designing intervention studies that consider the specific socio-cultural needs of ethnic and minority groups. Generally, minority groups have the potential to be empowered by the enhanced health promotion knowledge that nurse scientists can provide.

Recommendation for Policy

The health promotion model can aid health policy makers in developing approaches to motivate AAW to adopt such behaviors, and optimize their utilization of healthcare services. Planning and designing culturally sensitive initiatives and programs

that encourage early involvement of AAW should gain the attention of health care professionals and health policy makers in different settings. The United States national health care system has undergone a myriad of changes since the implementation of the Patient Protection Affordable Care Act (United States Department of Health and Human Services, 2012). This legislative action led to major changes requiring a re-evaluation of the efficiency of the health care system. Moreover, quality improvement is considered an important element of the mandate, along with cost containment.

The Affordable Care Act includes many steps to decrease gaps in health care coverage and health disparities (HHS Action Plan to Reduce Racial and Ethnic Disparities: A Nation Free of Disparities in Health and Health Care, 2011). Healthcare reform will positively impact women's healthy behaviors through the integration and utilization of cost covered preventive health services (mammogram, screening for cervical cancer, and sexually transmitted infections). Despite healthcare reform, further policy initiatives are necessary for enhancing cost covered care services, especially for women. AAW and women from other ethnic and minority groups need special attention that incorporates their cultural background and an awareness of the cultural barriers that may impede them from accessing care. AAW need tailored information about different aspects of HPLBs to promote their knowledge and adherence to healthy behaviors guidelines. It is critical to prepare health care professionals to match the diversity in the U.S. population to decrease health disparities and improve quality of care.

Scope of Future Research Plan

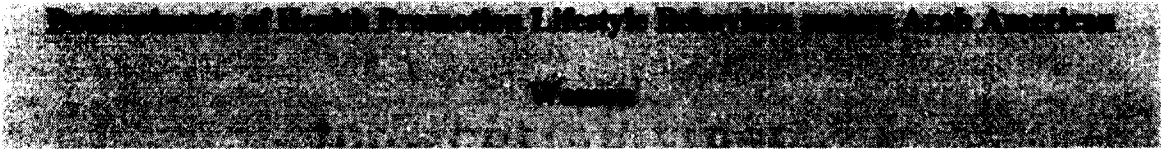
Given the paucity of current documentation of the culturally-specific needs of Arab American women in achieving health promotion, this study examined the

relationship between sociodemographic factors, level of acculturation, perceived stress, perceived health self-efficacy, perceived social support, and health promotion behaviors has the potential to provide useful data. Future researchers can use the findings of this study to design and implement interventional studies to enhance AAW's health promotion outcomes with culturally sensitive approaches. Specifically, studies on health promotion behaviors such as nutrition and healthy eating habits, physical activity, and stress management could be conducted.

Appendix A: Study Survey

Study Survey

UNIVERSITY OF SAN DIEGO (USD)



**PLEASE DO NOT WRITE
YOUR NAME ON THIS FORM**

- All of your responses to this questionnaire will remain confidential
- Please try to answer all the questions
- If you have any question or clarification regarding the questionnaire don't hesitate to ask or contact the researcher.

Thank you for your participation in this study

Background Information

DIRECTIONS: *The following information will allow us to have some general information about you. Please do not put your name on the questionnaire.*

Please fill in the blank or place a check mark in the box for each question.

No.	ITEM
1	How old are you? _____
2	What is your country of origin? _____
3	How long you have been living in the U.S. Years _____ Months _____
4	What is your religious affiliation? <input type="checkbox"/> Muslim ¹ <input type="checkbox"/> Christian ² <input type="checkbox"/> Other (Specify) ³ _____
5	What is your mother language? _____
6	Which language you mainly speak? <input type="checkbox"/> Arabic ¹ <input type="checkbox"/> English ² <input type="checkbox"/> Other, Specify ³ _____
7	What is your current marital status? <input type="checkbox"/> Single ¹ <input type="checkbox"/> Married ² <input type="checkbox"/> Divorced ³ <input type="checkbox"/> Widow ⁴
8	Highest level of education completed <input type="checkbox"/> Less than high school ¹ <input type="checkbox"/> High School Graduate ² <input type="checkbox"/> College ³ <input type="checkbox"/> Baccalaureate Degree ⁴ <input type="checkbox"/> Masters, Doctoral, or Professional Degree ⁵
9	Do you have health Insurance? <input type="checkbox"/> Yes ¹ <input type="checkbox"/> NO ² If yes, please answer the following question

	<input type="checkbox"/> Medicare ¹ <input type="checkbox"/> Medicaid ² <input type="checkbox"/> Department of Veterans Association (DVA) ³ <input type="checkbox"/> Employer Group Health Insurance ⁴ <input type="checkbox"/> Other, please specify ⁵ _____
10	<p>What is your approximate household annual income?</p> <input type="checkbox"/> Less than \$20,000 ¹ <input type="checkbox"/> \$20,001 - \$30,000 ² <input type="checkbox"/> \$30,001 - \$40,000 ³ <input type="checkbox"/> \$40,001 - \$50,000 ⁴ <input type="checkbox"/> \$50,001 - \$75,000 ⁵ <input type="checkbox"/> \$75,001 - \$100,000 ⁶ <input type="checkbox"/> More than \$100,000 ⁷
11	<p>How many people do you live with in the same household? (Except you) _____ people</p>
12	<p>Which of the following describes your current employment status?</p> <input type="checkbox"/> Part- time employment ¹ <input type="checkbox"/> Full- time employment ² <input type="checkbox"/> Not employed ³ <input type="checkbox"/> I have my own business ⁴
13	<p>What is your approximate weight Kg _____ OR lb. _____</p>
14	<p>What is your approximate height cm _____ OR ft. _____ inches _____</p>
15	<p>In general, how would you rate your health?</p> <input type="checkbox"/> Excellent ¹ <input type="checkbox"/> Very good ² <input type="checkbox"/> Good ³ <input type="checkbox"/> Fair ⁴ <input type="checkbox"/> Poor ⁵

26	I enjoy Arabic language movies (Arabic movies)	1	2	3	4	5
27	I enjoy reading e.g., books in Arabic	1	2	3	4	5
28	I enjoy reading e.g., books in English	1	2	3	4	5
29	I write e.g., letters in Arabic	1	2	3	4	5
30	I write e.g., letters in English	1	2	3	4	5
31	My thinking is done in the English language	1	2	3	4	5
32	My thinking is done in the Arabic language	1	2	3	4	5
33	My contact with my home country has been	1	2	3	4	5
34	My contact with the U.S.A. has been	1	2	3	4	5
35	My father identifies or identified himself as an Arab	1	2	3	4	5
36	My mother identifies or identified himself as an Arab	1	2	3	4	5

37	My friends, while I was growing up, where of Arabic origin	1	2	3	4	5
38	My friends, while I was growing up, where of American origin	1	2	3	4	5
39	My family cooks Arabic foods	1	2	3	4	5
40	My friends now are of Anglo origin	1	2	3	4	5
41	My friends now are of Arabic origin	1	2	3	4	5
42	I like to identify myself as an Anglo American	1	2	3	4	5
43	I like to identify myself as an Arab American	1	2	3	4	5
44	I like to identify myself as an Arab	1	2	3	4	5
45	I like to identify myself as an American	1	2	3	4	5

The Psychological Stress Measure

DIRECTIONS: Check the number that best indicates the degree to which each statement has applied to you recently, that is, in the last 4 to 5 days.

- (1) Not at all (2) not really (3) very little (4) a bit
 (5) Somewhat (6) quite a bit (7) very much (8) extremely

46	I feel calm.	1	2	3	4	5	6	7	8
47	I feel rushed; I do not seem to have enough time.	1	2	3	4	5	6	7	8
48	I have physical aches and pains: sore back, headache, stiff neck, and stomachache.	1	2	3	4	5	6	7	8
49	I feel preoccupied, tormented, or worried.	1	2	3	4	5	6	7	8
50	I feel confused; my thoughts are muddled; I lack concentration; I cannot focus.	1	2	3	4	5	6	7	8
51	I feel full of energy and keen.	1	2	3	4	5	6	7	8
52	I feel a great weight on my shoulders.	1	2	3	4	5	6	7	8
53	I have difficulty controlling my reactions, emotions, moods, or gestures.	1	2	3	4	5	6	7	8
54	I feel stressed	1	2	3	4	5	6	7	8

The Perceived Health Competence Scale

DIRECTIONS: This is a questionnaire designed to determine the way in which different people view certain important issues related to their health. Each item is a belief statement with which you may agree or disagree. Under each statement is a scale, which ranges from (1) strongly disagree to (5) strongly agree. Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully and make your answers as true FOR YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think most people would say or do.

55	It is difficult for me to find effective solutions for health problems that come my way	1	2	3	4	5
56	I find efforts to change things I don't like about my health are ineffective.	1	2	3	4	5
57	I handle myself well with respect to my health.	1	2	3	4	5
58	I am able to do things for my health as well as most other people.	1	2	3	4	5
59	I succeed in the projects I undertake to improve my health.	1	2	3	4	5
60	Typically, my plans for my health don't work out well	1	2	3	4	5
61	No matter how hard I try, my health doesn't turn out the way I would like	1	2	3	4	5
62	I'm generally able to accomplish my goals with respect to my health.	1	2	3	4	5

Multidimensional Scale of Perceived Social Support

DIRECTIONS: *We are interested in how you feel about the following statements. Read each statement carefully. Indicate how you feel about each statement.*

Circle the "1" if you **Very Strongly Disagree**

Circle the "2" if you **Strongly Disagree**

Circle the "3" if you **Mildly Disagree**

Circle the "4" if you **Neutral**

Circle the "5" if you **Mildly Agree**

Circle the "6" if you **Strongly Agree**

Circle the "7" if you **Very Strongly Agree**

63	There is a special person who is around when I am in need.	1 2 3 4 5 6 7
64	There is a special person with whom I can share my joys and sorrows.	1 2 3 4 5 6 7
65	My family really tries to help me.	1 2 3 4 5 6 7
66	I get the emotional help and support I need from my family.	1 2 3 4 5 6 7
67	I have a special person who is a real source of comfort to me.	1 2 3 4 5 6 7

68	My friends really try to help me.	1 2 3 4 5 6 7
69	I can count on my friends when things go wrong.	1 2 3 4 5 6 7
70	I can talk about my problems with my family	1 2 3 4 5 6 7
71	I have friends with whom I can share my joys and sorrows.	1 2 3 4 5 6 7
72	There is a special person in my life who cares about my feelings.	1 2 3 4 5 6 7
73	My family is willing to help me make decisions.	1 2 3 4 5 6 7
74	I can talk about my problems with my friends	1 2 3 4 5 6 7

Health Promoting Lifestyle Profile II (HPLP- II)

DIRECTIONS: This questionnaire contains statements about your present way of life or personal habits. Please respond to each item as accurately as possible, and try not to skip any item. Indicate the frequency with which you engage in each behavior by circling:

N for never **S** for sometimes **O** for often or **R** for routinely

75	Discuss my problems and concerns with people close to me.	1	2	3	4
76	Choose a diet low in fat, saturated fat, and cholesterol.	1	2	3	4
77	Report any unusual signs or symptoms to a physician or other health professional	1	2	3	4
78	Follow a planned exercise program.	1	2	3	4
79	Get enough sleep.	1	2	3	4
80	Feel I am growing and changing in positive ways.	1	2	3	4
81	Praise other people easily for their achievements.	1	2	3	4
82	Limit use of sugars and food containing sugar (sweets).	1	2	3	4
83	Read or watch TV programs about improving health.	1	2	3	4
84	Exercise vigorously for 20 or more minutes at least three times a week (such as brisk walking, bicycling, aerobic dancing, using a stair climber).	1	2	3	4
85	Take some time for relaxation each day.	1	2	3	4
86	Believe that my life has purpose.	1	2	3	4
87	Maintain meaningful and fulfilling relationships with others.	1	2	3	4

88	Eat 6-11 servings of bread, cereal, rice and pasta each day.	1	2	3	4
89	Question health professionals in order to understand their instructions.	1	2	3	4
90	Take part in light to moderate physical activity (such as sustained walking 30-40 minutes 5 or more times a week).	1	2	3	4
91	Accept those things in my life, which I cannot change.	1	2	3	4
92	Look forward to the future.	1	2	3	4
93	Spend time with close friends.	1	2	3	4
94	Eat 2-4 servings of fruit each day.	1	2	3	4
95	Get a second opinion when I question my health care provider's advice.	1	2	3	4
96	Take part in leisure-time (recreational) physical activities (such as swimming, dancing, bicycling).	1	2	3	4
97	Concentrate on pleasant thoughts at bedtime.	1	2	3	4
98	Feel content and at peace with myself.	1	2	3	4
99	Find it easy to show concern, love and warmth to others.	1	2	3	4
100	Eat 3-5 servings of vegetables each day.	1	2	3	4
101	Discuss my health concerns with health professionals.	1	2	3	4
102	Do stretching exercises at least 3 times per week.	1	2	3	4
103	Use specific methods to control my stress.	1	2	3	4
104	Work toward long-term goals in my life.	1	2	3	4
105	Touch and am touched by people I care about.	1	2	3	4
106	Eat 2-3 servings of milk, yogurt or cheese each day.	1	2	3	4

107	Inspect my body at least monthly for physical changes/danger signs	1	2	3	4
108	Get exercise during usual daily activities (such as walking during lunch, using stairs instead of elevators, parking car away from destination and walking).	1	2	3	4
109	Balance time between work and play.	1	2	3	4
110	Find each day interesting and challenging.	1	2	3	4
111	Find ways to meet my needs for intimacy.	1	2	3	4
112	Eat only 2-3 servings from the meat, poultry, fish, dried beans, eggs, and nuts group each day	1	2	3	4
113	Ask for information from health professionals about how to take good care of myself.	1	2	3	4
114	Check my pulse rate when exercising	1	2	3	4
115	Practice relaxation or meditation for 15-20 minutes daily	1	2	3	4
116	Am aware of what is important to me in life.	1	2	3	4
117	Get support from a network of caring people.	1	2	3	4
118	Read labels to identify nutrients, fats, and sodium content in packaged food.	1	2	3	4
119	Attend educational programs on personal health care.	1	2	3	4
120	Reach my target heart rate when exercising.	1	2	3	4
121	Pace myself to prevent tiredness	1	2	3	4
122	Feel connected with some force greater than myself.	1	2	3	4
123	Settle conflicts with others through discussion and compromise.	1	2	3	4
124	Eat breakfast.	1	2	3	4
125	Seek guidance or counseling when necessary.	1	2	3	4
126	Expose myself to new experiences and challenges.	1	2	3	4

End of the Survey

Servings Key

What counts as one serving? **

Bread, Cereal, Rice, and Pasta Group	Fruits	Vegetables	Milk, yoghurt, and cheese	Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts Group
<ul style="list-style-type: none"> - 1 slice of bread - About 1 cup of ready-to-eat cereal - 1/2 cup of cooked cereal, rice, or pasta 	<ul style="list-style-type: none"> - Medium apple, banana, orange, pear - 1/2 cup of chopped, cooked, or canned fruit - 3/4 cup of fruit juice 	<ul style="list-style-type: none"> - 1 cup of raw leafy vegetables - 1/2 cup of other vegetables—cooked or raw - 3/4 cup of vegetable juice 	<ul style="list-style-type: none"> - 1 cup of milk or yogurt - 1 1/2 ounces of natural cheese (such as Cheddar) - 2 ounces of processed cheese** (such as American) 	<ul style="list-style-type: none"> - 2– 3 ounces of cooked lean meat, poultry, or fish - 1/2 cup of cooked dry beans# or 1/2 cup of tofu Counts as 1 ounce of lean meat - 2 1/2-ounce soy burger or 1 egg counts as 1 ounce Of lean meat - 2 tablespoons of peanut butter or 1/3 cup of nuts counts as 1 ounce of meat

** Source: www.cnpp.usda.gov/DietGd.pdf

Appendix C: Informed Consent Form

University of San Diego Institutional Review Board

Research Participant Consent Form

For the research study entitled:

“Determinants of Health Promotion Lifestyle Behaviors among Arab American Women”

I. Purpose of the research study

Kholoud Khalil is a PhD student in the School of Nursing at the University of San Diego. You are invited to participate in a research study she is conducting. The purpose of this research study is to explore how Arab-American women feel about health and what makes them healthy.

II. What you will be asked to do

If you decide to be in this study, you will be asked to:

Complete a written survey that ask you questions about things like your age, country of origin, stress, and healthy activities.

Your participation in this study will take a total of 30 minutes.

III. Foreseeable risks or discomforts

Sometimes when people are asked to think about their health, they feel sad or anxious. If you would like to talk to someone about your feelings at any time, you can call either of these numbers, toll-free, 24 hours a day:

Orange County Crisis Prevention Hotline 1-877-727-4747

OR

San Diego Mental Health Hotline at 1-800-479-3339

There are multi-lingual speakers available at these numbers. You can just say, “Arab speaker” or any language you prefer.

IV. Benefits

While there may be no direct benefit to you from participating in this study, the indirect benefit of participating will be knowing that you helped researchers better understand what helps Arab-American women be healthy.

V. Confidentiality

Any information provided and/or identifying records will remain confidential and kept in a locked file and/or password-protected computer file in the researcher’s office for a minimum of five years. All data collected from you will be coded with a number or pseudonym (fake name). Your real name will not be used. The results of this research project may be made public and information quoted in professional journals and

meetings, but information from this study will only be reported as a group, and not individually.

VI. Compensation

If you participate in the study, the researcher will give you \$10 in cash personally. You will receive this compensation even if you decide not to complete the entire questionnaire.

VII. Voluntary Nature of this Research

Participation in this study is entirely voluntary. You do not have to do this, and you can refuse to answer any question or quit at any time. Deciding not to participate or not answering any of the questions will have no effect on any benefits you're entitled to, like your health care, or your employment or grades. You can withdraw from this study at any time without penalty.

VIII. Contact Information

If you have any questions about this research, you may contact either:

1) Kholoud Khalil, RN

Email: kkhilil@sandiego.edu

Phone: (714) 414-5138.

2) Jane Georges, PhD, RN (Kholoud's Dissertation Advisor)

Email: jgeorges@sandiego.edu

Phone: (619) 260-4566

I have read and understand this form, and consent to the research it describes to me. I have received a copy of this consent form for my records.

Signature of Participant

Date

Name of Participant (**Printed**)

Signature of Investigator

Date

Appendix D: Consent Form-Arabic

جامعة سان دييغو

نموذج المشارك لمعلومات البحث والموافقة

للدراصة البحثية بعنوان

"محددات تعزيز نمط سلوكيات الحياة الصحية بين النساء العربيات الأمريكيات "

I. الغرض من هذه الدراسة البحثية

خلود خليل هي طالبة دكتوراه في كلية التمريض في جامعة سان دييغو. أنت مدعوة للمشاركة في هذه الدراسة البحثية التي تجريها. الغرض من هذه الدراسة البحثية هو استكشاف الكيفية التي تشعر بها المرأة العربية الأمريكية حول الصحة وما الذي يجعلها تتمتع بالصحة .

II. ماذا سوف يطلب منك أن تفعل

إذا قررت المشاركة في هذه الدراسة، سوف يطلب منك القيام بما يلي :
استكمال وتعبئة الاستبيان الخاص بالدراسة التي يحتوي علي أسئلة حول أشياء مثل سنك، وبلد المنشأ، والإجهاد، والأنشطة الصحية .
مشاركتك في هذه الدراسة سوف تستغرق ما يقرب من 30 دقيقة .

III. المخاطر المتوقعة أو المضايقات

أحيانا عندما يطلب من الناس التفكير في صحتهم، أنهم يشعرون بالحزن أو القلق. إذا كنت ترغبين في التحدث الى شخص ما عن مشاعرك في أي وقت، يمكنك الاتصال مجانياً على أي من هذه الأرقام التاليه، 24 ساعة في اليوم:

منع وقوع الأزمات الخط الساخن في مقاطعة أورانج 1-877-727-4747
أو

الصحة النفسية الخط الساخن في سان دييغو 1-800-479-3339

هناك متحدثين بأكثر من لغة متوفرين على هذه الأرقام. يمكنك فقط القول، "ناطق بالعربية" أو أي لغة اخرى تفضلينها .

IV. الفوائد

في حين قد لا يكون هناك فائدة مباشرة لك من المشاركة في هذه الدراسة، والاستفادة غير المباشرة من المشاركة هي معرفتك أنك ساعدت الباحثين على فهم أفضل. لما يساعد المرأة العربية الأمريكية بالتمتع بالصحة.

V. الخصوصية/ حماية السرية

أي من المعلومات و / أو السجلات المقدمة من قبلك ستبقى سرية بحيث يتم الاحتفاظ بها في ملف مؤمن، أو ملف كمبيوتر محمي بكلمة مرور في مكتب الباحث لمدة لا تقل عن خمس سنوات. جميع المعلومات المقدمة من قبلك سوف تكون مشفرة بحيث تعطى رقم أو اسم مستعار (اسم وهمي). لن يتم استخدام اسمك الحقيقي. من الممكن أن يتم نشر

نتائج هذا المشروع البحثي عبر المجالات والاجتماعات المهنية المتخصصة، ولكن المعلومات من هذه الدراسة سوف يتم نشرها لتعبر عن المجموعة، وليس عنك بشكل فردي

.VI. التعويض

إذا شاركت في الدراسة، سوف تقوم الباحثه بتقديم عشرة دولارات نقداً لك شخصياً. سوف تتلقين هذا التعويض حتى لو انسحبت من الدراسة او لم تكملّي تعبئة الاستبيان.

.VII. الطابع الطوعي لهذا البحث

المشاركة في هذه الدراسة هي طوعية تماماً. ليس عليك القيام بذلك في حال عدم رغبتك، ويمكنك رفض الإجابة عن أي سؤال أو التوقف عن الاجابه في أي وقت. إن قرارك بعدم المشاركة أو عدم الإجابة عن أي من الأسئلة لن يكون له أي تأثير على أي فوائد تتلقينها، مثل الرعاية الصحية الخاصة بك، أو عملك، أو الدرجات. يمكنك الانسحاب من هذه الدراسة في أي وقت دون عواقب

.VIII. معلومات الاتصال

إذا كان لديك أي أسئلة حول هذا البحث، يمكنك الاتصال على أي من الأرقام التالية:

1. خلود خليل ، ممرضة قانونية (RN)

البريد الإلكتروني: kkhilil@sandiego.edu
الهاتف: (714) 414-5138

2. جين جورجس، دكتورة في التمريض (PhD)، ممرضة قانونية (RN)، مستشار أطروحة خلود)

البريد الإلكتروني: Jgeorges@sandiego.edu
الهاتف: (619) 260-4566

لقد قرأت وفهمت هذا النموذج، وأوافق على البحث الموصوف لي من خلاله، ولقد استلمت نسخة من نموذج الموافقة لسجلي الشخصي

التاريخ	توقيع المشاركة
---------	----------------

إسم المشاركة (أرجو الطباعة)

التاريخ	توقيع الباحث
---------	--------------

Appendix E: Authors Permission to Use the Standardized Study Measures

The Acculturation Rating Scale of Arab Americans II

Kholoud Khalil <kkhalil@sandiego.edu>
To: AJ.jadalla@csulb.edu

Fri, Apr 26, 2013 at 12:33 PM

Dear Dr. Jadalla,

My name is Kholoud Khalil, I'm PhD. Nursing student at University of San Diego (USD). My research focus is on determinants of Arab American women adoption of nutrition health promotion behaviors. I'm asking for your permission to use The Acculturation Rating Scale of Arab Americans II/ Arabic version.

Best Regards,
Kholoud Khalil

The Acculturation Rating Scale of Arab Americans II

AJ Jadalla <AJ.Jadalla@csulb.edu>
To: Kholoud Khalil <kkhalil@sandiego.edu>

Fri, Apr 26, 2013 at 8:36 PM

Hello Kholoud,

Thanks for your interest in the Arabic version of the Acculturation Rating Scale-II which was originally developed for Mexican Americans. Please find attached a copy in Arabic. For scoring using the scoring scheme published by the authors Cuellar, I. et al. I refer you to their article published in 1996. Below with this email you find a tables summarizing the psychometrics of the tool, the first one the psychometrics of Acculturation Rating Scale for Arab Americans-II (ARSAA-II), these psychometrics were obtained when we scored ARSAA-II using Cuellar's and colleagues method of scoring. The second table shows the psychometrics when the tool was scored based on the values of the two factors that emerged [Attraction to the Arabic Culture (AArC) and Attraction to the American Culture (AAmC)] when I ran a factor analysis on ARSAA-II and used the factor scores. You will notice that Cuellar's Anglo Orientation Scale is the same as the AAmC, but for the Arabic Orientation Scale which had 17 items is slightly different from the AArC which ended up with 15 items.

UPDATES **MESSAGES** REQUESTS

Measuring psychological stress. Concept, model, and measurement instrument in primary care research.

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May 28, 2013

Kholoud Hardan

Dear Dr. Tessier,

My name is Kholoud Khalil, I'm PhD student at University of San Diego (USD), California, USA. My research topic is about the determinants of health promotion lifestyle behaviors among Arab American women. I would like to get your permission to use the Psychological Stress Measure (PSM) for the pilot study and doctoral dissertation. I will be grateful if you send me an electronic copy of the scale/ English version and its scoring instructions

Thank you in advance, I look forward to your response.

kholoud khalil, RN, MSN
university of San Diego
Hahn School of Nursing and Health Science

 **Rejean Tessier** to you

May 28, 2013

Find enclosed a copy which is included in this article. The score is the total of these 9 items but you have to reverse the score of 2 positive items.

[MSP revue physiotherapy.pdf](#)

permission to use the Arabic version of Perceived Stress Scale

Kholoud Khalil <kkhalil@sandiego.edu>
To: Ayman Mansour <a.mansour@ju.edu.jo>

Fri, Nov 8, 2013 at 6:24 A

Dear Dr. Mansour,

Thank you so much Dr. Mansour for giving me the permission to use the Psychological Stress Measure (PSM-9) For the record may I ask you to have the scale's manual.

Best Regards, .

Kholoud Khalil, RN, MSN
University of San Diego
kkhalil@sandiego.edu
(714) 414- 5138

permission to use the Arabic version of Perceived Stress Scale

Ayman Mansour <a.mansour@ju.edu.jo>
To: Kholoud Khalil <kkhalil@sandiego.edu>

Sat, Nov 9, 2013 at 1 00 A

here is it. the key is same as the original form.

Ayman M. Hamdan-Mansour, RN, MSN, PhD

Professor, Psychiatric mental Health Nursing
Department of Community Health Nursing
Faculty of Nursing- The University of Jordan
Amman 11942, Jordan

Tel:(962 6) 5355000/ 23108, 23183

(962 79) 6383002

E-mail: a.mansour@ju.edu.jo

aymanjabay@gmail.com

FW: My Perceived Competence measures

Kholoud Khalil <kkhalil@sandiego.edu>

Fri, Nov 8, 2013 at 6:21 AM

To: "Wallston, Ken" <ken.wallston@vanderbilt.edu>

Dear Dr. Wallston,

thank you so much Dr. Wallston for giving me the permission to use and translate the Perceived Health Competence Scale. for the record may I ask you to have the scale's manual.

Best Regards,

Kholoud Khalil, RN, MSN
University of San Diego
kkhalil@sandiego.edu
(714) 414- 5138
{Quoted text hidden}

FW: My Perceived Competence measures

Wallston, Ken <ken.wallston@vanderbilt.edu>
 To: "khalil@sandiego.edu" <khalil@sandiego.edu>

Tue, Apr 9, 2013 at 9:29 AM

KK,

The PHCS is the second measure below. You have my permission to translate it into Arabic.

Ken Wallston

The items and instructions for our (most generalized) Perceived Competence measure are:

INSTRUCTIONS: Each item in this scale is a belief statement with which you may agree or disagree. Under each statement is a scale which ranges from strongly disagree (1) to strongly agree (5). Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully and make your answers as true for YOU as you can. Please answer every item. There are no "right" or "wrong" answers, so choose the most accurate answer for YOU--not what you think most people would say or do.

1. I handle myself well in whatever situation I am in.

Strongly Disagree

Strongly Agree

1 2 3 4 5

2. No matter how hard I try, things just don't turn out the way I would like. (r)
- *3. It is difficult for me to find effective solutions to the problems that come my way. (r)
- *4. I succeed in the projects I undertake.
5. I'm generally able to accomplish my goals.
6. I find my efforts to change situations I don't like are ineffective. (r)
- *7. Typically, my plans don't work out well. (r)
- *8. I am able to do things as well as most other people.

[Note that there originally were 8 items in this scale, as shown above. The ones designated with an (r) need to be reverse-scored. We typically use a 5-point response scale (see below) but it works equally well with a 4- or 6-point response scale (or even more response alternatives, if you wish). We have also shortened this measure to a 4-item scale by using items 3, 4, 7, & 8.] The short form (PC-4) appears to be as valid as the 8-item measure.

permission to use The Multidimensional Scale of Perceived Social Support

Kholoud Khalil <kkhalil@sandiego.edu>
To: gzimet@iupui.edu

Wed, Jun 26, 2013 at 10:07 AM

Dear Dr. Zimet

My name is Kholoud Khalil, I'm Phd student at University of San Diego (USD), California, USA. My research topic is about the determinants of health promotion lifestyle behaviors among Arab American women. I would like to get your permission to use the Multidimensional Scale of Perceived Social Support in my doctoral dissertation. I will be grateful if you send me an electronic copy of the scale/ and its scoring instructions.

Thank you in advance, I look forward to your response.
kholoud khalil, RN, MSN
university of San Diego
Hahn School of Nursing and Health Science

permission to use The Multidimensional Scale of Perceived Social Support

Zimet, Gregory D <gzimet@iu.edu>
To: Kholoud Khalil <kkhalil@sandiego.edu>

Fri, Jun 28, 2013 at 10:07 AM

Dear Kholoud,

You have my permission to use the MSPSS in your doctoral dissertation research. I have attached a copy of the scale, with the simple scoring instructions on the 2nd page. Also attached is a document listing several articles that have reported on the psychometric properties of the MSPSS.

I hope your research goes well.

Best regards,
Greg Zimet

=====

Gregory D. Zimet, PhD

Professor of Pediatrics & Clinical Psychology

Section of Adolescent Medicine

Indiana University School of Medicine

request for permission to use Multidimensional Scale of Perceived Social Support for Arab Immigrant Women

Kholoud Khalil <kkhalil@sandiego.edu>
To: karoian@mail.ucf.edu

Mon, Jun 24, 2013 at 5:23 PM

Dear Dr. Aroian,

My name is Kholoud Khalil, I'm Phd student at University of San Diego (USD), California, USA. My research topic is about the determinants of health promotion lifestyle behaviors among Arab American women. I would like to get your permission to use the Multidimensional Scale of Perceived Social Support for Arab Immigrant Women in my doctoral dissertation. I will be grateful if you send me an electronic copy of the scale/ Arabic version and its scoring instructions.

Thank you in advance, I look forward to your response.
kholoud khalil, RN, MSN
university of San Diego
Hahn School of Nursing and Health Science
(714) 414- 5138

request for permission to use Multidimensional Scale of Perceived Social Support for Arab Immigrant Women

Karen Aroian <Karen.Aroian@ucf.edu>
To: Kholoud Khalil <kkhalil@sandiego.edu>

Tue, Jun 25, 2013 at 5:50

Per your request, please see attached. RE: scoring. The syntax below will help you determine which item numbers correspond with the three sources of support, husband, family, and friends. The recode syntax is so that the value labels correspond with those used in the original MSPSS. See my publication on the psychometric evaluation. You might also want to take my recommendation in the that article to use the original 7-point rating scale rather than the 3-point one we devised. Best wishes with your research. I'd love to see an abstract of your study findings when you are ready to defend.

* MSPSS.

```
compute mspss_t = mean (pssm1 to pssm12).
compute mspss_h = mean (pssm1, pssm2, pssm5, pssm10).
compute mspss_fm = mean (pssm3, pssm4, pssm8, pssm11).
compute mspss_fr = mean (pssm6, pssm7, pssm9, pssm12).
variable labels
mspss_t 'mother perceived social support - total'
mspss_h 'mother perceived social support - husband'
mspss_fm 'mother perceived social support - family'
mspss_fr 'mother perceived social support - friends'.
```

4. *** MSPSS.

*** Made 99 missing.

```
des pssm1 to pssm12.
missing values pssm1 to pssm12 (4 to 99).
des pssm1 to pssm12.
```

RECODE

```
pssm1 pssm2 pssm3 pssm4 pssm5 pssm6 pssm7 pssm8 pssm9 pssm10 pssm11 pssm12
(1=1) (2=4) (3=7) INTO Rpssm1 Rpssm2 Rpssm3 Rpssm4 Rpssm5 Rpssm6
Rpssm7 Rpssm8 Rpssm9 Rpssm10 Rpssm11 Rpssm12.
EXECUTE .
```

Karen Aroian, PhD, RN, FAAN
Chatlos Endowed Professor and Director of Research
University of Central Florida College of Nursing

permission to use HPLP II Arabic version

Kholoud Khalil <kkhalil@sandiego.edu>
To: lhaddad2@vcu.edu

Fri, Apr 12, 2013 at 11:12 AM

Dear Dr. Haddad,

My name is kholoud Hardan khalil, I'm Phd student at University of San Diego (USD) California . I was lucky to be one of your student at JUST. I want your permission to use Health Promotion Lifestyle Profile II/ Arabic version to study the determinants of Arab American women adoption of healthy life style behaviors.

Thank you in advance, hoping to hear from you soon
kholoud Khalil

permission to use HPLP II Arabic version

Linda G Haddad <lhaddad2@vcu.edu>
To: Kholoud Khalif <kkhalil@sandiego.edu>

Mon, Apr 15, 2013 at 9:57 AM

Here you are, good luck.
(Quoted text hidden)

 HPLP II.pdf
268K

Dear Colleague:

Thank you for your interest in the *Health-Promoting Lifestyle Profile II*. The original *Health-Promoting Lifestyle Profile* became available in 1987 and has been used extensively since that time. Based on our own experience and feedback from multiple users, it was revised to more accurately reflect current literature and practice and to achieve balance among the subscales. The *Health-Promoting Lifestyle Profile II* continues to measure health-promoting behavior, conceptualized as a multidimensional pattern of self-initiated actions and perceptions that serve to maintain or enhance the level of wellness, self-actualization and fulfillment of the individual. The 52-item summated behavior rating scale employs a 4-point response format to measure the frequency of self-reported health-promoting behaviors in the domains of health responsibility, physical activity, nutrition, spiritual growth, interpersonal relations and stress management. It is appropriate for use in research within the framework of the Health Promotion Model (Pender, 1987), as well as for a variety of other purposes.

The development and psychometric evaluation of the English and Spanish language versions of the original instrument have been reported in:

Walker, S. N., Sechrist, K. R., & Pender, N. J. (1987). The Health-Promoting Lifestyle Profile: Development and psychometric characteristics. *Nursing Research*, 36(2), 76-81.

Walker, S. N., Volkan, K., Sechrist, K. R., & Pender, N. J. (1988). Health-promoting lifestyles of older adults: Comparisons with young and middle-aged adults, correlates and patterns. *Advances in Nursing Science*, 11(1), 76-90.

Walker, S. N., Kerr, M. J., Pender, N. J., & Sechrist, K. R. (1990). A Spanish language version of the Health-Promoting Lifestyle Profile. *Nursing Research*, 39(5), 268-273.

Copyright of all versions of the instrument is held by Susan Noble Walker, EdD, RN, FAAN, Karen R. Sechrist, PhD, RN, FAAN and Nola J. Pender, PhD, RN, FAAN. The original *Health-Promoting Lifestyle Profile* is no longer available. You have permission to download and use the HPLPII for non-commercial data collection purposes such as research or evaluation projects provided that content is not altered in any way and the copyright/ permission statement at the end is retained. The instrument may be reproduced in the appendix of a thesis, dissertation or research grant proposal. Reproduction for any other purpose, including the publication of study results, is prohibited.

A copy of the instrument (English and Spanish versions), scoring instructions, an abstract of the psychometric findings, and a list of publications reporting research using all versions of the instrument are available for download.

Sincerely,

Susan Noble Walker, EdD, RN, FAAN Professor Emeritus

COLLEGE OF NURSING Community-Based Health Department

985330 Nebraska Medical Center Omaha, NE 68198-5330 402/559-6382 Fax: 402/559-6379