

**The Stress Process among African American and Immigrant Russian-speaking Home Care  
Aides**

BY

VALENTINA LUKYANOVA  
B.A., Berea College, 2003  
M.A., Virginia Tech, 2005

THESIS

Submitted as partial fulfillment of the requirements  
for the degree of Doctor of Philosophy in Public Health Sciences  
in the Graduate College of the  
University of Illinois at Chicago, 2012

Chicago, Illinois

Defense Committee:

Naoko Muramatsu  
George Karabatsos, Educational Psychology  
Thomas Prohaska, George Mason University  
Arlene Miller, Rush University  
Nadine Peacock

## **ACKNOWLEDGMENTS**

This dissertation would not have been possible without the support and encouragement of many people. First, I would like to thank my advisor, Naoko Muramatsu, for her guidance throughout this dissertation. I am very grateful for her careful reviews of various drafts and for her thoughtful and thorough feedback. In addition, I would like to thank my committee members for their involvement and support. In particular, I am grateful to George Karabatsos for his help with the quantitative portion of the study. My sincere thanks go to Thomas Prohaska for taking interest in my progress and for always finding time to talk about my research. I would also like to extend my appreciation to Arlene Miller for introducing me to cross-cultural research and to Nadine Peacock for her assistance with the qualitative portion of this study.

I thank Susan Hughes and the Center for Research on Health and Aging for financial support through the Midwest Roybal Center for Health Promotion and Translation pilot grant program. Pilot funding from the National Institute for Occupational Safety and Health (NIOSH) made it possible for me to conduct focus groups with Russian-speaking home care aides. I am also thankful to Jane Lipscomb of the University of Maryland for letting me use valuable home care survey data.

I am extremely grateful to my supervisor and mentor, Yolanda Suarez-Balcazar, for making me a part of her collaborative research team. Her passion for work and unconditional support for students have inspired me to continue my career in academia. I thank Fabricio Balcazar for giving me the opportunity to advance my research in the area of disability studies. I also thank my former thesis advisor, Toni Calasanti of Virginia Tech, for mentorship and guidance.

## **ACKNOWLEDGMENTS (continued)**

I thank the administrative staff at UIC—David Brand, Louise Martinez, Mary Berta, John Slavick, and Kathy Zawilenski—for making it easier to navigate the complexities of the dissertation process.

Next, I want to thank my family and friends who are the most important part of my life. My very special thanks go to my husband, Glen Marku, for his love, kindness, and patience. I am eternally grateful to my parents, Elena and Vladimir Lukyanov, for their sacrifices and for always being there for me despite the distance. I want to thank my brother, Zhenia, for always believing in me, and my grandmother for her love and care. I thank my extended family for their love and support throughout these years.

Among my friends, I am especially thankful to Jennifer Gray for her friendship, support, and encouragement. In addition, I thank my dear friends Katya and Nick Neises, Irina Karavayeva, Algirdas Kubilius, Elena Navas-Nacher, Javier Rueda, Miriam Cerna, and Nelly Crespo.

Finally, I thank home care aides for sharing their life stories with me.

VL

# TABLE OF CONTENTS

CHAPTER	PAGE
1. INTRODUCTION .....	1
1.1 Background and Study Rationale.....	1
1.2 Purpose of the Study .....	3
1.3 Study Significance .....	4
2. BACKGROUND .....	6
2.1 Defining Home Care Aides.....	6
2.2 Sociodemographic Characteristics of Home Care Aides.....	7
2.3 Stressors .....	8
2.3.1 Job Stressors.....	8
2.3.2 Stress in Personal Lives .....	10
2.3.2.1 African American Women.....	10
2.3.2.2 Russian-speaking Immigrants .....	12
2.3.3 Work-related Burnout .....	13
2.3.3.1 Definition and Measurement Issues.....	13
2.3.3.2 Burnout across Age, Gender, Education, and Caregivers .....	14
2.4 Work Support.....	15
2.5 The Stress Process Theory .....	16
2.5.1 Previous Studies on Long-term Care Workers .....	16
2.5.2 Conceptual Framework by Pearlin and Colleagues .....	17
2.6 Summary .....	19
3. CONCEPTUAL FRAMEWORK .....	20
3.1 Conceptual Model.....	20
3.2 Study Objectives, Research Questions, and Hypotheses .....	24
3.2.1 AIM 1: The Nature of Stress and Its Consequences in Two Groups .....	24
3.2.2 AIM 2: The Structure of Work-related Burnout and Its Equivalence in Two Groups.....	25
3.2.3 AIM 3: Burnout Levels in Two Groups.....	25
4. METHODOLOGY .....	29
4.1 Research Design—Mixed Methods Approach .....	29
4.2 Study Setting.....	32
4.3 Qualitative Approach.....	33
4.3.1 Focus Group Recruitment.....	33
4.3.2 Data Analysis .....	35

## TABLE OF CONTENTS (continued)

<u>CHAPTER</u>		<u>PAGE</u>
	4.3.3 Characteristics of Focus Group Participants.....	37
	4.3.3.1 Sociodemographic Characteristics .....	37
	4.3.3.2 Data on Health and Illness .....	37
4.4	Quantitative Approach.....	39
	4.4.1 Data/Sample.....	39
	4.4.2 Measures .....	41
	4.4.2.1 Work-related Burnout .....	41
	4.4.2.2 Job Stressors.....	42
	4.4.2.2.1 Emotional Demands.....	43
	4.4.2.2.2 Time Pressure.....	43
	4.4.2.2.3 Lack of Job Influence.....	44
	4.4.2.2.4 Lack of Predictability.....	44
	4.4.2.3 Support from Supervisors .....	44
	4.4.2.4 Background Characteristics .....	45
	4.4.2.5 Racial/Ethnic Group.....	45
	4.4.2.6 Education .....	45
	4.4.2.7 Type of Client .....	46
	4.4.2.8 Control Variables .....	46
	4.4.3 Data Preparation and Preliminary Analysis .....	46
	4.4.4 Analytic Strategies .....	47
	4.4.4.1 Principal Component Factor Analysis .....	47
	4.4.4.2 Multigroup Confirmatory Factor Analysis .....	47
	4.4.4.3 Regression Analysis.....	48
	4.4.4.4 Variable Entry in the Regression Analysis .....	49
4.5	Summary .....	51
5.	QUALITATIVE RESULTS: THE STRESS PROCESS AND HEALTH IN AFRICAN AMERICAN AND RUSSIAN-SPEAKING HOME CARE AIDES .....	53
	5.1 Sources of Workplace Stress .....	53
	5.2 Sources of Stress in Personal Lives .....	57
	5.3 Stress, Work Support, and Work-related Burnout .....	59
	5.4 Summary of the Results .....	62
6.	QUANTITATIVE RESULTS: MULTIGROUP CONFIRMATORY FACTOR ANALYSIS OF WORK-RELATED BURNOUT.....	65
	6.1 Multigroup Confirmatory Factor Analysis .....	65
	6.1.1 First-Order Confirmatory Factor Analysis.....	66
	6.1.2 Second-Order Confirmatory Factor Analysis .....	70

## TABLE OF CONTENTS (continued)

<u>CHAPTER</u>		<u>PAGE</u>
	6.1.3 One-Factor Confirmatory Factor Analysis .....	72
6.2	Test for Invariance .....	74
6.3	Summary of the Results .....	77
7	QUANTITATIVE RESULTS: RACE DIFFERENCES IN DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS, JOB STRESSORS, AND WORK-RELATED BURNOUT .....	79
7.1	Bivariate Analyses .....	79
7.2	Association of Race and Background Characteristics with Work-Related Burnout .....	82
7.3	Association of Race, Job Stressors, and Work Support with Burnout .....	84
7.4	Interaction Effects .....	87
7.5	Summary of the Results .....	89
8	DISCUSSION .....	90
8.1	AIM 1: The Nature of Stress and Its Consequences in Two Groups .....	92
8.2	AIM 2: The Structure of Work-related Burnout and its Equivalence in Two Groups .....	94
8.3	AIM 3: Burnout Levels in Two Groups .....	95
	8.3.1 Education .....	95
	8.3.2 Job Stressors .....	96
	8.3.3 Support from Supervisors .....	96
	8.3.4 Integrating the Findings from Qualitative and Quantitative Research Phases .....	97
8.4	Research Implications .....	98
8.5	Practical Implications .....	99
8.6	Directions for Future Research .....	101
8.7	Conclusion .....	103
	APPENDICES .....	105
	APPENDIX A .....	106
	APPENDIX B .....	109
	APPENDIX C .....	112
	APPENDIX D .....	115
	APPENDIX E .....	118
	APPENDIX F .....	121
	APPENDIX G .....	128
	APPENDIX H .....	130

## TABLE OF CONTENTS (continued)

<u>CHAPTER</u>	<u>PAGE</u>
APPENDIX I .....	131
CITED LITERATURE .....	133
VITA .....	142

## LIST OF TABLES

<u>TABLE</u>	<u>PAGE</u>
I. FOCUS GROUP PARTICIPANTS' SOCIODEMOGRAPHIC, JOB, AND HEALTH CHARACTERISTICS .....	38
II. RESPONDENT GROUP CHARACTERISTICS (N=803).....	40
III. ITEMS USED TO MEASURE A TWO-FACTOR CONSTRUCT— CLIENT-RELATED AND WORK-RELATED BURNOUT .....	67
IV. TESTING FOR FACTORIAL INVARIANCE OF A ONE-FACTOR MODEL ACROSS TWO GROUPS .....	77
V. MEANS AND STANDARD DEVIATIONS FOR VARIABLES IN THE ANALYSIS BY RACE.....	80
VI. CORRELATION COEFFICIENTS FOR VARIABLES IN THE STUDY ....	81
VII. REGRESSION MODEL: ASSOCIATION OF DEMOGRAPHIC AND BACKGROUND FACTORS WITH WORK-RELATED BURNOUT .....	84
VIII. REGRESSION MODEL: ASSOCIATION OF JOB STRESSORS AND WORK SUPPORT WITH WORK-RELATED BURNOUT .....	86
IX. REGRESSION MODEL: INTERACTION EFFECTS .....	88
X. SUMMARY OF MAIN DISSERTATION FINDINGS .....	90
XI. AN EXCERPT OF CODE DESCRIPTION FOR HEALTH PROMOTION FOCUS GROUP .....	120
XII. AN OVERVIEW GRID: AFRICAN AMERICAN FOCUS GROUPS .....	121
XIII. AN OVERVIEW GRID: RUSSIAN-SPEAKING FOCUS GROUPS.....	126
XIV. RESPONDENT GROUP CHARACTERISTICS (N=739).....	130
XV. REGRESSION ANALYSES WITH YEARS IN HOME CARE.....	131



## LIST OF FIGURES

<u>FIGURE</u>	<u>PAGE</u>
1. An overall conceptual framework of stress process among African American and Russian-speaking HCAs.....	23
2. A model for exploratory sequential design procedures .....	31
3. Study hypothesized measurement model.....	68
4. First-order MCFA model for work- and client-related burnout tested for African American and Russian-speaking HCAs.....	69
5. Second-order Measurement Model.....	70
6. Second-order MCFA model for work- and client-related burnout tested for African American and Russian-speaking HCAs.....	71
7. One-factor measurement model.....	73
8. One-factor MCFA model for work-related burnout for African American and Russian-speaking HCAs.....	74
9. A constrained model of work-related burnout for African American and Russian-speaking HCAs.....	75

## **LIST OF ABBREVIATIONS**

AIC	The Akaike Information Criterion
CBI	The Copenhagen Burnout Inventory
CCP	The Community Care Program
CFI	The Comparative Fit Index
CLESE	The Coalition of Limited English Speaking Elderly
COPSOQ	The Copenhagen Psychosocial Questionnaire
HCA	Home Care Aide
MCFA	Confirmatory Factor Analysis
RMSEA	Root Mean Square Residual
SEIU	Service Employees International Union
SRMR	Standardized Mean Square Residual
TLI	Tucker-Lewis Index
UIC	The University of Illinois at Chicago

## SUMMARY

Work-related stress and burnout are significant problems for home care aides (HCAs) who help disabled older Americans with housekeeping and other aspects of personal care in their homes. In urban centers like Chicago, Illinois, this profession is mainly occupied by African American women and immigrants. Despite the diversity in this workforce population, very few studies have compared stress-related issues among HCAs who are members of racial and ethnic minority groups. To understand and compare the stress process leading to burnout, we conducted a two-phase mixed methods study of African American and Russian-speaking HCAs.

In Phase I, we conducted six focus groups with African American (N=45), and four focus groups with Russian-speaking (N=32) HCAs to explore the interplay among occupational and life stressors, health and burnout. In Phase II, using survey data of African American (N=592) and Russian-speaking (N=147) HCAs, we tested the factor structure of burnout via multiple group confirmatory factor analysis (MCFA) and conducted hierarchical regression analysis comparing the levels of work-related burnout in the two racial/ethnic groups.

The focus group data revealed that while both groups experienced similar work-related stressors, specific to client care and the general work environment, stressors in HCAs' personal lives differed across groups. African American participants reported violent urban neighborhoods, family problems, and financial instability as significant stressors. Russian-speaking HCAs faced a number of challenges specific to adjusting to a new country, such as language/cultural barriers and isolation. Many of the focus group participants reported feelings of extreme exhaustion, tension, and intending to leave the job, which are signs of work-related burnout.

## **SUMMARY (continued)**

The results of the MCFA showed that the one-factor model of work-related burnout that treats both work and client-related burnout as part of the same domain was more appropriate than the two-factor models that treat the two domains separately. The one-factor model was also found to apply equally well to African American and Russian-speaking HCAs. Thus, a composite scale of work-related burnout was used in the subsequent regression analysis.

Russian-speaking HCAs had higher levels of burnout, as expected. However, after taking into consideration the higher level of education of Russian-speaking HCAs as well as age, gender, and kin relationship with clients, no group differences remained. Differences in education (i.e., higher levels of education in Russian-speaking HCAs than in African Americans) accounted for most of the group differences in burnout. Interestingly, after taking into consideration job stressors, being African American was associated with higher levels of work-related burnout. Not surprisingly, emotional demands, work time pressures, and unpredictable work environment were associated with higher burnout, and supervisory support with lower burnout.

This mixed methods study suggests that African American and Russian-speaking HCAs differed in the stress process largely due to differences in levels of education and stressors in personal life. A major practical implication of this study is that work-based support aimed at reducing distress among HCAs should take into account characteristics of each group. Future interventions should focus on addressing the stress-related issues faced by HCAs not only in their immediate work environment but also in other areas of their lives.

# 1. INTRODUCTION

## 1.1 Background and Study Rationale

Home care for older adults is one of the fastest growing industries in the United States. The reasons for the expansion of this industry include a dramatic increase in the number of older adults who prefer to live at home, and the Supreme Court Olmstead decision to promote community living for people at risk for nursing home placement (Meyer & Muntaner, 1999). Home care agencies employ more than 800,000 home care aides (HCAs) who help older adults with bathing, dressing, cleaning, cooking, and grocery shopping (Bureau of Labor Statistics, 2012). Home care aides assist clients with physical tasks (as the job entails) but also frequently become companions and sources of emotional support to older adults who may experience loneliness, depression, psychological problems, and declining health (Stone, 2004). Despite the fact that the work is both physically and psychologically demanding, and training is often deficient, HCAs provide care in exchange for low pay, limited benefits, and inadequate recognition. As a consequence, work-related stress and burnout have become common within this occupational group (Rai, 2010).

In urban centers such as Chicago, Illinois, home care work is an important source of employment for low-skilled minority women and immigrants, in part, because of minimal requirements for education and training (Weitzman & Berry, 1992). The majority of the HCAs providing care in the city are African American women with less education (Potter, Churilla, & Smith, 2006; Stone & Wiener, 2001). In Chicago and surrounding communities, there is also a specific demand for Russian-speaking HCAs due to an increase in the population of older Russian-speaking immigrants in the last two to three decades (personal communication with the director of the Coalition of Limited English Speaking Elderly, or CLESE on September 20,

2007). Most HCAs are women who work part-time, often at multiple jobs, while still being responsible for housework and child care (Howes, 2005). Not surprisingly, home care represents one of the most marginalized sectors in the United States, serviced by immigrant and minority populations and characterized by a low occupational status of HCAs who remain an invisible segment of the society despite the important work that they do (Neysmith & Aronson, 1996).

Home care aides help clients with their daily needs, and the job that they perform is stressful and physically demanding. This can lead to significant psychological problems, including burnout, in addition to any physical strain. Work-related burnout is commonly characterized as feelings of extreme fatigue stemming from prolonged exposure to job stressors, such as emotional demands, enduring time pressures, a limited sense of control over work, and unpredictable work environment (Borritz et al., 2005). Burnout has been linked to many undesirable consequences both for workers and organizations (Maslach, Schaufeli, & Leiter, 2001). Studies show that burnt-out employees become less motivated to do their job well. They may also feel indifferent towards work and less empathetic towards their clients. Often, they cannot handle emotional stress and, as a consequence, are more likely to suffer from chronic illness, depression, and self-neglect (Evans et al., 2004).

Due to high employee burnout, it has become difficult for home care agencies to retain existing workers and expensive to hire and train new ones (Stone, 2004; Yamada, 2002). More importantly, high rates of worker turnover result in inexperienced employees who likely provide inadequate care to older adults (Stone & Wiener, 2001). Hence, understanding the stress process and mitigating the impact of stressors is critical in preventing burnout among HCAs and ensuring quality care for their clients.

## 1.2 **Purpose of the Study**

Considering the growing cultural diversity of the homecare workforce in recent years, it is important to understand how workers of different nationalities or ethnic groups may be affected by stress (Montgomery et al., 2005). It is equally important to identify culture-specific strategies to alleviate stress and its debilitating consequences in this population. To date, however, very few studies have compared stress-related issues among HCAs who come from different social, economic, and cultural backgrounds, and who may experience stress differently.

The overall objective of this dissertation is to fill some of this current knowledge gap by examining the stress process of African American and Russian-speaking HCAs, who constitute an important segment of home care labor force in Chicago, Illinois. This research is guided by a theoretical framework by Pearlin and colleagues (Pearlin et al., 1981) that was later extended in Ensel and Lin's work (Ensel & Lin, 1991). Pearlin et al. (1998) described the stress process as interrelationships among various stressors, work support, and mental health outcomes.

To address this objective, the research for this dissertation was conducted in two phases—a qualitative phase followed by a quantitative phase. In the qualitative phase, we examined the similarities and differences in the stress process of African American and Russian-speaking HCAs. We performed in-depth analysis of data from six focus groups with African American HCAs (N=45), and four focus groups with Russian-speaking HCAs (N=32) conducted during the span of 2007–2009. This qualitative information offered the narratives of HCAs from different cultures, which were essential in understanding whether the contexts in which they worked and lived had influence on HCAs' health outcomes. The qualitative data analysis also helped in developing research questions and hypotheses, and in explaining some of the findings from the analysis of survey data in the next phase of research.

In the quantitative phase, we used data from a survey of African American and Russian-speaking HCAs (N=803) collected by the University of Maryland and the University of Illinois at Chicago (UIC) in 2007 to understand and compare how these two groups experienced stress in home care. To accomplish this goal, we first tested the factor structure of work-related burnout and its applicability across African American and Russian-speaking HCAs. Next, we examined which group had higher levels of work-related burnout and what accounted for these differences.

### **1.3 Study Significance**

Home care aides may be at high risk for occupational stress, as tasks related to housekeeping and personal care can be physically and emotionally demanding (Brulin, Winkvist, & Langendoen, 2000). Typically, HCAs work alone in their clients' homes, making it difficult to assess and improve their work environment. Language barriers and unique characteristics of immigrant workers who are low-income and have limited access to information and resources may create additional obstacles in addressing occupational health issues in this population.

In this research, we compared and contrasted how African American and Russian-speaking HCAs experience stress in home care, addressing that certain work-related or individual factors and resources relevant to one group may not be relevant to another. A theoretical model developed in this study will help track pathways through which stress leads to negative health outcomes in different groups of workers. The findings of this research will help policy makers, employers and other constituencies to better understand the needs of HCAs from diverse backgrounds and channel their resources in an effective and efficient manner. Results will also help identify stress-reduction strategies appropriate for each group and clarify the role



of race/ethnicity in the stress process. Ultimately, we hope this study will contribute to improved health outcomes for HCAs and better care for their clients.

## **2. BACKGROUND**

In this section we review the literature relevant to our study population. We begin our discussion with an overview of demographic characteristics of HCAs. Next, we review literature on stressful work and living conditions, health outcomes, and work-related support in the context of home care, and highlight any similarities and/or differences that may exist in Russian-speaking and African American HCAs. In addition, we discuss the stress theory in the context of this study, and conclude by addressing theoretical and methodological limitations in previous research on job stress among minority and immigrant groups.

### **2.1 Defining Home Care Aides**

Home care aides are part of the direct care workforce that include the following groups: nurse aides or nursing assistants who work in hospitals, and home health aides and personal-and home care aides who are employed by home care agencies. The focus of this study is on HCAs who generally work alone in their clients' homes, with only occasional visits by a supervisor. The services that they provide are strictly non-medical and consist of household and personal assistance, such as bathing, dressing, meal preparation, and companionship to older adults with functional limitations, many of whom are low-income and receiving services through Medicaid (Howes, 2005; Stone & Wiener, 2001). In comparison, home health aides usually work under the supervision of a registered nurse or other healthcare practitioner and can provide health-related services to clients, such as conducting medical tests and/or administering medication.

## 2.2 **Sociodemographic Characteristics of Home Care Aides**

According to the Institute of Medicine report, *Retooling for Aging America* (2008), in metropolitan areas in the United States, the long-term care industry is heavily serviced by low-income minority and immigrant populations, primarily women, between the ages of 25 and 55, who are not married, and who have low levels of education. This is the case because a home care position requires minimal education, training, and skills (Montgomery et al., 2005).

Home care aides, however, appear to be more disadvantaged in comparison to other direct care workers. Using data from the 2000 US Census, Montgomery et al. (2005) found that compared to nurse and home health aides, HCAs are more likely to be foreign-born and to be living alone. They are more likely to work part-time and to “endure the greatest financial hardship” (approximately 25% of part-time HCAs living below the poverty level) (p. 598). They also tend to be a less educated group with 30% reporting less than high school education compared to 26% of nursing aides and 18% of home health aides.

Compensation for HCAs can vary by region, employer, and union membership status of employees (Stacey, 2005). In 2009, HCAs earned a median hourly wage of \$9.70 and a median salary of \$20,170 per year, with the lowest 10% earning less than \$16,300 (Bureau of Labor Statistics, 2012). Although a growing number of HCAs now receive health insurance through their employers, HCAs that work part-time are not eligible for health benefits. Even those that work full-time often cannot afford health insurance because of high premiums and requirements for co-payment, and in many cases, have no choice but to stay uninsured (Harris-Kojetin et al., 2004; Yamada, 2002).

In summary, HCAs’ work remains undervalued in the United States as is reflected in low wages and inadequate health benefits. Given that a high proportion of HCAs are not US citizens

and that they generally tend to accept lower pay, there is a risk that home care companies will erase even the small improvements that have been made through the fights of labor groups to improve the working conditions of HCAs over the years (Yamada, 2002). If these working conditions remain the same, companies will face continued shortages of skilled employees resulting in detrimental effects to service quality, and ultimately, to the health and well-being of older adults (Smith & Baughman, 2007).

### **2.3. Stressors**

Although the home care workforce is growing more diverse, there is still a remarkable lack of studies regarding ethnic differences in stressors that home care workers experience (Montgomery et al., 2005). Previous studies on unpaid family caregivers suggest that one's ethnicity and culture can influence how caregivers perceive and react to stressful situations. In their review of the literature, Aranda and Knight (1997) reported the findings of several studies comparing family caregiver stress among African American and Whites suggesting that African Americans experience less stress and depression, and more satisfaction with the caregiving role compared to Whites. However, less is known about how stressful work conditions play out for HCAs who are members of racial or ethnic groups and who provide paid care in a home care context, as we discuss below.

#### **2.3.1. Job Stressors**

Previous studies report that home care work is a stressful and challenging undertaking. Typically, HCAs make several home visits in a single day. There is often little time between these visits, and the HCAs often must travel long distances between clients' homes. Some of them travel to unsafe neighborhoods where a client lives. Others face significant hazards in the

home environment, such as cluttered work areas, dim lighting, or slippery floors, and exposure to toxic household cleaning products (B. J. Taylor & Donnelly, 2006). Working directly with older adults can also be physically straining, as HCAs frequently assist them in and out of bed or wheelchair. If an HCA has to transfer a client who is larger in size or heavy, this can put an additional strain on muscles, especially if she lacks the training and skills to do it correctly (Stacey, 2005). Not surprisingly, HCAs often get injured in the areas of the neck, shoulders, and upper back, and are at risk for falls that can result in a more permanent injury. Using the US data on workers' compensation claims from a large state database (N=122,971), Meyer and Muntaner (1999) found that 63% of home care workers reported overexertion injuries and falls.

Home care aides also struggle with the emotional aspect of home care work, as they help older clients with varying health needs. Although only a few studies examined emotional stress and its consequences in the home care context, the available research suggests that most stress comes from working directly with clients who may experience psychological problems and declining health or clients whose personalities or behaviors can be very difficult to deal with (Stacey, 2005). These findings are in line with results from a large body of research on emotional care among other professional caregivers who provide assistance to patients in hospital or nursing home settings. Stressful situations often emerge as a result of caring for patients with significant health problems and patients who exhibit physical or verbal aggression (Evers, Tomic, & Brouwers, 2002; Novak & Chappell 1994).

In summary, previous literature provides general description of stressful working conditions in home care. However, what might appear to be stressful experience for one group may not be so for another. Considering that African American and Russian-speaking groups have

distinct characteristics, an understanding of their social and cultural contexts may help assess racial and ethnic differences in the experience of job stress as we discuss next.

### **2.3.2. Stress in Personal Lives**

#### **2.3.2.1 African American Women**

African American women residing in poor urban neighborhoods face many challenges related to the harsh economic and social conditions in their immediate environment. Chicago, Illinois, where the present study was conducted, is one of the most ethnically diverse metropolitan areas in the nation, where about 45% of residents are White, 33% are Black, and 29% are Hispanic (US Bureau of Census, 2010).

Racial segregation is an issue in Chicago. A recent study conducted by the Manhattan Institute for Policy Research (Glaeser & Vigdor, 2012) found that while Chicago experienced the second-largest declines (after Houston) in metropolitan segregation in the last ten years, it still remains the most racially segregated city in the country. Income inequality between African Americans and Whites has risen in recent decades in Chicago. According to the 2009 American Community Survey, Whites in 2009 earned a median income of \$63,625 compared to \$28,725 for African Americans. This represents an earnings gap of \$34,900 between the two groups, which has significantly increased from about \$24,000 in 1990. Furthermore, Chicago's predominantly African American neighborhoods remain highly unsafe. A recent article based on the Federal Bureau of Investigation and Department of Defense data revealed disturbing facts regarding homicide rates in the city. More than 5,000 people have been murdered since 2001. This number is staggering, especially when compared with 1,976 total US deaths in Afghanistan in the same period of time. Most of these crimes happen as a result of gang-related activities, involving drugs and illegal gun possession. Given these facts, it is not surprising that homicide is

one of the main factors contributing to the widening gap in life expectancy between African Americans and Whites in metropolitan areas in the United States (Lemaire, 2005).

Previous studies provide several features of racially segregated neighborhoods, such as social disorganization (e.g., public intoxication, drug use and sales), crime, and signs of physical deterioration (e.g., graffiti, litter, abandoned homes) (Cutrona et al., 2005; Karb et al., 2012). Living in disadvantaged neighborhoods limits one's chances in life, such as receiving quality education and financial stability, and increases the likelihood of becoming a victim of crime or violence (Williams & Collins, 2005). Such disadvantage can directly affect African American women's lives. They do not have many employment options and low-paying jobs, such as home care, are the only alternative. Many of them cannot make ends meet on a regular basis and, as a result, struggle with inadequate housing, childcare, transportation, and family relationships (Noelker et al., 2006). They also face other problems related to AIDS, drug use, and incarceration of their spouses/partners and their own children (Calasanti & Slevin, 2001).

A prolonged exposure to stressful situations as described above can compromise the health of women living in distressed neighborhoods. For example, Warren-Findlow (2006) conducted a qualitative study in Chicago to assess various stressors in the lives of African American women that are associated with heart disease. She found that the study participants attributed heart problems to daily stress as well as stress that they accumulated over time, for example, as a result of losing a parent at a young age, raising children alone, or having to live with and manage multiple chronic illnesses or disabilities. Other studies also found that the stress that African American women experience over the course of their lives puts them at high risk for chronic illness, disability, and shorter life expectancy (Mendes de Leon et al., 1997; Ndao-Brumblay & Green, 2005).

### **2.3.2.2 Russian-speaking Immigrants**

Many of the Russian-speaking HCAs provide care to Russian-speaking elderly immigrants whose numbers continue to grow in metropolitan areas of the United States. This trend is due to a massive influx of Russian immigrants in the United States during the early 1990s after the collapse of the Soviet Union, and who are now growing old. Many of these immigrants were Russian Jews who were granted a political asylum in the United States to escape government oppressions back home (Tsytarev & Krichmar, 2000).

Russian-speaking immigrants have several characteristics in common. Because of their limited English proficiency, they prefer to live in large urban areas, and mainly in Russian-speaking communities. This allows them to have access to necessary services that are available in Russian, such as social services, banking services, and grocery stores. Many of them receive various state and federal benefits, including Medicaid/Medicare, and Social Security Income, because of their status as political refugees (Aroian et al., 2001; Tsytarev & Krichmar, 2000).

Russian-speaking HCAs play an important role in caring for these older adults as some of them have never adapted to the United States and feel depressed and nostalgic about their past lives back home (Fitzpatrick & Freed, 2000). While HCAs may provide instrumental and emotional support to alleviate older clients' anxiety, the aides may experience multiple stressors in their own lives as they struggle with language difficulties, poverty, and social isolation in immigrant enclaves (Remennick, 2005). Many of the Russian-speaking HCAs are highly educated and held professional jobs prior to immigrating to the United States. Once in the United States, however, they have difficulty finding jobs that are commensurate with their education and professional skills because of poor English skills and fewer opportunities to socialize outside work and family circle (Remennick, 2005). The work environment in home care can also be



stressful. Inadequate entry-level training may leave them unprepared to work with clients and fulfill the job requirements (Solari, 2006).

In summary, previous research highlights general stressful work conditions among HCAs. However, less is known about whether HCAs who come from different social, economic, and cultural backgrounds identify work conditions as equally stressful and, if not, what explains these differences.

### **2.3.3 Work-related Burnout**

#### **2.3.3.1 Definition and Measurement Issues**

Prolonged exposure to stress at work and in personal life may eventually lead to burnout, making employees more prone to illness and depression (Evans et al., 2004). Many definitions of burnout exist in the literature, yet the most commonly used definition is the one developed by Maslach and Jackson (1981). They have described burnout as a syndrome of emotional exhaustion, depersonalization (or indifference towards clients), and a reduced sense of personal accomplishment (Maslach & Jackson, 1981). A few years later, Maslach Burnout Inventory (MBI), a scale consisting of 22 questions, was developed to measure this condition (Maslach & Jackson, 1986).

More recently, researchers from Denmark have revised Maslach's conceptual definition to recognize specific dimensions of job burnout that may take place in distinct areas of work and personal life, including exhaustion related specifically to clients, exhaustion as a result of work-related tasks, and general exhaustion. For example, someone working in social services may feel exhausted because of administrative duties, which may be separate from how s/he feels about tasks related to clients. A social service worker may also encounter difficulties in personal life as related to raising a family or paying the bills. This updated version of burnout led to the

development of a new burnout instrument, the Copenhagen Burnout Inventory (CBI) (Kristensen et al., 2005). This conceptual definition was applied in the context of this study.

Although there has been much research conducted on burnout in the human services sector using the CBI, including employees in health care industry, we are not aware of any studies that have examined whether the hypothesized measure of job burnout in two separate domains of work applies specifically to HCAs. In addition, despite the growing racial and ethnic diversity of the home care workforce, none of the studies, to our knowledge, have attempted to establish whether the instrument works equally well across different groups of HCAs. A common practice still remains to simply sum up the scores of the instrument, which does not allow for meaningful cross-cultural comparisons (Byrne, 2004; Cheung & Rensvold, 2002; Scherzer & Newcomer, 2007). The research challenge then becomes applying necessary statistical techniques to examine the factor structure of work-related burnout and its equivalence in different groups of workers in home care. Factor analysis procedures, such as multigroup confirmatory factor analysis (MCFA), have been used in research to develop valid and comparable measures that are applicable for multiple ethnic groups. A thorough assessment of instruments across different samples, using the aforementioned statistical procedure, is highly desirable to develop standard measures of mental health screening that will lead to timely evaluation, treatment, and even prevention of burnout symptoms (Spencer et al., 2005).

### **2.3.3.2 Burnout across Age, Gender, Education, and Caregivers**

In their review of the literature, Maslach, Shaufeli and Leiter (2001) highlighted certain demographic variables that they found to be relevant to the experience of burnout among employees. These included age, gender, education, and whether one provides care for a family member. According to Maslach et al., age “is the one [demographic variable] that has been most

consistently related to burnout” (p. 409). In general, younger employees report more burnout compared to their older counterparts, in part, because they have less experience to deal with challenges in the workplace. However, Maslach and colleagues (2001) noted that findings on age should be viewed with caution, since workers that may have been burnt-out early in their careers may quit their jobs, while those with lower levels of burnout may stay.

While research on gender and burnout has produced mixed results, some studies suggest that women report higher levels of exhaustion compared to men (Maslach, Shaufeli, & Leiter, 2001). In the context of human service work, this may be due to the fact that women are more likely to engage in emotional labor than men (Wharton, 2009). They may also have added responsibilities outside work, for example, care of a child, spouse, or an aging parent (Remennick, 2001).

With regard to education, the literature suggests that human service employees who are more educated tend to experience lower levels of burnout. According to Maslach et al. (2001), better educated workers may become more distressed if they feel they cannot realize their job aspirations.

Previous research has also found that family caregivers are at high risk for job stress and burnout (Pearlin et al., 1990), especially if filial responsibility is a strong cultural norm, as it can lead to feelings of inadequacy, guilt, and restraints in autonomy of a caregiver (Funk, Chappell, & Liu, 2011).

## **2.4 Work Support**

The work stress literature has recognized social support as one of the most important variables in the process through which stressors affect strains (Viswesvaran, Sanchez, & Fisher,

1999). Work support has been conceptualized as “the extent to which supervisors and/or co-workers provide encouragement and support to employees in their workplace” (Griffin, Patterson, & West, 2001, p. 537). Such support can have a direct impact on distress, by reducing burnout regardless of the levels of stress experienced. It also has the potential to moderate (or buffer) or mediate (or suppress) the impact of stress on burnout (Viswesvaran et al., 1999)

In general, studies have shown that workers who report having supportive supervisors or co-workers experience less stress and consequently, less burnout (House, 1981; Maslach et al., 2001). In addition, work support has been recognized as one of the more effective strategies to prevent burnout (Maslach & Goldberg, 1998) and improve job satisfaction (Chou & Robert, 2008). However, the job stress literature has paid much less attention to this variable with respect to minority and immigrant groups. In particular, it is not known how support may play out among HCAs from different racial/ethnic backgrounds who perform home care tasks in the isolation of a client’s home, where co-workers are unable to interact with each other at work as they would normally do in other work settings, for example, in assisted living facilities or nursing homes (Chou & Robert, 2008). Hence, more research is needed to understand the role of this variable in the stress process among HCAs from racial/ethnic backgrounds.

## **2.5 The Stress Process Theory**

### **2.5.1 Previous Studies on Long-term Care Workers**

Despite the fact that work stress has become an important issue among long-term care workers, much of research in this area of occupational health remains largely descriptive in nature. Only a few recent studies have explored the relationships between various job-stressors, coping resources, and job satisfaction in this population (Cohen-Mansfield & Noelker, 2000;

Ejaz et al., 2008; Noelker et al., 2006). For example, in studying 338 nursing assistants, Noelker and colleagues (2006) found that personal stressors (e.g., family, financial, and health concerns) had the greatest impact on satisfaction with supervision. Positive support from supervisors, on the other hand, mediated the relationship between stressors and satisfaction with supervision.

Ejaz et al. (2008) attributed low job satisfaction among aides in nursing homes, home health agencies, and assisted living to both personal stressors (physical and emotional health since becoming a long-term care worker) and work-related stressors (changes in schedule, inadequate training, and limited pay/benefits). They also found that perceptions of racism in the workplace and negative interactions with staff led to job dissatisfaction.

Delp and colleagues (2010) examined different factors that affect home care workers' job satisfaction. They found that job support and a sense of control had a direct positive effect on job satisfaction in this occupational group. Alternatively, those who experienced health problems and who had to work unpaid overtime while providing care to multiple clients had low satisfaction with the job.

While previous research paints a general picture of stress that long-term care employees face, there is a lack of studies to compare stress-related issues among diverse groups of HCAs who may differ in how they perceive and react to stressful situations at work. Furthermore, we are not aware of any empirical studies that have explored racial and ethnic differences in the link between stress and burnout in the home care context.

### **2.5.2 Conceptual Framework by Pearlin and Colleagues**

Scholars in the area of family caregiving often utilize stress and coping models to examine the complex nature of the caregiving experience (Lawton et al., 1991; Pearlin et al., 1990; Pruchno, Peters, & Burant, 1995). Pearlin and colleagues (1981) developed a conceptual

framework that is particularly useful to study how a prolonged exposure to stressful situations or events may lead to adverse health outcomes such as chronic illnesses or poor mental health. This framework suggests that individuals going through tough situations in life will be able to cope with stress and mitigate negative health consequences only if they have social and/or psychological resources (e.g., work support, self mastery, and self-efficacy) in place.

Subsequently, Pearlin et al. (1990) extended this conceptual framework to understand the process of stress among family caregivers for older adults with cognitive impairments. The researchers define caregiver stressors as “conditions, experiences, and activities that are problematic for people; that is, that threaten them, thwart their efforts, fatigue them, and defeat their dreams” (p. 586). They further divide stressors into *primary stressors*, or stressors related to working directly with a care recipient, and *secondary stressors* that occur outside the caregiving role (e.g., conflicts with other family members, job responsibilities, financial pressures). Pearlin et al. (1990) note, however, that both types of stressors are equally powerful in how they may affect caregiver’s health and well-being. Furthermore, these stressful situations can accumulate over time and eventually lead to poor physical and mental health of caregivers. Conversely, the availability of social support and coping resources can help lessen or offset the negative effect of stressors on health outcomes.

This framework has been empirically tested in studies that examined the process of stress among family caregivers (Mitrani et al., 2006; Skaff, Pearlin, & Mullan, 1996). The stress theory, however, has not been applied directly to HCAs from racial and ethnic backgrounds and who provide paid care to older adults with significant health issues. Hence, there is a need to develop a theoretically based conceptual framework to enhance the understanding of mechanisms through which stress affects health in different groups of HCAs.

## **2.6 Summary**

The review of the literature in the field of occupational stress in home care revealed several gaps of knowledge. To date, previous studies have been mainly descriptive in nature, which presents a limited view of the complex dynamics between stress, resources, and health outcomes across racial/ethnic groups. Specifically, less is known whether certain job stressors may be more relevant to one ethnic group than the other, and whether support from supervisors helps reduce negative health outcomes of HCAs who work alone in clients' homes. Further, few studies have relied on theory to compare and contrast how HCAs from different backgrounds experience stress in home care. Less attention has also been given to developing valid instruments to measure stress outcomes, such as burnout, that can be applied to multiple ethnic groups in the long-term care workforce that is becoming more culturally diverse. Even with advancement in statistical tools that allow for this analysis, cross-cultural studies, in general, rarely validate and establish the cross-cultural measurement equivalence of health measures.

Addressing these limitations in the literature will lead to a better understanding of work-related stress and burnout in the home care context and help assess similarities and differences in the nature and consequences of stress among African American and Russian-speaking HCAs. In the next chapter we present the conceptual framework for the study followed by specific study objective, research questions, and hypotheses.

### **3 CONCEPTUAL FRAMEWORK**

In this chapter, we present our conceptual model for the study, which helps disentangle the complex relationships between job stressors, work support, and their associations with health outcomes in African American and Russian-speaking HCAs. This theoretical discussion leads to study research questions and hypotheses.

#### **3.1 Conceptual Model**

To better understand the nature of the stress process among African American and Russian-speaking HCAs, we developed a conceptual model that was adapted from the works of Pearlin and colleagues (Pearlin et al., 1981) and Ensel and Lin (Ensel & Lin, 1991). In essence, Pearlin and colleagues' framework helps explain how exposure to stressful situations or events may lead to adverse health outcomes across different groups, and whether resources can help mitigate these negative health consequences. Importantly, it recognizes that certain groups, such as minority women and immigrants are at a disadvantage when it comes to education, professional status, and financial means. They are also more likely to experience negative life events, such as losing a job, facing a divorce, or going through other challenges. Prolonged exposure to these hardships may put these groups at a higher risk for developing chronic illnesses and mental health problems (Pearlin et al., 2005).

Ensel and Lin (1991) further extended this framework by introducing testable empirical models (e.g., independent, stress-suppressing, buffering models) to capture mechanisms by which stress affects health that they have grouped in two major theories—distress-detering and



coping theories. In this study we focused on the *distress-detering theory*, according to which resources, such as supervisory support, may directly reduce distress, independently of stressors.

Consistent with Pearlin et al. (1981), we conceptualized the process of stress as combining three major domains: stressors, resources, and stress outcomes. We classified stressors (or sources of stress) into *work-related* (e.g., emotional demands, unfamiliar work environment) and *individual* factors (e.g., poverty, violence), whereas work resources consist of *work support* (e.g., supervisory support). Finally, our outcome includes health problems, such as *physical* and *mental* health problems with a particular focus on *work-related burnout*.

The stress process pathways are depicted graphically in Figure 1. Guided by this model, we examined the direct relationship between race (African American and Russian-speaking HCAs) and level of burnout (Pathway 1). It also examines the extent to which experiences of job stress and work support may account for some of the difference in burnout of African American and Russian-speaking HCAs (Pathway 2). We take into consideration age, gender, education, and whether an HCA provides care for a family member (Pathway 3). The proposed model represents the *independent model* (also known as a direct effect model) of the stress process, which suggests that support and stressors may influence health outcomes independently of each other.

This model also examines whether the association between stress levels (i.e., emotional demands and time pressure), work support, and work-related burnout differ between African American and Russian-speaking HCAs (Pathway 4). Finally, this model takes into account the socio-cultural context of home care, where significant numbers of African American and immigrant women provide long-term care for older persons in an urban setting. We use this

conceptual framework to address the study objectives and research questions, which we discuss next.

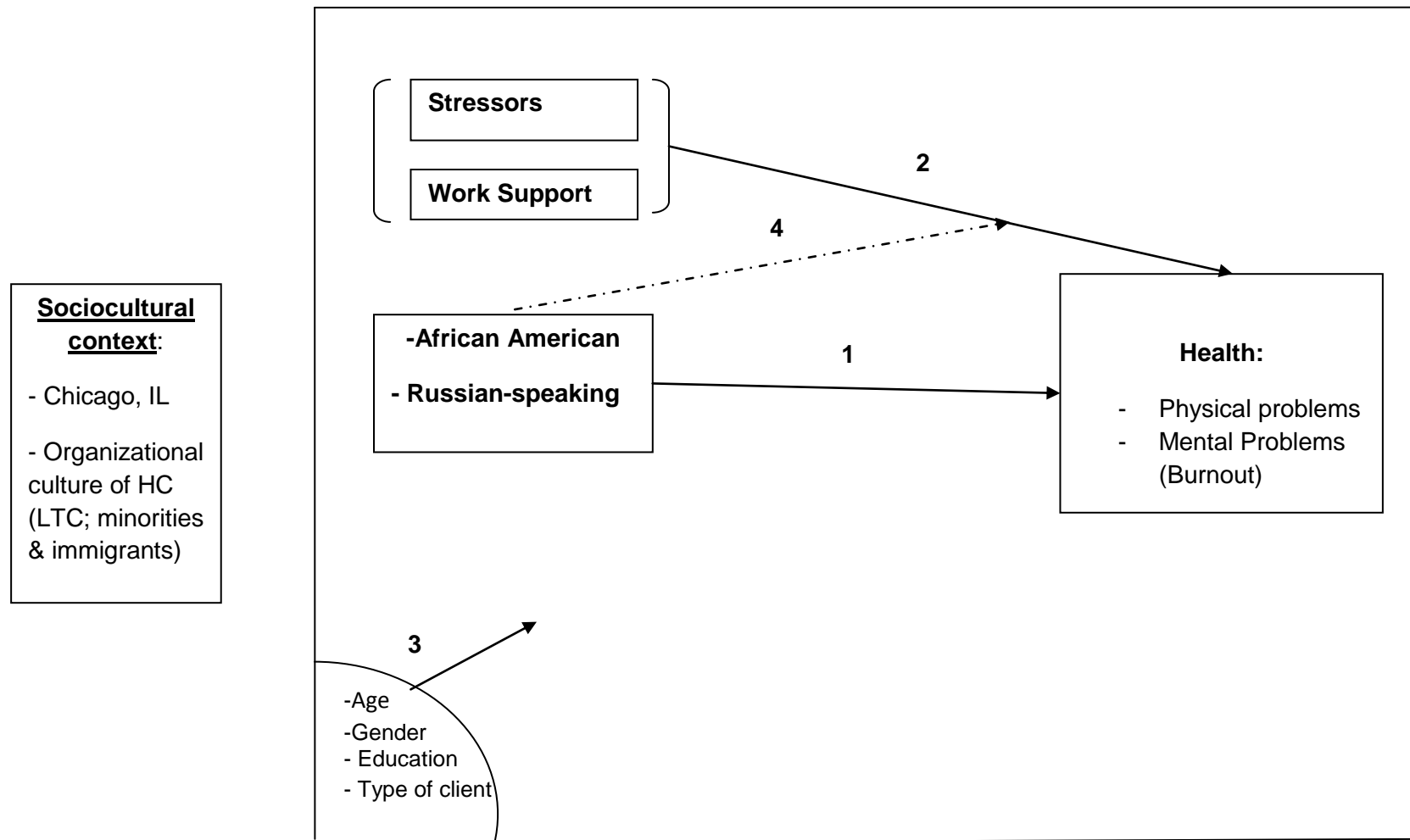


Figure 1. An overall conceptual framework of stress process among African American and Russian-speaking HCAs.

### **3.2 Study Objectives, Research Questions, and Hypotheses**

The main goal of this dissertation was to examine the stress process among African American and Russian-speaking HCAs who provide care to older adults in Chicago, Illinois. The specific research aims included the following:

1. Understand the similarities and differences in the stress process of African American and Russian-speaking HCAs.
2. Examine the structure of work-related burnout among African American and Russian-speaking HCAs and test whether it applies equally well to both groups, and
3. Examine whether Russian-speaking HCAs experience higher levels of work-related burnout than African American HCAs, and if so, what explains the group differences.

#### **3.2.1 AIM1: The Nature of Stress and Its Consequences in Two Groups**

The first aim of the study was addressed through focus group qualitative research, which allowed us to gain a deep understanding of racial/ethnic differences in the process of stress within its three main domains: stressors, resources, and health outcomes. To accomplish this goal, we explored, from the viewpoint of focus group participants, the similarities and differences in how African American and Russian-speaking HCAs perceived stress and psychological health, and whether supervisory support played a role in this process (See Figure 1, Pathway 2 in the Conceptual Model). We addressed the following questions that guided this qualitative inquiry:

- Q1. What aspects of work and personal life do HCAs identify as stressful?
- Q2. How is work support related to emotional health among HCAs?
- Q3. How are job stressors related to emotional health among HCAs?

- Q4. Are there differences in these relationships between African American and Russian-speaking HCAs?

### **3.2.2 AIM 2: The Structure of Work-related Burnout and Its Equivalence in Two Groups**

Because our study participants were from different cultural backgrounds, it was critical to develop a valid and comparable measure of work-related burnout that is applicable for the two ethnic groups. Hence, the second aim of the study was to examine the conceptualized factor structure of burnout among African American and Russian-speaking HCAs and test whether it applied equally well to both groups, using survey data. Burnout (exhaustion in two domains: work environment and client-related work) was assessed using the CBI, which was developed for specific use among human service personnel. To do this, we asked the following research questions:

- Q5. Does the conceptualization of burnout as exhaustion in two domains (work environment and client-related work) apply to HCAs in the context of this study?
- Q6. Is the construct of work-related burnout comparable (or equivalent) among African American and Russian-speaking HCAs?

### **3.2.3 AIM 3: Burnout Levels in Two Groups**

The overall objective for the third aim was to explore whether Russian-speaking HCAs experienced higher levels of burnout than African American HCAs, and if so, what accounted for group differences.

To address this aim we first considered demographic and background variables, such as age, gender, education, and a type of client (whether a client was kin or non-kin), as they were shown to be important characteristics in predicting burnout (See Figure 1, Pathways 1 and 3; also

see p. 15 on the review of the literature regarding these characteristics). We addressed the following specific research question:

- Q7. Do Russian-speaking HCAs experience higher levels of work-related burnout after taking into consideration background and control variables?

Based on previous literature, we expected that HCAs who were younger, female, with more education, and who provided care for a family member would experience higher levels of burnout as compared to those with no such characteristics.

In terms of differences in the levels of burnout in two groups, we hypothesized that Russian-speaking HCAs would have higher levels of burnout compared to African Americans, which was derived from preliminary findings from our focus group research (see Aim 1). Specifically, we expected that Russian-speaking HCAs experienced a higher level of stress and, consequently, were more burned out for two reasons. First, many Russian-speaking participants were highly educated and worked in highly regarded professions, such as medicine or engineering, prior to coming to the United States. As a result, many of them were not physically or mentally prepared to work in home care. And second, compared to African Americans, Russian-speaking HCAs are more likely to provide paid care for their aging parents/relatives who, as HCAs shared, often became completely dependent on their HCAs for help due to deficiencies in language skills and cultural knowledge in the United States.

Next, we examined whether the impact of support on burnout was independent of job-related stressors (See Figure 1, Pathway 2). Guided by stress theory, we empirically tested one of the distress deterrence models—the *independent model of the stress process*, which emphasizes the role of resources to “reinforce and strengthen a person’s psychological equilibrium and emotional stability” and reduce the risk for negative health outcomes independently of external

stressors (Ensel & Lin, 1991, p. 323). We argue that the independent model may be particularly relevant for studying HCAs since their work is inherently stressful as they deal with physical and emotional aspects of their jobs that, to a large extent, due to deficiencies in job resources. In the context of this study, we tested whether HCAs who received adequate resources, such as support from supervisors, experienced reduced occurrences of burnout regardless of the levels of stress.

We asked the following question:

- Q8. Is higher work support associated with higher work-related burnout, controlling for job-related stressors?

Finally, we examined the similarities and differences in how job stressors and work support related to work-related burnout in African American and Russian-speaking HCAs. We examined the following questions:

- Q9. Does the association between stress levels due to emotional demands and time pressure and work-related burnout differ between African American and Russian-speaking HCAs? and,
- Q10. Does the association between work support and work-related burnout differ between African American and Russian-speaking HCAs (See Figure 1, Pathway 4)?

We focused on two stressors, emotional demands and work time pressures, which we believed were particularly relevant to HCAs' vulnerability to burnout. Regarding emotional demands, an HCA may be emotionally affected by certain situations at work, for example, if her client is having a stroke or when a client displays abusive behavior. At the same time, HCAs often have to internalize their emotions and keep up a façade around their clients or supervisors in order to retain their jobs. Time pressure may also contribute to burnout among HCAs as they

may have to work fast (especially, if they have to visit several clients a day) in order to not fall behind in what they have to do.

In comparing the two groups, we did not expect the association between emotional demands, time pressure, and work-related burnout to be different for two groups since both African American and Russian-speaking HCAs performed similar work-related tasks that had to do with the emotional climate of homecare work and time management issues (especially if a worker has to see several clients a day). We also did not know whether the association between work support and burnout was similar or different for the two groups, and therefore, we left this hypothesis open to either possibility.



## **4. METHODOLOGY**

This chapter presents the methodological procedures of this study. We begin with an overview of a mixed-methods research design. We then present the study setting, measures, samples, and qualitative and quantitative approaches to address our research questions.

### **4.1 Research Design—Mixed Methods Approach**

The purpose of this study was to understand the stress process by comparing and contrasting experience of African American and Russian-speaking HCAs. To accomplish this goal, we implemented a mixed methods approach in order to gain a first-hand insight into participants' experience with stress through focus group research and through comparing the levels of burnout between the two groups using survey data. This strategy allows an investigator to collect and analyze data, and integrate both methods at the end of the research process (Creswell & Plano Clark, 2007). Such an approach not only helps understand a research problem better, but also may “convey the needs of groups of individuals who are marginalized or underrepresented” (Hanson et al., 2005, p. 226), which is the case with this study population. Given that our study participants were mostly women from ethnic and racial minority groups working in low-paying jobs, it was important for them to have their voice heard through in-depth research.

In this study we implemented the exploratory sequential design in which data analysis takes place in two distinct phases (Creswell & Plano Clark, 2007). In the first phase, we collected and analyzed qualitative data from our focus group interviews to understand what was going on in the study population and in the second phase, we used this information to develop

research questions and hypotheses that we addressed in the quantitative part of data analysis. We integrated the results of the quantitative and qualitative phases in the discussion section of the dissertation. To facilitate this discussion, we used a conceptual model as a guide that was refined several times through an analysis (See Chapter 3).

We utilized the two-phase approach for two main reasons. First, the preliminary qualitative results were used to inform the quantitative analysis, which led to new research questions that could not be answered with the qualitative data. Second, the qualitative data helped elaborate on the quantitative results and explain some of the findings in the second phase of the study. More importantly, qualitative data helped capture group differences in the process of stress by which stressors affect health. This was not possible to do with the quantitative analysis due to its cross-sectional design that does not allow for examination of causal pathways between the variables of interest. Below we provide a diagram of the procedures used in the study (See Figure 2).

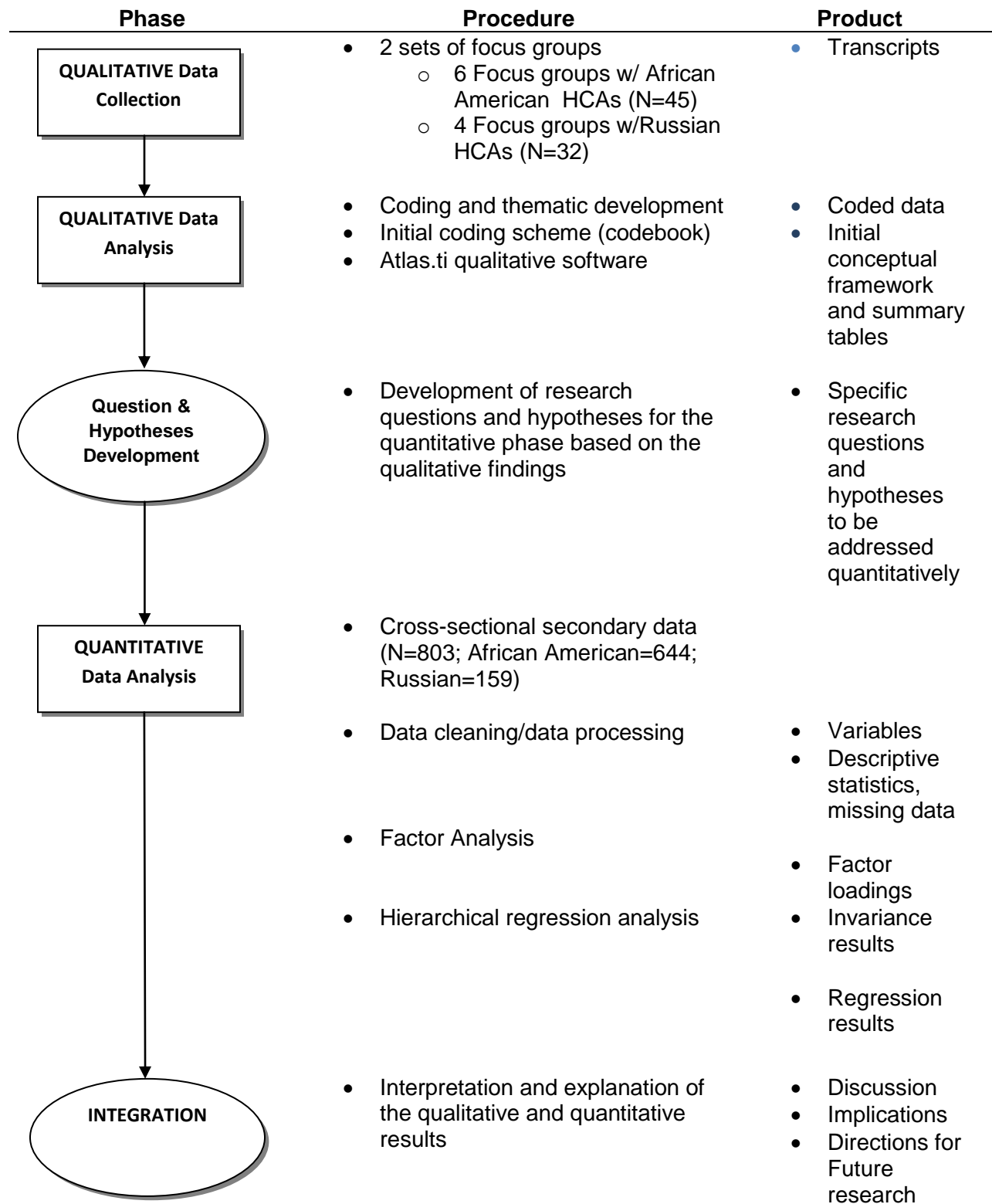


Figure 2. A model for exploratory sequential design procedures.

## 4.2 **Study Setting**

The qualitative and quantitative data for this research were collected from African American and Russian-speaking HCAs working in the city of Chicago. The majority of the HCAs providing care in Chicago are African American women. Approximately 20% of HCAs in Chicago consist of people with limited English-speaking ability, and Russian HCAs are one of the largest ethnic groups providing services to growing communities of Russian-speaking elderly immigrants in the city (personal communication with the director of the CLESE on September 20, 2007). We also note that Russian-speaking HCAs is an all-inclusive term and refers to study participants not only from Russia but also from former Soviet republics and Eastern Europe (e.g., Bulgaria), as well as second-generation Russians.

Home care aides provide housekeeping and personal services (e.g., cleaning, bathing, meal preparation) to older adults who participate in the Community Care Program (CCP) managed by the Illinois Department on Aging. The CCP was founded in 1979 to provide community living for people who may otherwise enter nursing homes by offering in-home and community-based services. To be eligible for in-home care, adults must meet the following requirements: (1) be 60 years of age or older; (2) be an Illinois resident; (3) meet citizenship requirements (US citizen or permanent resident), and have non-exempt assets of \$17,500 or less (excluding home, car, and personal furnishing). Typically, HCAs provide care to older adults who are not related to them, but some of them also take care of family members/relatives while getting paid for it. This is possible because the state of Illinois allows for a consumer-directed option that gives a consumer more flexibility in directing their care, including the ability to hire and pay to HCAs of their own choosing, including family members (Katz Policy Institute of Benjamin Rose, 2009). Home care aides (including those providing care to a family member)

receive mandatory training by their home care agency before they start working and have regular in-service trainings throughout their career.

### **4.3 Qualitative Approach**

#### **4.3.1 Focus Group Recruitment**

Our research team partnered with the Service Employees International Union (SEIU) Healthcare Illinois & Indiana (previously SEIU Local 880) who helped us recruit otherwise difficult-to-reach African American HCAs from multiple home care agencies. The Union's recruitment efforts combined various strategies, such as distribution of flyers, telephone calls, and home visits by the union staff (1,300 flyers mailed, 1,000 flyers distributed, 350 phone calls, and 40 hours of door knocking). In addition, all potential participants received a reminder letter a week prior to the focus groups, followed by a reminder call a few days before the focus groups.

We conducted five focus groups on health promotion issues and one validation focus group (to confirm our depiction of the HCAs' stories), representing a variety of HCAs in terms of age, years of experience, and other characteristics. All focus groups were conducted by Naoko Muramatsu, who was a principal investigator for the study. Valentina Lukyanova was a research assistant who was involved in all aspects of the study. All HCAs in this study were union members. Prior to each focus group, study participants had an icebreaking meal that provided an opportunity to get to know each other before the discussion. Home care aides then read and signed a consent form and completed a brief demographic and health information survey.

We conducted four focus groups with Russian-speaking HCAs nine months after the completion of English-speaking focus groups through a partnership with one of the largest home care agencies in the city of Chicago that employs approximately 1,300 HCAs, of which approximately 230 are Russian-speaking workers that provide care to 710 elderly clients. The

company saw the potential benefits of our research and agreed to have volunteer participation of Russian-speaking HCAs in focus groups during the 8-hour in-service training sessions, as mandated by the Illinois Department on Aging.

During the initial step of our recruitment efforts, we attended the company's two in-service trainings (Russian-speaking HCAs were divided into two groups to accommodate a large number of participants) in the fall of 2008 to make an initial contact with our study population and to assess the interest to participate in the study. We explained the nature of our project to the in-service attendees and answered any questions.

Next, we attended two in-service trainings in the spring of 2009. Before each in-service session (we aimed to conduct two focus groups during one in-service session), our team distributed a description of our project, a short survey to determine whether volunteers are eligible to participate in the study (participants were required to be able to speak, read, and write in Russian) with a sign-up sheet for in-coming HCAs, so that volunteers could sign up for two focus groups scheduled at two different times on the same day of the recruitment.

We were allowed to use 30 minutes at the beginning of each in-service session to introduce our research to Russian-speaking HCAs, answer any questions, and recruit volunteers that met eligibility criteria (based on the results of a screening survey). Those selected to participate in the study were led by our research team to a separate room to have an ice-breaking lunch and to fill out necessary paper work and a short survey. Participants in the morning session remained with us for the duration of the focus group discussion (approximately 60 minutes), whereas those scheduled for the afternoon session returned to the in-service training and were instructed to come back to the designated room in time for the second focus groups.

The guide used for the English focus groups was translated into Russian for these focus groups to allow for comparison between groups (See Appendix C for Focus Group Guide with Russian-speaking HCAs). We did not make stress and burnout central topics of our focus group discussions to make the two sets of focus groups comparable. Our earlier focus groups with African Americans indicated that work stress issues would be a central theme, using the focus group guide that involved health-related questions. Furthermore, participants may not have felt comfortable talking about these issues in a group setting if asked directly. Instead, we decided to ask health related questions and follow up on the questions to probe their work stress. To ensure that the translation captures the correct meaning of the questions in the focus group guide, several native Russian-speakers reviewed the guide and offered suggestions. The guide was revised until no errors in meaning were found in the Russian version. All focus groups were conducted in Russian by Valentina Lukyanova. As with the African American focus groups, we obtained approval from the Institutional Review Board (IRB) prior to conducting research with the Russian-speakers (See Appendix D).

#### **4.3.2 Data Analysis**

Each focus group with African American HCAs was audiotaped and professionally transcribed. Two researchers (Naoko Muramatsu and Valentina Lukyanova) first reviewed initial field notes from focus groups and debriefing sessions. Next, they conducted a line-by-line review of transcripts independently followed by regular meetings to review and revise coding and discuss emerging codes, themes, and concepts. The final product included a coding scheme (or codebook) that contained broad categories and themes with corresponding codes (See Appendix E for codebook and an excerpt of code description).

Russian interviews were first transcribed into Russian verbatim and later fully translated in English and coded by Valentina Lukyanova. To compare the two groups, the same coding scheme used for African American focus groups was applied and expanded to include new codes to analyze data from the Russian focus groups. To capture burnout in our focus group research, we applied the conceptual definition by Kristensen et al. (2005) who described this phenomenon as exhaustion that can happen in specific areas of people's lives (personal life or work life). We also examined whether other domains of burnout, such as cynicism (or indifference towards clients) and inefficacy (or low sense of accomplishment) are relevant to HCAs (Maslach & Jackson, 1981) (see p. 13 for more detail).

To ensure the credibility of study results, we involved one Russian and two English-speaking researchers to code select transcripts from the Russian focus groups. All three researchers (Naoko Muramatsu, Nadine Peacock, and Olga Sorokin) are experienced with qualitative studies. The Russian researcher was involved in several large projects with Russian-speaking immigrants in Chicago. No major discrepancies in coding were found. In addition, we constructed an overview grid that helped us organize codes by theme in each group (Knodel, 1993, 1995) (See Appendix F for the description of the procedure and the grid). According to Knodel (1993, 1995), grids are especially useful in cross-cultural research as they allow for a systematic comparison of themes that emerge from discussions across different focus groups. Atlas.ti facilitated the process of constructing grids. Its features allow displaying quotes associated with a given code and/or combination of codes that can be easily summarized and imported in the grid.



### **4.3.3 Characteristics of Focus Group Participants**

#### **4.3.3.1 Sociodemographic Characteristics**

Table I provides descriptive characteristics of the study participants from a survey administered prior to all focus group discussions as mentioned earlier. The results indicate the majority of HCAs were middle-aged or older women, providing care to a non-family member. We also note differences across the two groups. Russian-speaking HCAs reported a higher number of male employees; they also had higher levels of education, and a higher number of clients they see, both per day and per week. In addition, Russian-speaking HCAs reported, on average, fewer years of work experience in home care (3.5 years) compared to African Americans (7 years).

#### **4.3.3.2 Data on Health and Illness**

Table 1 also shows that both African American and Russian-speaking HCAs had significant health issues. The top five health problems for African American HCAs were hypertension (46.7%), arthritis (34.1%), asthma (26.7%), allergy (26.7%), and eye problems (13.3%). For Russian-speaking HCAs, most common health conditions included ulcer (29%), hypertension (22.6%), eye problems (25.8%), arthritis (16%), and anemia (10%). Furthermore, 80% of African American HCAs had at least one condition and 47% had multiple conditions, up to 7 conditions (4%). Fifty-nine percent of Russian-speaking HCAs had at least one condition and 38% had multiple conditions, up to 11 conditions (2%).

TABLE I

FOCUS GROUP PARTICIPANTS' SOCIODEMOGRAPHIC, JOB AND HEALTH  
CHARACTERISTICS

Variables	Mean or Percent (SD)	
	African American (N=45)	Russian-speaking (N=32)
<b>Age:</b> 18–29	4.4	6.3
30–49	44.4	46.9
50–64	49.0	31.3
65+	2.2	15.6
<b>Gender: female</b>	97.8	78.1
<b>Education</b>		
Some high school	13.3	3.13
High school diploma or GED	44.4	12.5
Some college	26.7	--
Associate's degree	6.7	21.9
Bachelor's degree or more	8.9	62.5
<b>Job tenure</b>		
Home care (years)	7.0 (6.1)	3.5 (3.3)
Current employer (years)	5.4 (4.9)	3.4 (3.3)
<b>Caseload</b>		
Number of clients/day	1.5 (.7)	2.2 (0.8)
Number of clients/week	1.8 (1.3)	4 (2.5)
<b>Type of clients</b>		
Family	24.4	21.9
Non-family	68.9	68.8
Both	6.7	9.4
<b>Health Conditions<sup>1</sup></b>		
Hypertension	46.7	22.6
Arthritis	34.1	16.1
Asthma	26.7	6.5
Allergy	26.7	25.8
Eye Problems	13.3	6.7
Ulcer	8.9	29.0
Anemia	8.9	10.0
Heart	6.7	6.5
Diabetes	4.6	9.7
Urinary Problems	4.4	6.5
Other conditions	8.9	9.7
Smoking every day	31.1	12.5
some days	17.8	18.8
Back pain	64.4	59.3
Knee pain	57.8	46.9
Neck/shoulder pain	55.6	65.6
Arm/elbow/hand pain	35.6	46.9
Hip pain	33.3	65.6

Notes: SD = Standard deviation.

<sup>1</sup>The number of health conditions for African Americans ranged from 0 to 7 (mean=1.89, median=1, out of 13 conditions). The number of health conditions for Russian HCAs ranged from 0 to 11 (mean=0.91, median=0, out of 13 conditions).

## **4.4 Quantitative Approach**

### **4.4.1 Data/Sample**

Participants in the study were HCAs working at one large (Employer A) and one medium sized (Employer B) home care agency located in Chicago. All participants were asked to complete the self-administered survey during an employer based mandatory training at two points of time—summer 2006 (Wave 1) and summer 2007 (Wave 2). For Russian-speaking HCAs, surveys were translated and back translated into Russian by a professional translator. For the purpose of the study, we used the Wave 2 data, collected in 2007. Wave 2 survey included the items that were relevant for this study.

At Employer A, 1197 HCAs participated in the survey, 651 of whom were English-speaking and 185 were Russian-speaking. Employer A had a survey completion rate of 72% (N=731) for English-speaking HCAs and 94% (N=173) for Russian-speaking HCAs. At Employer B, 144 English-speaking HCAs took part in the study, 124 surveys were returned, which represented an 87% completion rate.

After data cleaning, we limited the analysis to Russian-speaking and African American HCAs for a total sample size of 803, of which 159 (20%) were Russian-speaking and 644 (80%) were African American participants (we deleted cases that missed all measurement questions and most of the demographic questions in the survey). Descriptive statistics for the sample are presented in Table 2.

TABLE II

## RESPONDENT GROUP CHARACTERISTICS (N=803)

Variable	Total (N=803)	African (N=644)	Russian(N=159)
	Frequency (%)	Frequency(%)	Frequency(%)
<b>Age</b>			
>35	162 (20%)	131 (20%)	31 (20%)
<35	535 (67%)	410 (64%)	125 (79%)
missing	106 (13%)	103 (16%)	3 (1.89%)
<b>Work Tenure (Years in home care)</b>			
>5 years	282 (35%)	195 (30%)	87 (54%)
<5 years	311 (39%)	260 (40%)	51 (32%)
missing	210 (26%)	189 (29%)	21 (13%)
<b>Gender</b>			
Male	73 (9%)	38 (6%)	35 (22%)
Female	730 (91%)	606 (94%)	124 (78%)
<b>Education</b>			
Less than College	469 (58%)	440 (68%)	29 (18%)
College Degree	334 (42%)	204 (32%)	130 (82%)
<b>Client Type</b>			
Non-family	606 (75%)	498 (77%)	108 (68%)
Family	197 (25%)	146 (23%)	51 (32%)
	<b>Mean (SD)</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>
<b>Emotional Demands<sup>a</sup></b>			
Get in emotionally disturbing situations	0.73 (0.95)	0.53 (0.84)	1.54 (0.94)
Have to hide feelings at work	1.39 (1.40)	1.12 (1.31)	2.47 (1.18)
<b>Time Pressure</b>			
Have to work fast	1.03 (1.16)	0.76 (1.00)	2.08 (1.14)
Get behind in work	0.39 (0.76)	0.34 (0.70)	0.59 (0.92)
<b>Lack of Job Influence</b>			
Have a lot of control over work	1.24 (1.40)	1.91 (1.44)	1.45 (1.22)
Have any control over what HCAs do at work	1.38 (1.38)	1.34 (1.43)	1.58 (1.17)
Have any control over how HCAs do their work	1.15 (1.34)	1.16 (1.40)	1.14 (1.04)
<b>Lack of Predictability</b>			
See new clients before knowing about their behavior	0.71 (1.17)	0.79 (1.23)	0.37 (0.79)
See new clients before knowing about their health	0.81 (1.23)	0.86 (1.27)	0.58 (1.07)
<b>Supervisor Support</b>			
Supervisor cares about HCAs' satisfaction with job	2.89 (1.35)	2.87 (1.40)	2.99 (1.14)
Supervisor appreciates HCAs' hard work	2.84 (1.36)	2.72 (1.42)	3.31 (0.98)
Supervisor frequently talks to HCAs about her job	2.16 (1.40)	2.05 (1.46)	2.60 (1.07)
Supervisor understands if HCAs refuse assignment	2.83 (1.36)	2.78 (1.39)	3.05 (1.20)
Supervisor is available to help	3.26 (1.18)	3.19 (1.24)	3.56 (0.88)
Supervisor treats HCAs with respect	3.35 (1.07)	3.33 (1.10)	3.42 (0.92)
<b>Work-related Burnout</b>			
Find work to be emotionally exhausting	0.92 (1.05)	0.88 (1.06)	1.08 (0.96)
Feel burnt out from work	1.90 (1.22)	1.38 (1.20)	1.53 (1.11)
Feel worn out at the end of the workday	1.90 (2.22)	1.86 (1.25)	2.07 (1.07)
Feel exhausted at the thought of another workday	1.04 (1.10)	1.05 (1.13)	0.97 (0.10)
Feel work drains energy	1.01 (1.11)	.10 (1.12)	1.06 (1.05)
Feel tired of working with clients	0.64 (0.95)	0.56 (0.94)	0.96 (0.96)
Have to deal with difficult clients	1.26 (1.17)	1.22 (1.20)	1.43 (1.07)

<sup>a</sup>All items in the scales have five response categories ranging from 0 ("never") to 4 ("always")

## 4.4.2 Measures

### 4.4.2.1 Work-related Burnout

The dependent variable, *work-related burnout*, was assessed based on the CBI (see p. 13 for more details). In the quantitative phase, we focused on burnout attributed to work environment. The original CBI includes two scales—*work-related burnout* or exhaustion related to work and *client-related burnout* or exhaustion as a result of working with clients—to assess the level of fatigue in the workplace (Borritz et al., 2006). The items from the CBI were adapted for use in the current study to assess psychosocial characteristics of home care work environment. Here, the work-related burnout is measured with five items by asking participants how often they (1) find work to be emotionally exhausting; (2) feel burned out from work; (3) feel worn out at the end of the workday; (4) feel exhausted in the morning at the thought of another workday; and (5) feel work drains their energy. The client-related burnout is measured with two items by asking respondents how often they (1) feel tired of working with clients; and (2) have to deal with difficult clients.

We conducted the MCFA to test two-factor models of work-related burnout that included work and client domains separately and a one-factor model that combined the two domains. This analysis showed that the one-factor model provided a much better fit to the data compared with the two-factor models. Importantly, the one-factor model was also found to apply equally well to African American and Russian HCAs (MCFA procedures are described in Chapter 5). Results suggested that work and client domains were inseparable for HCAs who provide care in their clients' homes. Based on this finding, we then created a composite scale of work-related burnout by summing all individual items of the two scales that was used in the regression analysis to compare the levels of burnout and to assess group differences in the impact of stress and work

support on burnout. The response choices went from 0 (never) to 4 (always), with a possible range of scores from 0 to 28, where higher scores indicated higher levels of work-related burn (Regression analysis is presented in Chapter 6).

#### **4.4.2.2 Job Stressors**

Four dimensions of job stressors included in the Copenhagen Psychosocial Questionnaire (COPSOQ) were addressed: emotional demands, time pressure at work, job influence, and the lack of predictability. The original questionnaire was developed in Denmark (Kristensen et al., 2005) to assess the psychosocial work environment of employees in the human service sector (e.g., prison, hospital, social security office) (Borritz et al., 2005). This was motivated by growing concerns with workforce retention in the human service sector in Denmark in mid-1990s after a large number of employees who experienced burnout started to take a long leave of absence due to illness or retire early (Borritz, 2006).

The original COPSOQ scales were developed using various approaches and methods, such as factor analysis, differential item functioning, and qualitative methods (Borritz et al., 2005). The COPSOQ includes well-established concepts and theories that were borrowed from the job characteristics model, Michigan organizational stress model, and the demand-control-(support) model, among others (Kristensen et al., 2005). Furthermore, most COPSOQ questions consist of established instruments (e.g., the “Setterlind Stress Profile” (Setterlind & Larsson, 1995), the “Whitehall II Study” (Marmot et al., 1991) or the “Job Content Questionnaire” (Karasek et al., 1998), and therefore provides a good assessment of psychosocial work environment factors.

Three versions of COPSOQ exist: a long scale typically used by researchers, a medium scale, used by environment professionals, and a short scale, used in workplaces. A second version of the COPSOQ survey (COPSOQ II) was later released that included existing as well as

revised and updated scales. The measures for this study were adapted from the original COPSOQ scales, using a short scale for emotional demands and time pressure, and a medium scale for job influence and the lack of predictability. The frequency of job stressors was assessed on a five-point scale from 0 (never) to 4 (always).

#### **4.4.2.2.1 Emotional Demands**

Emotional demands (also known in the literature as qualitative demands) refer to emotional and cognitive pressures at work that have to do with clients. Some examples of these pressures may include dealing with angry clients, feeling afraid, or having to hide emotions (Christiansen & Nielsen, 2010). Emotional demands were measured by a scale consisting of two Likert-type statements. Respondents were asked to rate whether their work puts them in emotionally disturbing situations, and whether their work requires hiding feelings. The composite scale was created by summing these two items, with a range of scores from 0 to 8, with higher scores indicating higher pressure from emotional demands. Principal confirmatory factor analysis provided support for the scale's unidimensionality.

#### **4.4.2.2.2 Time Pressure**

Time pressure (or quantitative demands) has to do with the amount of work to be done. Workers may feel time stress when task demands cannot be accomplished within a specified time limit (Kristensen et al., 2004). Time Pressure was also measured on a two-item scale by asking participants to indicate how often they (1) have to work very fast; and (2) get behind in their work. The total score was calculated by adding up the two items for a range from 0 to 8, with higher scores representing higher time pressure. Principal component factor analysis retained one factor confirming the unidimensionality of the scale.

#### **4.4.2.2.3 Lack of Job Influence**

Lack of job influence refers to perceptions of restricted autonomy at work. Low-level of decision making or lack of freedom to decide on work schedule or work-related tasks can lead to exhaustion. Job influence was assessed with a three-item scale by asking participants whether they (1) have a lot of control over their work; (2) have any control over what they do at work; and (3) have any control over how they do their work. The items were reverse coded, with higher scores indicating less influence at work. The total score was summed, with a range of scores of 0–12. Principal component factor analysis supported unidimensionality of the scale.

#### **4.4.2.2.4 Lack of Predictability**

Lack of predictability or having to work in an unfamiliar environment is another factor that may cause stress. We assessed lack of predictability by asking participants how often they have to (1) see new clients before getting information on their behavior; and (2) see new clients before getting information on their health. The total score was added up, ranging from 0 to 8, with higher scores representing less predictability in the workplace. Principal component factor analysis showed that lack of predictability emerged as one factor.

#### **4.4.2.3 Support from Supervisors**

Support from supervisors has to do with management style and relationships with supervisors at work (Christiansen & Nielsen, 2010). Support from supervisors included 6 items assessing the extent to which supervisor (1) cares if HCA is satisfied with her job; (2) appreciates her hard work; (3) frequently talks with her about how well she is doing; (4) understands if she refuses an assignment; (5) is available to help when she has a problem; and (6) treats her with the respect that she deserves. The response categories ranged from 0 (never) to 4 (always). The total



score was summed, with a range of scores from 0 to 24. Principal confirmatory factor analysis provided support for the scale unidimensionality.

#### **4.4.2.4 Background Characteristics**

We examined three main background variables in this study. These were race, education, and type of client. Below we provide a detailed description of each.

#### **4.4.2.5 Racial/Ethnic Group**

We selected African American and Russian-speaking HCAs, the two groups of interest for our study, and excluded all other races from the original sample (consisting of 1,030 respondents). To identify these two groups, the variables that we used were race (the response categories were “Black or African American,” “American Indian/Alaskan Native,” “Asian,” “Native Hawaiian or Other Pacific Islander,” and “White”) and group membership (the response categories included “English,” “Russian,” and “X”<sup>1</sup>). Race was coded as follows: African American = 1, Russian-speaking = 0.

#### **4.4.2.6 Education**

In the study survey, education is measured by level of formal schooling completed, and consists of the following response categories: 8th grade or less, some high school, high school diploma, GED, some college, associate’s degree, bachelor’s degree, more than bachelor’s. We coded education as 1 = college education; and 0 = less than college.

---

<sup>1</sup> “X” stands for a home care agency the name of which we wanted to keep anonymous. All respondents from this agency were English speaking.

#### **4.4.2.7 Type of Client**

The original response categories for type of client an HCA provides care for were as follows: “family member,” “non-family member,” and “both.” We recoded this variable into a variable with fewer categories by combining the categories “family member” and “both.” We coded type of client as 1 = non-family member; and 0 = family member.

#### **4.4.2.8 Control Variables**

We also included two control variables in the study. These were gender (female = 1, male = 0), and age that we used both as a continuous variable in descriptive analyses and as a categorical variable in regression analysis (1 = more than 35 years of age and 0 = less than 35). Given that many respondents did not answer the question about their age (more than 10% are missing), we created an extra category to indicate missing values in categorical age in order to retain information.

#### **4.4.3 Data Preparation and Preliminary Analysis**

The data preparation phase involved running simple descriptive analyses to ensure accuracy of the data. More specifically, we checked to see whether any values were inconsistent or out-of-range. We also examined patterns of missing data. This analysis revealed that few cases were missing for most of the questions used in the analysis (less than 10% in each case). Given the low percentage of missing data and low correlations between variables used in the study, it is justifiable to use simple strategies to address this issue, such as single imputation and mean substitution (Scheffer, 2002). We used STATA 10 to prepare data.

#### **4.4.4 Analytic Strategies**

##### **4.4.4.1 Principal Component Factor Analysis**

We validated the job stressors and work support scales in our study by conducting factor analysis. In particular, we decided to use principal component analysis, a data technique that retains as few factors as possible for a given scale (Child, 2006). We chose this approach since all the scales in our study have been developed based on theory and been well-established in the field of occupational stress (versus exploratory factor analysis, the goal of which is to discover a factor structure of a measure).

To make results more interpretable, we used the varimax orthogonal factor rotation. Two main criteria were used for retaining factors: (1) Kaiser-Guttman Criterion Rule, according to which only factors with eigenvalues greater than 1 can be considered common factors; and (2) the Scree Test that provides a visual image of the cutoff point for retaining principal components (Child, 2006). Factor loadings with values less than 0.30 were removed from the analysis.

##### **4.4.4.2 Multigroup Confirmatory Factor Analysis**

The purpose of the MCFA was to develop a valid and comparable measure of work-related burnout that is applicable for both African American and Russian-speaking HCAs, based on the recommendations provided by Byrne (Byrne, 2001; Byrne, 2004). The sample size included 803 cases in the MCFA analysis. We used single imputation on each missing item of the burnout factor. In the first stage of the MCFA, we established a measurement model that provided a good fit to both samples of HCAs. In the second stage, we tested whether the factor structure applied equally well to both groups by identifying items that contributed to non-equivalence. We used AMOS 19 to perform multigroup confirmatory factor analysis of work-related burnout. We discuss this procedure in more detail in Chapter 6.

#### **4.4.4.3 Regression Analysis**

After establishing a valid and comparable measure of work-related burnout across African American and Russian-speaking HCAs, we used a composite scale of work-related burnout (based on a sum of all individual items of the burnout factor) to address the quantitative questions in phase 2 of this research (Van der Ark & Bergsma, 2010).

In regression analysis, we used mean substitution to deal with missing data. Specifically, we replaced missing data in an item in the scale with the mean of the non-missing response of the same person for that item. If more than one item was missing for the scale, those values were left as missing.

Since in regression analysis we evaluate several specifications, we determined that keeping the number of observations the same across all the specification would provide a reliable comparison of regression results. After running the various regression models, the number of observations varied from 739 to 803. To keep the number of observations the same across all models, we limited our sample to 739 observations (See Appendix H for the respondent group characteristics, N=739). We don't think that the deletion of these observations creates a systematic bias in our results as the deleted sample (N=64) had a similar distribution to the sample that was retained for analysis. For example, out of 64 deleted cases, 52 (81%) were African American and 12 (19%) were Russian-speaking HCAs. About 25 respondents (43%) had a college degree, while 33 (57%) reported no college education. Finally, 51 HCAs (80%) provided care to a non-family member and 13 (20%) cared for a family member.

We first conducted bivariate analyses (t-tests and correlations) to examine any group differences in the characteristics of African American and Russian-speaking HCAs. Next, we performed hierarchical multiple regression to examine the association of demographic and

background characteristics, work-related stressors, and supervisory support with work-related burnout in both groups. We chose this approach because it has been used to test specific hypotheses that have been developed based on theory. In this approach, the order of variable entry depends on the hypotheses being tested and requires a thoughtful input by the researcher in the early stages of the study. In contrast, in two other common types of regression—simultaneous regression, in which all of the predictors are entered at once, and stepwise regression, where predictors are selected based on statistical analysis—researchers typically try to “explore and maximize prediction” without any particular theoretical considerations (Petrocelli, 2003).

#### **4.4.4.4 Variable Entry in the Regression Analysis**

To examine which group (i.e., African American or Russian-speaking group) experienced higher levels of burnout, we first started with a simple base model of work-related burnout on race (since the main research question is to examine group differences in the levels of work-related burnout), corresponding to Pathway 1 in the conceptual model. We use the following equation:

$$Y = \beta_0 + \beta_1 \text{African} + e \quad (1)$$

where  $\beta_0$  is the intercept, or mean level of burnout for Russian-speaking HCAs and  $\beta_1$  is the intercept for African American group relative to the Russian group. We used the  $p$ -value to determine any significant differences in the two groups.

Building upon the based model, we added, one-by-one, age, gender, education, and type of clients in Models 2 through 5 (Pathway 3 in our conceptual model). Given the exploratory nature of the study and the fact that these variables have been established in the literature to influence the risk of burnout (Maslach, Schaufeli, & Leiter, 2001) (also see Chapter 3 of this

dissertation and p. 15 on the literature review highlighting the importance of these characteristics), we decided to test them first.

$$Y = \beta_0 + \beta_1 \text{African} + \beta_2 \text{Age} + e \quad (2)$$

$$Y = \beta_0 + \beta_1 \text{African} + \beta_2 \text{Age} + \beta_3 \text{Gender} + e \quad (3)$$

$$Y = \beta_0 + \beta_1 \text{African} + \beta_2 \text{Age} + \beta_3 \text{Gender} + \beta_4 \text{Education} + e \quad (4)$$

$$Y = \beta_0 + \beta_1 \text{African} + \beta_2 \text{Age} + \beta_3 \text{Gender} + \beta_4 \text{Education} + \beta_5 \text{Client} + e \quad (5)$$

In the next set of regressions, to assess the association between stressors and work-related burnout in two groups, we entered emotional demands and time pressure at work in Model 6, as they are at the core of client-related work (Clausen et al., 2012; Nielsen et al., 2009). Focus group preliminary results for this study especially highlighted the significance of HCAs' emotional burden in caring for older people. In Model 7, we added lack of job influence and unpredictable work environment, followed by supervisory support (Model 8), as other factors that may influence burnout (also see Pathway 2 in our conceptual model) (Borritz et al., 2005). The order of entry for lack of job influence and unpredictable work environment was arbitrary, since their influence on work-related burnout can be equally important.

$$Y = \beta_0 + \beta_1 \text{African} + \beta_2 \text{Age} + \beta_3 \text{Gender} + \beta_4 \text{Education} + \beta_5 \text{Client} + \beta_6 \text{Emotional Demands} + \beta_7 \text{Time Pressure} + e \quad (6)$$

$$Y = \beta_0 + \beta_1 \text{African} + \beta_2 \text{Age} + \beta_3 \text{Gender} + \beta_4 \text{Education} + \beta_5 \text{Client} + \beta_6 \text{Emotional Demands} + \beta_7 \text{Time Pressure} + \beta_8 \text{Influence} + \beta_9 \text{Predictability} + e \quad (7)$$

$$Y = \beta_0 + \beta_1 \text{African} + \beta_2 \text{Age} + \beta_3 \text{Gender} + \beta_4 \text{Education} + \beta_5 \text{Client} + \beta_6 \text{Emotional Demands} + \beta_7 \text{Time Pressure} + \beta_8 \text{Influence} + \beta_9 \text{Predictability} + \beta_{10} \text{Support} + e \quad (8)$$

To examine whether the association of emotional demands, time pressure, and job support with burnout was similar or different between the two groups, we introduced interaction terms in our regression equations. Specifically, the interactions of race and emotional demands,

race and time pressure, as well as race and supervisory support were entered in the ninth and final model (Pathway 4 in our conceptual model). The  $\beta$  coefficient for interaction terms indicates how the relationship between each of the stressors, support, and work-related burnout varies across race groups. The  $p$ -value helps determine whether African American group is significantly different from the Russian group. If  $p$ -values turn out to be non-significant, it is an indication that the association between stressors and support on burnout are no different for the two groups.

$$Y = \beta_0 + \beta_1\text{African} + \beta_2\text{Age} + \beta_3\text{Gender} + \beta_4\text{Education} + \beta_5\text{Client} + \beta_6\text{Emotional Demands} + \beta_7\text{Time Pressure} + \beta_8\text{Influence} + \beta_9\text{Predictability} + \beta_{10}\text{Support} + \beta_{11}\text{AfricanXQualitative} + \beta_{12}\text{AfricanXQuantitative} + e \quad (9)$$

$$Y = \beta_0 + \beta_1\text{African} + \beta_2\text{Age} + \beta_3\text{Gender} + \beta_4\text{Education} + \beta_5\text{Client} + \beta_6\text{Emotional Demands} + \beta_7\text{Time Pressure} + \beta_8\text{Influence} + \beta_9\text{Predictability} + \beta_{10}\text{Support} + \beta_{11}\text{AfricanXQualitative} + \beta_{12}\text{AfricanXQuantitative} + \beta_{13}\text{AfricanXSupport} + e \quad (10)$$

Because we test several model specifications in our regression analysis, we also report Akaike's (1987) information criterion (AIC), which helps determine the model with the optimal fit. This is done by selecting a regression model with the lowest value of AIC (among the 10 models that we compare in this study).

## 4.5 Summary

In this chapter we outlined strategies for analyzing qualitative and quantitative data and discussed how these two methods will be integrated, using the exploratory sequential design. The following three chapters provide study results: Chapter 5 presents findings from focus group data; Chapter 6 provides a cross-cultural validation of measures of work-related burnout in two

groups of HCAs; and Chapter 7 presents regression results on group differences in the levels of work-related burnout, and the impact of stressors and work support on the study outcome.



## **5. QUALITATIVE RESULTS: THE STRESS PROCESS AND HEALTH IN AFRICAN AMERICAN AND RUSSIAN-SPEAKING HOME CARE AIDES**

This chapter presents qualitative results based on the focus group discussions with African American and Russian-speaking HCAs. The main objective of this chapter is to understand the similarities and differences in the nature of stress and its consequences in African American and Russian-speaking HCAs, and the role of work support, i.e., the stress process. Specifically, we examined (1) what factors contribute to stress, (2) how stress contributes to mental health outcomes (such as burnout), and (3) how resources (e.g., work support) play a role in this process. Findings from the qualitative data analysis helped with the quantitative phase of the study to examine the construct of work-related burnout and explain the statistical results in more depth.

### **5.1 Sources of Workplace Stress**

Stress emerged as a central theme across all our focus group discussions, regardless of the topic discussed. African American and Russian-speaking participants report multiple stressors that they encounter in their jobs, as they travel to unknown and unsafe neighborhoods to see their clients that may compromise their personal safety, and face dangers in a client's home associated with cluttered or obstructed areas, small spaces, pets, toxic cleaning supplies, and no safety precautions. Most stress, however, comes from working directly with clients who have varying health problems and circumstances.

For African Americans, having to help clients who are chronically ill, bedridden, overweight, with bad hygiene, bed sores, or cognitive impairments is stressful, especially if HCAs are not properly trained and work without necessary equipment or precautions. Many of

them are not informed in advance on clients' serious health conditions or behavioral problems by the agency. As a result, they often feel unprepared to handle clients or unexpected situations at work. According to one participant:

If it's an AIDS patient or diabetic, or a patient who sits at home or a patient [who] just came out of the nursing home. The situation I'm walking into... It makes me feel that I want to be there because I like the job, but it stresses me out.

Another stressful aspect of their jobs is having to work with older adults who may have difficult personalities. Some clients get attached to their HCAs and demand constant attention from them. Other clients fail to disclose important health information to their aide, for example, a change in medicine or incontinence problem, which is critical for proper care provision. Yet, others treat their workers with little respect, as the following quotes illustrate:

People think we're so low on the totem pole, we are nothing, and we do nothing. But we have to take a lot of abuse. .... Some [clients] are very mean. And when they get sick, they get really worse.

I had this client. She had me so stressed out! When I come into her house, I would pray before I go in the door. And so on this particular day I came, she said alright, I want you to clean this oven today. I say yes, ma'am. I got ready to clean the oven, she went in there and got me a flashlight, got me this little bitty brush. And then gave me this big old dress to put on. And told me I want you to get all them corners in there. She say, and I'm like: "Mhmm. Mhmm." So that's a maid. And she stand up here like this. (motions) Watching me...

Family members that live with clients or come to visit may pose yet another problem. Some may take advantage of HCAs by asking them to do their own household chores, such as cooking, cleaning, and laundry. Others may create stressful situations that may put elderly clients at risk for abuse:

My clients are not related to me, but I get stressed about them. One of my client's sons is an alcoholic. He talks to her bad, has her checkbook... And he gets mad and tells his mother to shut up and some days I go and she'll say he was mad at her so he did not feed her last night.

Russian-speaking HCAs, on the other hand, attribute stress mainly to their clients' emotional and mental health problems. Many of their clients are older immigrant going through a difficult adjustment to living in the United States. Being away from home, from their accustomed way of life, they often feel lonely and abandoned in the host country, as their children may not be around due to their own career and childcare responsibilities. Home care aides often become the only source of socialization and support available for clients that may, however, become burdensome for these aides:

My client's depression affects me greatly. I am trying so many things—to take her out, to talk to her and to distract her from her illness. And I have noticed if she has not talked to her daughter in a long time she becomes angry. As soon as her daughter calls her, she immediately becomes nice and cheerful... But it all affects us... And she is waiting and waiting [for her daughter to call]...

She [client] herself is 88 years old and [she tells me] about her mom and how she was dying and how she was taking care of her. And I already heard it and I do not know where to go, and I go to the kitchen, and I go to the bathroom. How can I disappear and not listen to all of this? And it is every day. And I go to her for 20 hours and you listen to her every day. And next time [I tell her], "Maria<sup>2</sup>, leave me alone. My head is spinning from all these stories!

In addition to client work, both groups frequently mention injuries in the area of back, hips, knees, or legs that happen as a result of client-related activities and a lack of training to properly handle some of these physical tasks, involving pushing or pulling a client. One participant says:

This lady she was bedridden. And I wasn't trained how to get her out the bed. And so, I had got her on the pot and I was trying to get her up off the pot, not paying attention that I'm standing on her gown, I'm straining myself trying to get her off the pot. And put her back in the bed. So I hurt my hip (African American participant).

---

<sup>2</sup> All the names have been changed to protect study participants' and their clients' entity.

Another one comments:

We clean, cook, do laundry—all of it is physical labor. And as a result of this physical labor we have pain in the back, knees, people are standing—and this is all have to do with physical labor ... of course, these are pains in the back, pain in the legs, varicose veins... (Russian-speaking participant).

As HCAs handle demanding and challenging tasks at their jobs, they all agree that their compensation and benefits are insufficient for the work they do. According to one African American participant: “It ain’t enough money that they giving us. That is why we are stressed.” Another aide comments: “healthcare is so expensive, so you really can’t afford it.” For Russian-speaking HCAs not having health insurance “is the scariest thing” in the United States. Coming from the countries of the former Soviet Union where basic health care is available to all, the US healthcare system is perceived as brutal: “... you do not know what is going to happen with you. And you drive a car, and anything can happen in life. And this is it—you do not have anything.” Given the fact that immigrant clients are eligible for various state and federal benefits (e.g., Medicaid/Medicare, the Supplemental Security Income, and others) as many of them came to the United States as political refugees, Russian-speaking workers who do not receive benefits and who provide care to those that do, feel particularly disadvantaged: “I do not know; this is wrong. We work with elderly and they have medical and we have nothing. And we won’t have anything suitable even when we retire.”

Russian-speaking HCAs who are educated and who have worked in professional fields prior to coming to the United States feel this work is not appropriate for them: “I worked with my brains in Ukraine and here I work with my hands. I was the director of the plant in Ukraine and I had 750 employees, and what do I do now?”

## 5.2 Sources of Stress in Personal Lives

While African American and Russian-speaking HCAs have common stressors in their work environment, sources of stress in their personal lives are quite different. African American participants across all focus groups share stories of living in poor urban neighborhoods and facing challenging family circumstances, such as frequent violent or gun-related deaths in the family and having to raise children without a male partner, as the following quotes illustrate:

I lost my mom. I say what about 4 years now, but I never got closure because we don't know what, the doctor didn't even know what happened... And then I lost my brother...he got shot 5 times on the front porch and it's just a lot of back to back and he died in my arms, so that stays with me a lot of times, I think it over a lot.

My biggest stress is how I'm gonna raise four motherless children. My daughter's children [her daughter passed away]. And that's the biggest stress on me because they a new generation. They are not like my kids. (laughs) And I be stressed out a lot.

Financial problems add to the stress they deal with on a daily basis. Most of these women struggle to pay their bills while questioning: “how you gonna pay for your daughter's college education?” This constant daily survivorship to make ends meet makes these aides feel as if the society failed them in many ways:

You know what, I really think it's a lot of stress. We go through stress with society. We go through stress because we can't sometime... it's hard to survive. We don't have what we need, insurance stinks. You know they take all this money out of my check and it's not worth the paper that it's written on.

Russian-speaking HCAs have a different set of circumstances that they identify as stressful in their personal lives. Most describe immigration experience as a difficult transition that requires “*starting everything from the beginning.*” This is particularly difficult for those immigrants that came to the United States at an older age:

I came here when I was 59 and my wife was 56. I did not know a single word in English; I could neither read nor write. I arrived at the airport and got a stamp in my passport and do whatever you want. Someone was supposed to meet us there but no one came because our flight was late. We were waiting with my wife for 2 hours, you know, as if we were nobodies. It was so scary!

The immigration process has affected all of us, all of us to some degree. You come here, you try to adapt, everything looks so strange and you become so scared, how? How can you settle here, where can I go and work? How can I live further? I had such stress—it was horrible!

In addition to adjustment issues, many report that their families are incomplete in the United States, as their children and relatives stayed behind and contribute to more worries and anxiety about their loved ones back home:

My children stayed in Ukraine, two granddaughters, a daughter, and a son in law. I am here with my husband, and this is very hard. I am always worried how they are, what they do. It also affects my health, it affects it really hard. Especially, when someone gets sick... Indeed... It is a horrific situation.

Other immigrant workers, on the other hand, attribute stress not so much to their immigration experience as to their limited English-speaking ability: “I do not know, but immigration did not scare me. I feel the worst about not knowing the language. Not because it is a different country. But the language—that you cannot ask, you cannot tell—this is hard...” Given the isolated nature of their work and few opportunities for socializing outside their families, these workers do not advance in English-speaking skills and cannot find jobs outside home care despite the fact that many are highly educated. One participant summarizes:

We do not have socializing here. I know the [English] language a little bit but I do not socialize and I forget. When you work with the Russian-speaking elderly, they have lived here for 25 years. And besides “ok” and “hi” she does not know anything [in English]. I come to her: “Hi Maria”—then she will respond to you “hi.” But it does not go beyond this. She has been here for 25 years and she does not have any clue... nothing... So, how can we know [English], and we spend the whole day at work [with Russian-speaking older adults]. And at my age, what can

you do? You come home and you think about what to eat and you want to go to bed—you do not think about studying. Nothing settles in your head at this age.

### **5.3 Stress, Work Support, and Work-related Burnout**

To understand how stressful situations contribute to health problems in African American and Russian-speaking HCAs and the role work support plays in this process, we used our conceptual model (refer back to Figure 1) to guide the qualitative analysis. According to this model, stress accumulates over time, and if no resources are available, it may lead to serious health problems (Pathways 4 and 5 in the model). In home care, support from supervisors is an important resource for HCAs, as supervisors oversee assignments and deal with issues arising in daily work. Job support can have a positive effect on HCAs' mental well-being, such as the feelings of being appreciated and cared about, and reduce the negative influence of job stress on health. Lack of support, on the other hand, can lead to feelings of instability, lack of control, and ultimately contribute to more stress and exacerbate emotional problems.

While some of the African American and Russian-speaking participants report having positive experience with their supervisors, others feel that their supervisors focus more on administrative tasks and are too detached from what is happening in clients' homes, as most communication between supervisors and HCAs takes place over the phone. Several participants share supervisors' lack of sensitivity in times of crisis, for example, when a client passes away, and an HCA is going through a grieving process: "...I had a client pass on me; they [referring to a supervisor] only ask you, well, how she die or he die? You know, do you want another client?"

Others express the need for supervisors to become more proactive when it comes to explaining to clients what HCAs' duties entail, so that clients do not ask their helper to go beyond what is outlined in the work plan (for example, HCAs frequently get requests from their

clients to move heavy furniture or wash the outside windows on high floors). Additionally, HCAs feel that they lack support from their supervisors in working with clients who have cognitive problems. One Russian-speaking participant who cared for a client in advanced stages of dementia shares her traumatic experience when a client wrongfully accused her of stealing when in fact, the client misplaced her items herself:

My client's husband died and her disease progressed. And everything started to disappear. And most importantly, these were little things: her handkerchiefs disappeared and then I found them hidden behind the plates in the cupboard, then shoe spoons disappeared and I also found them. It was so psychologically difficult for me that I was scared to death to work with other clients and I was scared to death that if they did not find something, I would have a stressful situation. And if supervisors that knew about their conditions warned [us] and asked their children to call and I am not saying to apologize but to support us in this situation—this is very important. Because you feel as if dirt has been poured all over you!

Stress in work and personal lives coupled with a lack of support from supervisors can result in burnout and poor mental health among HCAs. The way burnout manifests itself is through mental and physical exhaustion (Kristensen et al., 2005), cynical attitude towards clients, and reduced efficiency at work (Maslach et al., 2001). Many focus group participants show clear signs of mental exhaustion, mainly, as a result of working with clients. For example, one African American participant describes her work as “the weight of taking on somebody else's health.” Another one feels as if her client “wears [her] down.” Yet another participant feels like she never gets a break from her job because she cannot leave her client alone. Russian-speaking HCAs across the focus groups frequently use the terms “tense,” “tired,” and “exhausted” when they describe their experience with certain types of clients. Several Russian-speaking participants even refer to their clients as “energy vampires” that they believe feed off their energy and leave them completely drained at the end of the work day. At the same time, they rarely set boundaries with their clients out of fear of losing their job. One participant shares that she has to keep her



feelings bottled up inside at work but eventually she takes out her anger on her own family and friends.

Some focus group participants reveal physical symptoms associated with burnout, such as high blood pressure, under- or over-eating, and difficulties sleeping. According to one African American participant, “My blood pressure is not high. But she [client] is getting me there.” Several Russian-speaking HCAs report serious digestive problems and symptoms of eating disorders as a result of stress:

When my nerves let me down I start eating a lot, and then my stomach starts hurting and my intestines and I start feeling very bad. Some people cannot eat at all but I eat everything—cold, hot—I will clean up the fridge. And when I feel that I cannot breathe, I start getting calm” (Russian-speaking).

Prolonged physical and mental exhaustion eventually leads to poor quality of work, as burned-out employees become more impatient, frustrated, and even cynical when caring for their clients:

...you’re tired. You know and you already are stressed out but lately what I’ve been doing to keep from constantly arguing with her is I’ll leave. I’ll be like I’ll see you later. You know because the stress level is up here. And you know (laughs), I told her one time, I says that’s why people be abused and get put in the basement” (African American participant).

She did make me raise my voice because I had it up to my throat (Russian-speaking).

While both African American and Russian-speaking HCAs report participating in different health activities, such as exercise or diet to manage stress, those that feel burned out tend to neglect their health especially in times of distress when they get tired and overwhelmed at their jobs and face financial pressures at home. The following quotes provide examples of this:

[We have] no money, work is minimal. I would be happy to go and treat something, but I do not have money for that. The job that we have is not enough. You do not have enough for your apartment, for your living expenses, rent is

horrible—and how can you worry about health? You need to pay the bills and then worry about your health! (Russian-speaking participant).

When I get off work, I be just ready to go [home]. Yeah, I be tired. I'm not gonna kid you. I know I need to exercise and all of that stuff, I don't do it because when I get through, I be tired. And then I'm in my 40s and my whole body is changing. So when I get off work I just be exhausted. It just takes a lot out of me." ... (African American).

In some cases, the emotional strain of a job pushes some HCAs into thinking of leaving home care as they do not have the ability to tolerate stress any longer:

I was really going through [a tough time] with my job at the beginning, up until I say this last year, God! I was so upset, every day I left and I said I'm not going back, I ain't going back up in there. No more. It was just almost overwhelming (African American participant).

They [clients] have aged and I have aged. Their nerves have become like Olympic calmness and I feel the opposite, I have had enough of all of this! (Russian-speaking participant).

## 5.4 **Summary of the Results**

Guided by a stress process framework, we explored the interplay among stressors, health, and work support among HCAs. African American and Russian-speaking participants reported varying causes of stress in their personal lives due to differences in culture and life experiences. African American participants faced stress related to living in poor urban neighborhoods and dealing with poverty, violence, and family issues on a day-to-day basis. Russian-speaking HCAs, on the other hand, experienced stress as a result of immigration and its consequences: downgraded occupational mobility, slow adjustment, language issues, and isolation.

Despite such differences, both groups had common stressors in their workplace related to low pay, limited benefits, and difficult working conditions. Most stress, however, was the result of working directly with clients who had health and/or personal issues. African American

participants reported clients and their living situations, as well as unexpected situations at work as stressful. Russian-speaking HCAs felt burdened by their work with clients who are vulnerable and have chronic and emotional problems.

In both groups, stress at work and in personal lives led to significant mental health problems. We found that many HCAs exhibited signs and symptoms of this condition, such as feelings of exhaustion, tiredness, and aggravation that had a negative impact on their work with clients and family lives. While some respondents reported positive experience with supervisors, others shared that a lack of such support contributed to more stress and anxiety at work. Another concern is that burned out HCAs often neglected their health and self-care. In some cases, the emotional toll of job burnout resulted in thoughts about leaving the job.

The major strength of this qualitative study is the ability to compare the experiences with stress between African American and Russian-speaking HCAs. This was possible because the same guide was used in both focus groups. Furthermore, a data analysis approach that employs the overview grids allows for a deep and direct exploration of themes that emerged in each group. Finally, the qualitative data allowed exploring how HCAs experienced burnout in their personal lives, which was not possible to do in the quantitative phase of this research.

One limitation of this study lies in the differences in the recruitment strategies for the two groups. African American HCAs were recruited into the study through the SEIU, which may bring selection bias into the sample. For the Russian-speaking HCAs the recruitment took place during the in-service trainings. They were required to be present in these meetings, and therefore, the pool from which the sample was selected was all the Russian-speaking HCAs employed by the selected home care agency. Thus, comparisons between African American and Russian-speaking HCAs should be interpreted with caution.

Despite this limitation, the findings provide first-hand information on HCAs' experience with stress in home care. Specifically, the stories that the study participants shared helped uncover various factors that contribute to poor health outcomes in this occupational group. Furthermore, the qualitative data made it possible to understand the "stress process," which could not be captured with the quantitative data due to its cross-sectional design that does not allow examining causal relationships or processes that take place over time. The qualitative findings regarding participants' experience with burnout in different areas of home care were also used to examine the construct of work-related burnout and explain the statistical results in depth in the quantitative phase of this research.

Qualitative analysis highlights the importance of considering the impact of personal stress in addition to work-related stress on burnout. In the quantitative analysis we wanted to further explore work-related burnout as the survey data allowed us to do so. While focusing on work-related burnout only in the quantitative phase of research may appear limiting, empirical results can shed light on whether further exploration of the association of personal stress and work-related burnout is necessary in future research. In other words, if we find work-related stressors to have limited explanation of work-related burnout, this is an indication that we should turn our attention to other potential sources of burnout, including personal stressors.

## **6. QUANTITATIVE RESULTS: MULTIGROUP CONFIRMATORY FACTOR ANALYSIS OF WORK-RELATED BURNOUT**

In this chapter we performed a cross-cultural validation of *work-related burnout* among African American and Russian-speaking HCAs, a measure that was constructed based on the CBI. Specifically, we examined the factorial validity of the *work-related burnout* by testing a two-factor structure followed by an investigation of alternative factorial models. We also tested whether the best-fitting model applied equally well to African American and Russian-speaking HCAs. The results of this analysis helped us with the next stage of this research, which was to compare the levels of burnout between African American and Russian-speaking HCAs and understand their experience with stress in home care.

### **6.1 Multigroup Confirmatory Factor Analysis**

We conducted the MCFA analysis to examine the factor structure of the 8-item work-related burnout in our sample. Unlike exploratory factor analysis, the goal of which is to discover a factor structure of a measure, MCFA allows for specifying and testing a hypothetical construct that has been developed in advance based on previous theoretical and empirical research. Specifically, one can examine a hypothesized model by looking at the relationships between observed variables (indicators), factors, and measurement errors (Kline, 2005). Multigroup analysis provides an additional step to ensure that groups from different cultures have a consistent understanding of measures; this allows for reliable analysis and conclusions that may impact policy as well as programs and interventions to reduce negative effects on health.

To evaluate model fit, we used the following goodness-of-fit indices: the relative Chi-square ( $\chi^2$ ), the comparative fit index (CFI) (Bentler, 1990), Tucker-Lewis Index (TLI) (Tucker & Lewis, 1973), root mean square residual (RSMEA) (Steiger, 1990) and standardized root mean

square residual (SRMR) as recommended by Hu and Bentler (Hu & Bentler, 1999). The  $\chi^2$  provides a measure of discrepancy between the observed and expected data. Non-significant values of  $\chi^2$  are a sign of good fit. However, one has to be careful about the chi-square interpretations as it is sensitive to a sample size, and hence, a more practical approach to interpreting this statistics is to consider that a large  $\chi^2$  value indicates a poor fit and a small one a good fit. Both CFI and TLI are used to compare alternative models to the null model, and range from 0 (no fit) to 1 (perfect fit) with values of 0.09 or greater indicating a good fit to the data. The RMSEA estimates the amount of error due to poor reliability and model misspecifications. Values less than 0.05 indicate acceptable fit to the data, values between 0.05 and 0.08 suggest mediocre fit, and RMSEA greater than 1 suggests poor fit. Finally, the SRMR provides the average of the differences between the sample correlations and the estimated population correlations with values of 0.08 or less considered favorable.

### **6.1.1 First-order Confirmatory Factor Analysis**

We began our analysis with the hypothesized measure of work-related burnout that was constructed based on the CBI, which was developed to be used for human service workers who work directly with clients. The unique characteristic of the CBI is that it measures the level of physical and psychological fatigue in two distinct domains of work: *work environment* and *client-related work* (Kristensen et al., 2005). The idea behind providing such distinction is that people tend to attribute the causes of their psychical or psychological problems to specific area or areas of their lives. For example, in the context of our study, an HCA can relate her symptoms of fatigue to clients, or to her work environment (that can be negatively charged due to ongoing conflicts with supervisors).

Our initial first-order MCFA model of work-related burnout consisted of eight observed variables, distributed between two factors—work-related and client-related factors—that were assumed to be correlated. We also added covariances between the errors for Item 2 (“Feel burned out from work”) and Item 3 (“Feel worn out from work”) based on their close meaning and inspections of the modification indices (See item description in Table 3 and a graphical representation of a measurement model in Figure 3).

**TABLE III**  
ITEMS USED TO MEASURE A TWO FACTOR CONSTRUCT—CLIENT-RELATED AND WORK-RELATED BURNOUT

Construct	English Version	Survey Item	Russian version
<b>Work Burnout</b>			
Item 1	How often do you find work to be emotionally exhausting?	Как часто Вы думаете, что Ваша работа Вас эмоционально изнуряет?	
Item 2	How often do you feel burnout out from work?	Как часто Вы чувствуете, что сгораете на работе?	
Item 3	How often do you feel worn out at the end of the workday?	Как часто Вы себя чувствуете изможденным в конце рабочего дня?	
Item 4	How often do you feel exhausted in the morning at the thought of another workday?	Как часто Вы себя чувствуете изнеможение по утрам от одной мысли, что надо опять идти на работу?	
Item 5	How often do you feel your work drains your energy?	Как часто Вы себя чувствуете, что работа отнимает у Вас все силы?	
<b>Client Burnout</b>			
Item 6	How often do you feel tired of working with clients?	Как часто Вы себя чувствуете, что устали работать с клиентами?	
Item 7	How often do you take better care of clients than of yourself?	Как часто Вы себя чувствуете, что заботитесь о Ваших клиентах лучше, чем о самом/самой себе?	
Item 8	How often do you have to deal with difficult clients?	Как часто Вы имеете дело с трудными клиентами?	

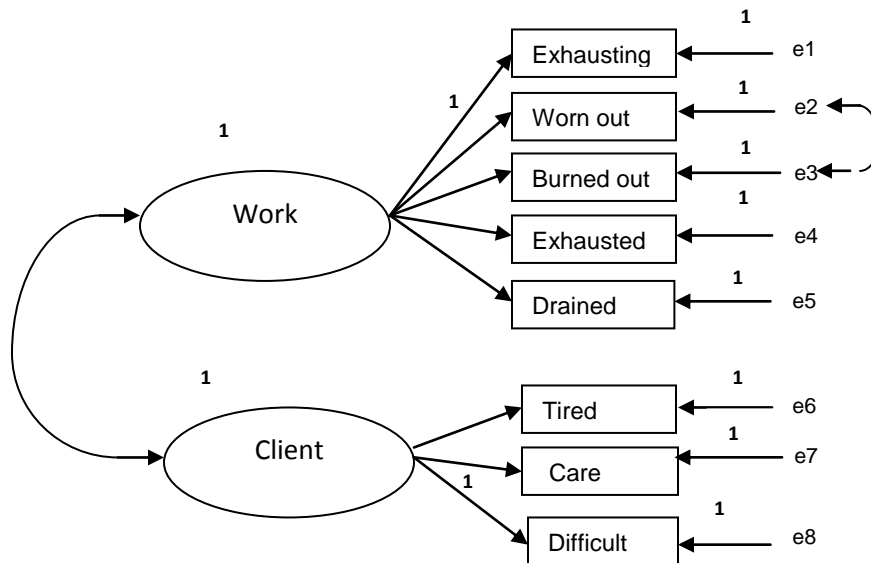


Figure 3. Study hypothesized measurement model.

The two-factor model was fitted simultaneously to the data of two samples—the African American and Russian-speaking groups. The fit indices indicated good model fit for both groups based on the following statistics: CFI=0.94, TLI=0.92. However, the chi-square value for the model was statistically significant ( $X^2=218.511$ ,  $df=40$ ,  $p<0.001$ ), which is a sign of poor fit. In addition, both RMSEA and SRMR did not reach an acceptable level as indicated in their respective values of 0.075 and 0.09. The model also produced one insignificant factor loading in each group. Specifically, for Russian-speaking and African American HCAs, the item “How often do you take better care of clients than of yourself?” loaded insignificantly for both groups, and negatively for the Russian-speaking sample (See Figure 4 below).



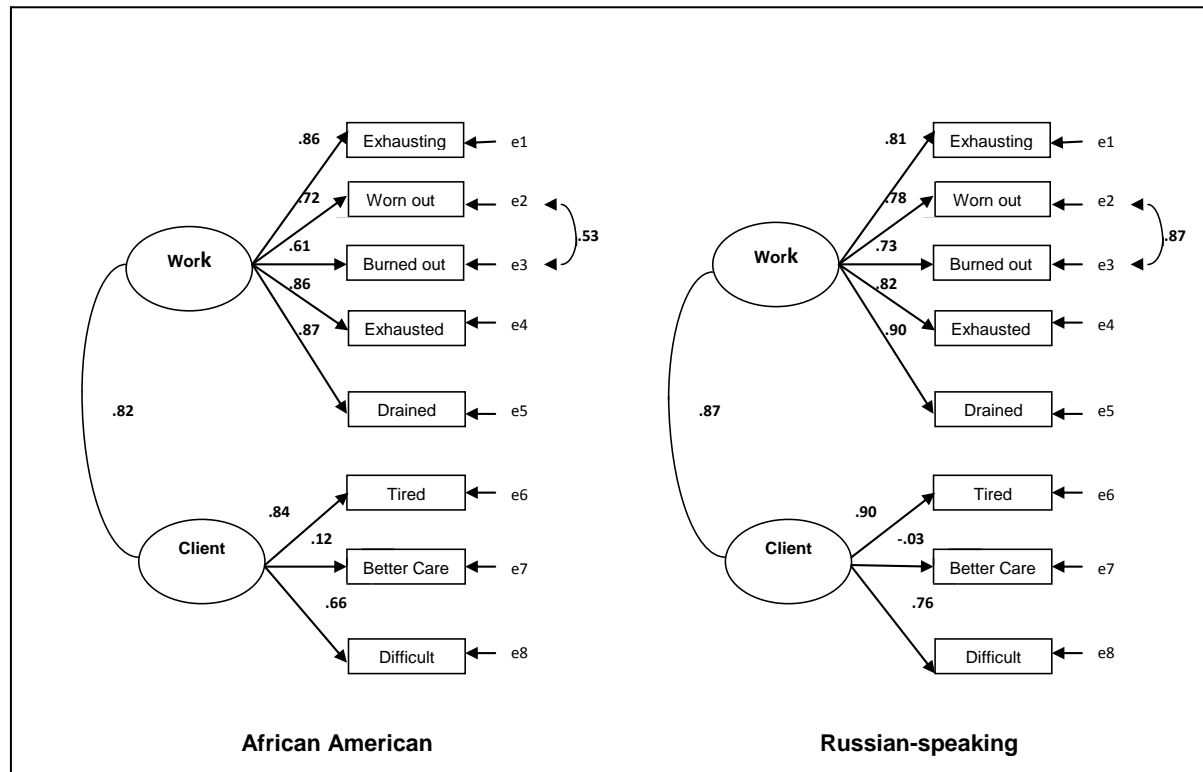


Figure 4. First-order MCFA model for work- and client-related burnout tested for African American and Russian-speaking HCAs.

We removed the misfitting item from the model and ran the modified model again. All factor loadings were now significant as indicated by standardized regression coefficients that ranged from 0.61 to 0.87 in the African American group and from 0.73 to 0.90 in the Russian-speaking group. Three of the fit indices showed slight improvement in model fit:  $X^2=180.142$ ,  $df=28$ , CFI=0.95, TLI=0.92. However, RMSEA and SRMR became worse compared to the initial model (RMSEA increased from 0.075 to 0.082 and SRMR increased from 0.093 to 0.099).

Based on these findings, we decided to investigate alternative models that would also be theoretically appropriate and statistically fit to our data better.

### 6.1.2 Second-Order Confirmatory Factor Analysis

In the next step of the analysis we imposed a higher order MCFA to examine whether the use of a second-order factor can provide a more concise explanation of the first-order factor structures corresponding to work environment and client-related work.

The model is graphically depicted in Figure 5. We assumed that a second-order factor, burnout, serves as an umbrella concept for two first-order factors—work and client-related burnout. The arrows from Burnout to Work and Client factors correspond to regression paths, whereas Res1 and Res2 represent residual error in work and client-related factors from a higher-order factor Burnout.

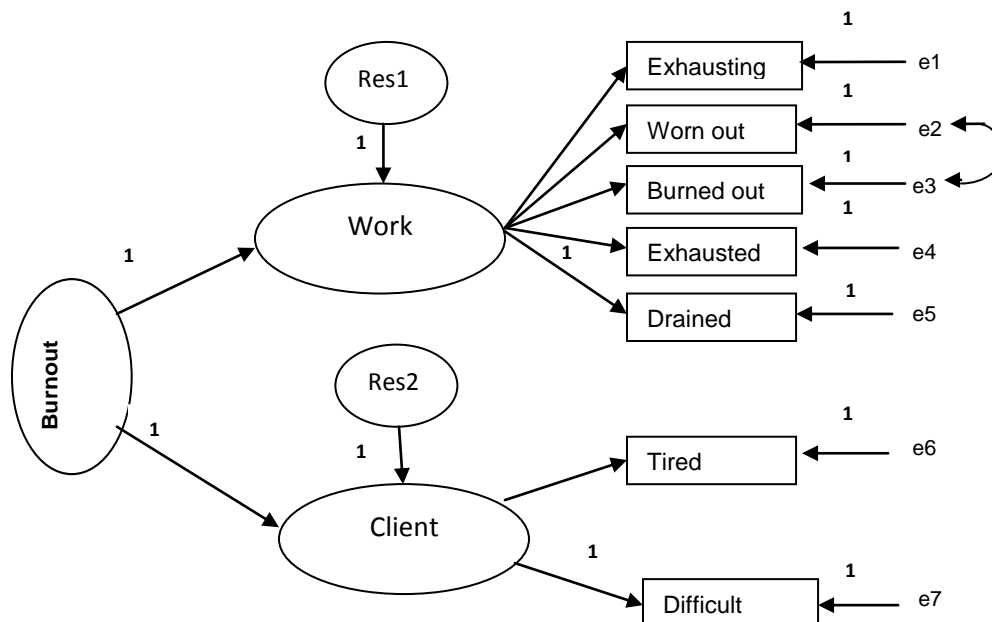


Figure 5. Second-order measurement model.

The goodness-of-fit indices indicated an excellent fit according to the following statistics:  $X^2 = 59.848$ ,  $df = 24$ ,  $CFI = 0.99$ ,  $TLI = 0.98$ ,  $RMSEA = 0.043$ , and  $SRMR = 0.0253$  (See Figure 3).

Almost all factor loadings were significant, except for the Item “Have to deal with Difficult Clients” for the African American group, which had a value of 0.35. However, given that this item loaded significantly for the Russian-speaking group (0.59), we decided to keep this item in our measurement model (See Figure 6).

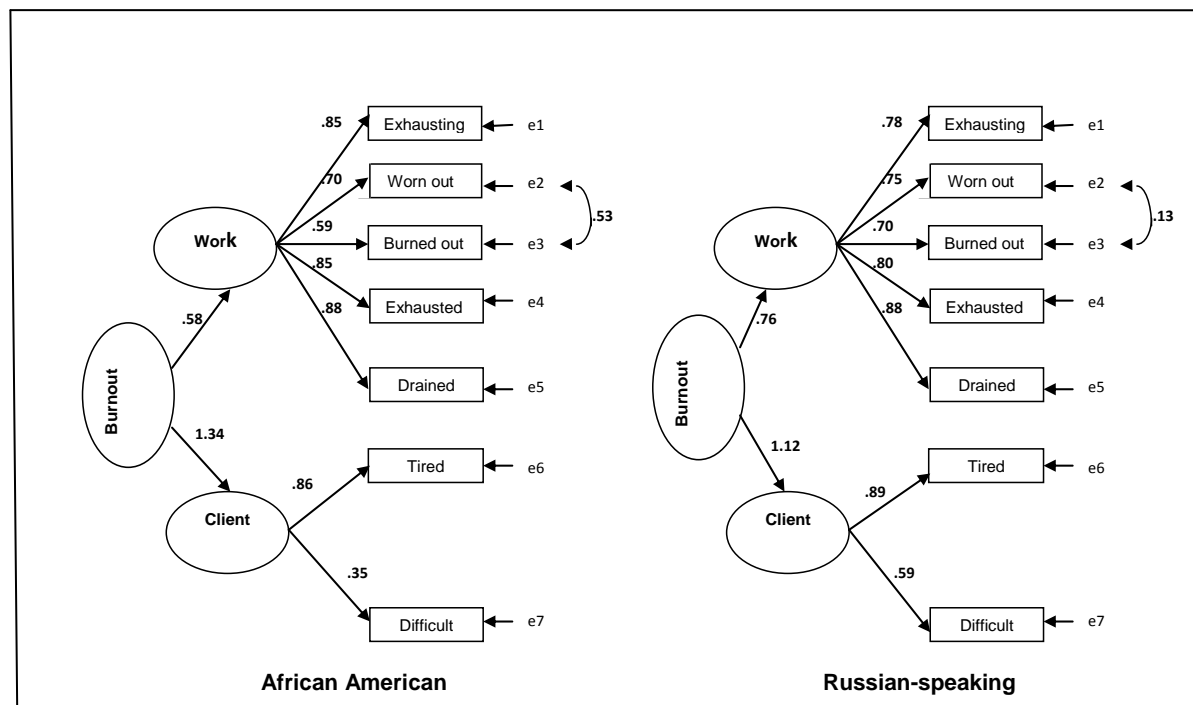


Figure 6. Second-order MCFA model for work- and client-related burnout tested for African American and Russian-speaking HCAs.

There was a concern, however, that a standardized loading of the higher-order factor on client-related burnout had absolute value greater than 1 in both groups, which is suggestive of

nonconvergence, also called a Heywood case. This problem could be due to many factors such as only two indicators per client-related factor in our measurement model that could distort the solution, the presence of specification errors and/or outlier cases, and a smaller size for the Russian-speaking sample (Kline, 2005). Another possibility could be that the conceptualization of work-related burnout in two separate domains, that is, burnout related to work in general and burnout specific to working with clients, may not be appropriate for HCAs. Unlike other healthcare professionals, such as nurses who work in well-defined settings, such as hospitals, for HCAs work and client domains are inseparable, as they provide care in their clients' homes. Hence, work and client-related burnout could be part of the same domain—a theory that we empirically tested and describe in the next section.

### **6.1.3 One-factor Confirmatory Factor Analysis**

In the final step of our MCFA analysis, we evaluated the validity of a one-factor model that treats both work and client-related burnout as part of the same domain (see the graphical representation of the model in Figure 7). This model consisted of seven observed variables that were part of one factor—the Work-related burnout. We also added covariances between the errors for items “Tired of Working with Clients” and “Having to Deal with Difficult Clients” since these two items refer to issues with clients.

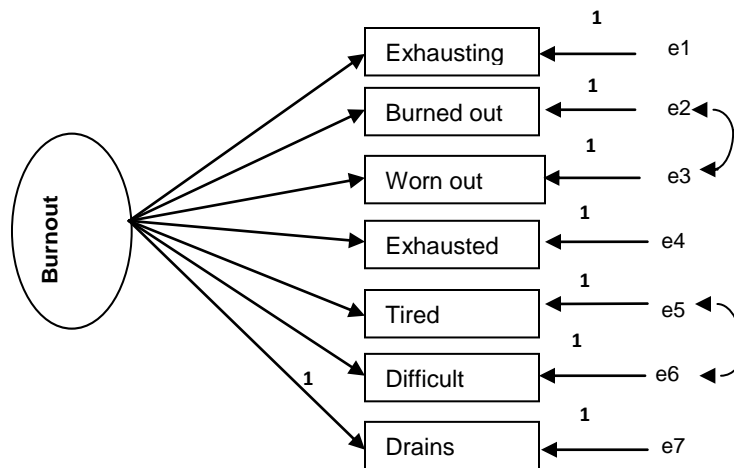


Figure 7. One-factor measurement model.

The goodness-of-fit indices were identical to the second-order model:  $X^2=59.848$ ,  $df=24$ ,  $CF=0.99$ ,  $TLI=0.98$ ,  $RMSEA=0.043$ , and  $SRMR=0.0253$ . As with the second-order model, all factor loadings were significant, except for the Item “Have to deal with Difficult Clients” for the African American group, which had a value of 0.29. Unlike the second-order MCFA, however, this model does not contain any values that are illogical or suggestive of nonconvergence problems. Hence, the 7-item, one-factor model of Work-related burnout was used in subsequent analyses.

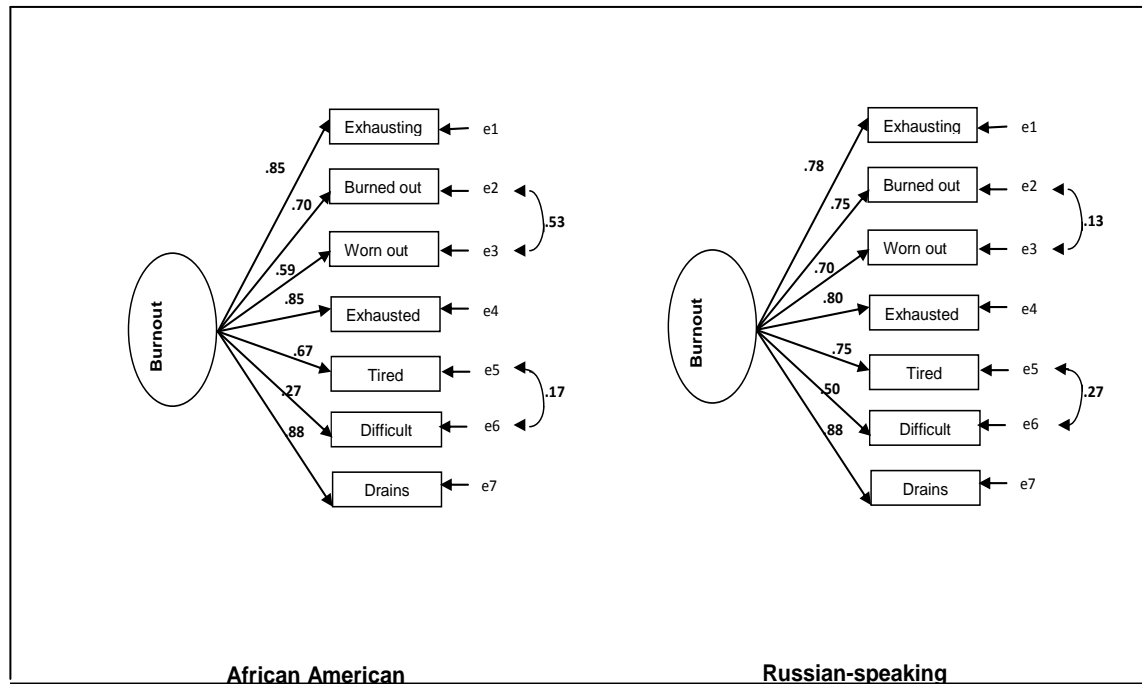


Figure 8. One-factor MCFA model for work-related burnout for African American and Russian-speaking HCAs.

## 6.2 Test for Invariance

We tested for group invariance to see whether the 7-item, one-factor model of work-related burnout applies equally well to African American and Russian-speaking HCA. To do this, we first examined an unconstrained model across African American and Russian-speaking HCAs. The chi-square value of 59.848, with 24 *df* provided the baseline value against which all the subsequent tests for invariance were compared. Next, we constrained the model in which all factor loading regression paths and error covariances were constrained across the two groups. The factor-loading regression paths were labeled as  $p_{-}$  and the error covariances as  $c_{err}$  (see Figure 9).

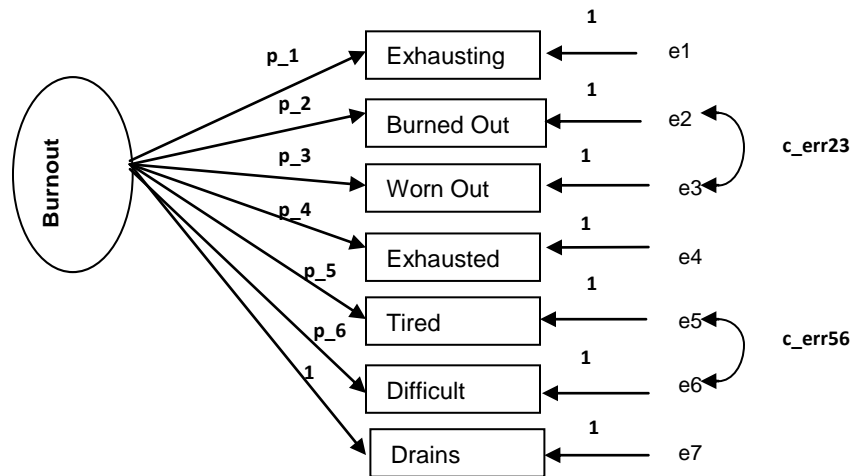


Figure 9. A constrained model of work-related burnout for African American and Russian-speaking HCAs.

To test for invariance, we compared the chi-square value of the baseline model (chi-square=100.646 with 32 *df*) with the unconstrained model (chi-square=59.848 with 24 *df*). This comparison produced a chi-square difference value of 40.798 with 8 *df*, which is statistically significant ( $p=0.000$ ). A statistically significant result served as an indication that the constrained model had a worse fit compared to an unconstrained model, and that some item(s) and/or an error term(s) loadings differed across the two groups.

To find a potential source of non-equivalence, we used Byrne's (2001) guidelines. In accordance with Byrne, we started the analysis with an unconstrained model in which the first factor loading parameter was constrained in AMOS (in this instance, we constrained the factor loading "Find work to be emotionally exhausting"). Then, the chi-square statistics were compared against the baseline model to check for the statistical significance of the result. In case of a statistically significant result, the item/error term was left unconstrained. We continued with

this systematic examination until all factor loadings and error covariances were tested cumulatively (Byrne, 2001).

Table IV below provides a summary of all tested models in this study. This examination revealed that two items—“Feel tired of working with clients” and “Having to work with difficult clients”—turned out to be statistically significant, an indication that they may not be equal across the two samples. Also, an error covariance between items 2 (“Feel burned out”) and 3 (“Feel worn out”) suggested of nonequivalence across the two groups.

Based on the chi-square difference test, the factorial model of burnout may, at first, seem not to be equivalent across the two groups. However, it should be noted that although the chi-square difference test has been established as the main method of testing for group differences,  $\chi^2$  is susceptible to sample size and/or model complexity, and therefore, it should not be used as the only criteria for rejecting the hypothesis of factor invariance of the model (Wu, Li, & Zumbo, 2007). Other fit indices, such as CFI and RMSEA are not as affected by sample size and therefore are better options for evaluating whether invariance is supported (Cheung & Rensvold, 2002). To do this, one can look at the differences between nested modes by evaluating changes in CFI and RMSEA. Small changes in CFI and RMSEA of the nested models suggest that the same construct is measured across groups. Based on the results in Table 2, we note that changes in CFI and RMSEA were indeed insignificant, ranging from 0.977 to 0.988 and from 0.041 to 0.05, respectively. Hence, additional evidence obtained from the CFI and RMSEA goodness-of-fit indices allowed us to confirm that the one-factor model of work-related burnout applied equally well to African American and Russian-speaking HCAs.



**TABLE IV**  
**TESTING FOR FACTORIAL INVARIANCE OF A ONE-FACTOR MODEL ACROSS TWO GROUPS**

Model	$\chi^2$	df	$\Delta \chi^2$	$\Delta df$	p	CFI	RMSEA
Baseline	59.848	24	--	--	--	.988	.043
Factors Constrained	75.518	30	15.67	6	.02	.985	.044
Fully Constrained	100.646	32	40.798	8	.000	.977	.052
Factor Loadings							
Work exhausting	61.687	25	1.839	1	.175	.988	.043
Feel burnt	62.773	26	2.925	2	.232	.988	.042
Feel worn	63.204	27	3.356	3	.341	.988	.041
Feel exhausted	65.208	28	5.36	4	.252	.988	.041
Feel tired	71.651	29	11.803	5	.04	.986	.043
Difficult clients	72.163	29	12.315	5	.003	.986	.043
Feel drained	---	---	---	---	---	---	---
Error Covariance							
c_err23	87.573	29	.04	5	.000	.980	.05
c_err67	65.261	29	5.413	5	.368	.988	.05

*Note:* df = degrees of freedom; CFI = comparative fit index; RMSEA = root mean square error of approximation.

### **6.3 Summary of the Results**

The goal of this chapter was to examine the structure of work-related burnout among African American and Russian-speaking HCAs and to test whether the best-fitting model applies equally well to both groups. We used the definition of work-related burnout as exhaustion in two distinct domains—work environment and client-related work. The hypothesized two-factor model where work and client-related burnout belong to different domains did not fit the observed data in the sample of African American and Russian-speaking HCAs. An alternative second-order factor model showed a good fit to the data, but it had serious convergence problems. On the other hand, the one-factor model that treated both work and client-related burnout as part of the same domain provided the best fit to the data. These results suggest that work and client

domains are inseparable for HCAs who provide care in their clients' home, unlike other healthcare professionals that work in a well-defined setting (e.g., a hospital). The multigroup confirmatory factor analysis further revealed that the measure of work-related burnout is reasonably equivalent across the two groups, as demonstrated by various goodness-of-fit indices.

We recognize two limitations to this analysis. One limitation is that we did not control for HCAs' background characteristics of HCAs, such as age, gender, and education. Including these variables in the analysis may be important to further evaluate whether the group differences in age and sex compositions or education may have an effect on equivalence testing. Another limitation is a smaller sample size for the Russian-speaking group (N=159). However, based on Kline's (2005) guidelines, this sample size seems to be sufficient. Specifically, Kline recommended a ratio of number of participants to parameters of at least 10:1. Our one-factor model contains seven parameters, on the basis of which 159 participants provide reasonable sample size.

The findings provide an important step for our subsequent analysis, as we were able to establish that the burnout construct applies equally well to African American and Russian-speaking HCAs. The support for the unidimensionality of work-related burnout helped justify for a composite scale of work-related burnout by summing all individual items of the burnout factor (Van der Ark & Bergsma, 2010)<sup>3</sup>. The results helped us compare the levels of burnout between African American and Russian-speaking HCAs and understand their experience with stress in home care.

---

<sup>3</sup> Van der Ark and Bergsma's (2010) theorem provides justification for using "polytomously scored items for ordinal person measurement." Please refer to their article for proof of the theorem.

## **7. QUANTITATIVE RESULTS: RACE DIFFERENCES IN DEMOGRAPHIC AND BACKGROUND CHARACTERISTICS, JOB STRESSORS, AND WORK-RELATED BURNOUT**

The goal of this chapter was to examine which group (i.e., African American or Russian-speaking) experiences higher levels of work-related burnout, and why, using multiple regression analysis. We also explored how stressors and job support relate to the outcome, and whether there are differences in the levels of burnout between African American and Russian-speaking HCAs due to work-related stressors. The results of this study helped us identify potential stress-reduction strategies appropriate for each group and clarify the role of race/ethnicity in the stress process.

### **7.1 Bivariate Analyses**

Table V shows descriptive statistics by race. An examination of mean differences revealed that, consistent with our expectations, Russian-speaking HCAs experienced significantly higher mean levels of emotional demands ( $t=14.15$ ,  $p<0.001$ ), time pressure ( $t=12.14$ ,  $p<0.001$ ), lack of influence on the job ( $t=-1.94$ ,  $p<0.10$ ) and work-related burnout ( $t=2.11$ ,  $p<0.10$ ). On the other hand, African American HCAs experienced a higher lack of predictability at work ( $t=-3.53$ ,  $p<0.001$ ). We also observe significant mean differences in the background characteristics across the two groups: Russian-speaking HCAs reported a higher proportion of male employees ( $t=-7.07$ ,  $p<0.001$ ), had higher levels of education ( $t=11.93$ ,  $p<0.001$ ), and were more likely to provide care to a family member ( $t=-2.44$ ,  $p<0.001$ ) compared to African Americans. The two groups, however, did not differ in terms of age and the amount of influence on their job.

An examination of the correlation matrix in Table VI indicates that there was an association between work stressors, job support, and work-related burnout. Specifically, there was a small but significant and positive correlation between emotional demands ( $r=0.47$ ,  $p<0.10$ ), time pressure ( $r=0.35$ ,  $p<0.10$ ) and burnout, indicating that HCAs who experience more work stress also experience more burnout. There was a small but significantly positive correlation between lack of predictability ( $r=0.13$ ,  $p<0.10$ ) and burnout, suggesting that HCAs who are unaware of their work environment are more prone to burnout. There was also a small but significantly negative correlation between job support ( $r=-0.13$ ,  $p<0.10$ ) and burnout, showing that HCAs who get work support experienced lower levels of burnout.

**TABLE V**  
MEANS AND STANDARD DEVIATIONS FOR VARIABLES IN THE ANALYSIS BY RACE

Construct	Variables (Scale Range or Values)	Mean (S.D.)		t
		African (N=592)	Russian (N=147)	
Age	19–82	45.58 (13.14)	44.57 (10.97)	-0.84
Gender	Gender (M=0; F=1)	0.95 (0.22)	0.77 (0.42)	-7.07***
College	College (> College =0; College =1)	0.32 (0.47)	0.82 (0.39)	11.93***
Client Type	Client Type (Family =0; Non-family=1)	0.77 (0.42)	0.67 (0.47)	-2.44**
Emotional Demands	2-item scale; Range = 0–8	1.64 (1.83)	4.01 (1.79)	14.15***
Time Pressure	2-item scale; Range = 0–8	1.08 (1.35)	2.65 (1.61)	12.14***
Lack of Job Influence	3-item scale; Range = 0–12	3.64 (3.67)	4.27 (2.81)	1.94*
Lack of Predictability	2-item scale; Range = 0–8	1.68 (2.34)	0.96 (1.69)	-3.53***
Work Support	6-item scale; Range = 0–24	17.06 (6.19)	18.92 (4.90)	3.37***
Work-related Burnout	7-item scale; Range = 0–28	7.96 (5.92)	9.09 (5.43)	2.11*

*Note.* \*\*\*  $p<0.001$ . \*\*  $p<0.05$ . \*  $p<0.10$  (two-tailed test).

All scales have five response categories ranging from 0 (“never”) to 4 (“always”).

**TABLE VI**  
**CORRELATION COEFFICIENTS FOR VARIABLES IN THE STUDY**

	1	2	3	4	5	6	7	8	9	10	11
1. African											
2. Age	0.03										
3. Years in Home Care	0.25*	0.41*									
4. Female	0.21*	-0.07	0.03								
5. College	-0.40*	-0.09*	-0.12*	-0.21*							
6. Client (non-family)	0.09*	-0.02	0.12*	0.04	-0.14*						
7. Emotional Demands	0.46*	0.01	-0.08*	-0.06	0.25*	-0.04					
8. Time Pressure	0.41*	0.05	-0.12*	0.05	0.23*	-0.11	0.40*				
9. Lack of Job Influence	-0.07	-0.10	-0.13	-0.03	-0.01	0.02	-0.02	0.03			
10. Lack of Predictability	0.13*	0.07	0.04	0.15	-0.10	0.10	0.15*	0.13*	-0.01		
11. Job Support	-0.13*	0.02	0.03	0.05	0.08	-0.08	-0.01	0.01	0.22*	-0.11	
12. Work Burnout	-0.08	0.06	0.12*	-0.01	0.14*	0.01	0.47*	0.35*	0.01	0.25*	-0.14*

\*p<0.05

Note: Given a relatively high correlation between age and job tenure (measured as years in home care), we decided not to include both of the variables in the same regression models to avoid potential multicollinearity problem. The main regressions presented in this research included age variable. We also ran a separate set of regressions with job tenure variable. In comparing the two sets of regressions, we did not find significant differences in the results (See Appendix H).

## 7.2 Association of Race and Background Characteristics with Work-Related Burnout

Using regression analysis, we examined the association between race and work-related burnout and the extent to which this relationship changes after adding other relevant demographic and background variables

In Model 1 (Table VII), we started with a simple regression of burnout on race. Consistent with our first hypothesis, the coefficient for race was negative and significant indicating that Russian-speaking HCAs had higher levels of work-related burnout compared to African Americans ( $b=-1.131$ ,  $p<0.05$ ). Race accounted for 0.5 % of the variance in work-related burnout.

Next, we added age (Model 2) and gender (Model 3) as control variables to test whether these demographic characteristics had an impact on group differences. Workers who were older were at an increased risk for burnout and, as expected, women had significantly higher levels of burnout compared to males. The coefficient for race was still negative and increased slightly in absolute value. Given that the Russian group had a higher proportion of male employees compared to African Americans, this result suggested that if both groups had equal gender composition, Russian-speaking HCAs would still experience higher levels of burnout. Age and gender predicted 0.9% and 0.2% of the variance in burnout, respectively.

In Model 4, we added the effects of education, accounting for 0.4% of the variance. We noticed a significant (~46%) reduction in the race coefficient when we compared models 3 and 4 ( $b=-1.637$  to  $b=-0.888$ ). We also noticed that after taking education into consideration, there was no longer a significant difference in the levels of burnout between Russian-speaking and African American HCAs. In other words, the higher burnout level of Russian-speaking HCAs was explained away by differences in education levels, which is an important finding of this analysis.

Finally, in Model 5 we examined whether taking into consideration type of client was associated with a significant group difference in the level of work-related burnout of Russian-speaking and African American HCAs. Contrary to our expectations, type of client was not significantly related to burnout and added no additional variance to the prediction of work-related burnout.

An examination of the AIC statistics in Table VII reveals that the AIC for each model (Models 2 through 5) improved compared to the baseline model. Specifically, as we entered age, gender, college education, and type of client, AIC values decreased (from 4704.41 for the baseline model to 4688.03 in Model 5).

**TABLE VII****REGRESSION MODEL: ASSOCIATION OF DEMOGRAPHIC AND BACKGROUND FACTORS WITH WORK-RELATED BURNOUT**

	Model 1	Model 2	Model 3	Model 4	Model 5
African American	-1.131** (0.537)	-1.174* (0.543)	-1.637** (0.557)	-0.888 (0.601)	-0.890 (0.601)
<i>Control variables</i>					
Age					
>35		Omitted	Omitted	Omitted	Omitted
<35		1.058* (0.535)	1.187* (0.533)	1.249* (0.530)	1.277* (0.532)
missing age		1.474* (0.796)	1.653* (0.793)	1.896* (0.792)	1.919* (0.793)
Female			2.558** (0.778)	2.446** (0.774)	2.399** (0.778)
<i>Background variables</i>					
College				1.512** (0.471)	1.547** (0.474)
Client (non-family)					0.297 (0.499)
Constant	9.095*** (0.481)	8.247*** (0.640)	6.178*** (0.895)	4.978*** (0.964)	4.763*** (1.030)
N	739	739	739	739	739
R-squared	0.006	0.013	0.027	0.040	0.041
Adj. R-squared	0.005	0.009	0.022	0.034	0.033
AIC	4704.41	4703.52	4694.72	4686.39	4688.03
Standard errors in parentheses					
*** p<0.01, ** p<0.05, * p<0.1					

**7.3 Association of Race, Job Stressors and Work Support with Burnout**

In Table VIII, we examined the association of stressors and job support with work-related burnout. First, we added job stressors to test the effects of emotional demands and time pressure (which we found to have higher mean levels for the Russian-speaking group in bivariate analysis) and race on work-related burnout (Models 6 and 7). To our surprise, we observed the drastic change in the coefficient for race in the opposite direction ( $b=3.554$ ,  $p<0.01$ ). This



indicated that after taking into consideration stressors, being African American HCAs was associated with a higher level of work-related burnout. The stress-related variables (i.e., emotional demands and time pressure) accounted for a significant portion (31%) of the variance in work-related burnout. The addition of other work-related stressors in the equation, such as lack of influence on the job and a lack of predictability (Model 7) did not contribute to a significant change in the variance explained (i.e.,  $R^2$ ). However, it also lowered the magnitude of the coefficient for race, which still remained positive and significant ( $b=3.554$  to  $b=3.087$ ,  $p<0.01$ ). Consistent with our expectations, emotional demands and time pressure, as well as the lack of predictability were associated with higher levels of work-related burnout.

In Model 8, we added the measure of work support to test for its effect on burnout. The results showed strong and significantly negative association between support and burnout. Consistent with the deterring model of the stress process, this finding indicated that having support from supervisors helped decrease burnout after adjusting for other variables, including job stressors. Adding work support did not change the amount of unique variance in work-related burnout.

In Table VIII we continue to notice improvements in fit for Models 6 through 8, as indicated by significant improvements in the AIC of 4442.57 (the AIC value decreased by 245.46 points) when we entered emotional demands and time pressure. We also observe a reduction in the AIC value when we entered job influence and lack of predictability (the AIC value decreased by 12.06 points), and job support (the AIC value decreased by 9.76 points).

**TABLE VIII**

**REGRESSION MODEL: ASSOCIATION OF JOB STRESSORS AND WORK SUPPORT  
WITH WORK-RELATED BURNOUT**

	Model 6	Model 7	Model 8
African American	3.554*** (0.571)	3.087*** (0.581)	2.839*** (0.582)
<i>Control variables</i>			
Age			
> 35	Omitted	Omitted	Omitted
< 35	0.755 (0.451)	0.749 (0.447)	0.756 (0.444)
missing age	0.847 (0.674)	0.807 (0.668)	0.730 (0.663)
Female	2.046*** (0.659)	2.065*** (0.653)	2.075** (0.649)
<i>Background variables</i>			
College	0.795* (0.404)	0.938* (0.402)	0.960* (0.399)
Client (non-family)	0.439 (0.423)	0.272 (0.421)	0.195 (0.418)
<i>Stressors</i>			
Emotional demands	1.436*** (0.103)	1.267*** (0.104)	1.240*** (0.104)
Time pressure	0.964*** (0.133)	0.874*** (0.134)	0.872*** (0.133)
Lack of Job influence		0.021 (0.051)	-0.020 (0.052)
Lack of predictability		0.333*** (0.084)	0.315*** (0.083)
<i>Support</i>			
Support from supervisors			-0.105*** (0.031)
Constant	-1.983* (0.960)	-1.851 (0.987)	0.455 (1.190)
N	739	739	739
R-squared	0.316	0.330	0.341
Adj. R-squared	0.308	0.321	0.331
AIC	4442.57	4430.51	4420.75

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

#### **7.4 Interaction Effects**

In our final sets of models, we examined the interactions of race and emotional demands, race and time pressure, as well as race and support from supervisors (See Table IX, Models 9 and 10). This approach allowed us to examine whether the association of emotional demands, time pressure, and job support with work-related burnout varied between the two groups.

Model 9 suggests that the association of emotional demands, time pressure, and job support with burnout was not different between the two groups. When the interaction terms were introduced into the model, we observe a slight increase in the AIC value in Model 9 (4422.01; an increase of 1.26 points from the previous model) and Model 10 (4423.28; an increase of 1.27 points), which is indicative of deterioration in model fit.

An overall examination of the AIC statistics in Tables VII through IX reveals that Model 8 had the lowest AIC value (4420.75), indicating that it likely is the more “optimal” model, at least as measured by AIC.

**TABLE IX**  
**REGRESSION MODEL: INTERACTION EFFECTS**

	Model 9	Model 10
African American	1.849* (1.105)	0.509 (1.929)
<i>Control variables</i>		
Age		
>35	Omitted	Omitted
<35	0.740* (0.444)	0.732* (0.444)
missing age	0.664 (0.664)	0.667 (0.664)
Female	2.080*** (0.648)	2.103*** (0.649)
<i>Background variables</i>		
College	0.948** (0.399)	0.964** (0.399)
Client (non-family)	0.212 (0.419)	0.192 (0.419)
<i>Stressors</i>		
Emotional demands	0.520** (0.260)	0.511** (0.260)
Time pressure	1.258*** (0.234)	1.276*** (0.235)
Lack of job influence	0.019 (0.052)	-0.018 (0.052)
Lack of predictability	0.314*** (0.084)	0.318*** (0.084)
<i>Support</i>		
Supervisor Support	-0.104*** (0.0308)	-0.168** (0.0817)
<i>Interaction Effects</i>		
Emotional demands X African	0.477 (0.300)	0.485 (0.301)
Time pressure X African	-0.021 (0.260)	-0.0357 (0.261)
Support X African		0.0742 (0.088)
Constant	1.076 (1.406)	1.300 (1.420)
N	739	739
R-squared	0.343	0.344
Adj. R-squared	0.332	0.331
AIC	4422.01	4423.28

Standard errors in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 7.5 Summary of the Results

In this chapter we compared the levels of burnout between African American and Russian-speaking HCAs and examined their experience with stress in home care. As expected, being a Russian-speaking HCA was associated with a higher level of burnout as compared to being an African American HCA. Furthermore, we found that education accounted for most of the differences between the two groups.

On the other hand, being African American was associated with a higher level of work-related burnout after taking into consideration work-related stressors. Our analysis showed that this result held even when we controlled for job support. Findings also showed a significant relationship between work support and burnout after controlling for other variables, which confirms the independent contribution of this variable. Specifically, HCAs who received support from their supervisors were less likely to burnout regardless of the levels of stress they experienced on the job.

Finally, we examined whether there was a significant interaction between race and emotional demands and race and time pressure in predicting burnout. We found no support for any of these interaction effects. We also tested the interaction effect of race by work support, which did not turn out to be significant either.

The main strength of the study is in its use of the purposeful sampling—i.e., the surveys were collected from all HCAs who attended in-service training events. The large sample size and the depth of information in the survey allowed us to perform a reliable statistical analysis and draw appropriate inferences. The main limitation of the present study lies in the cross-sectional design that limits the ability to draw causal relationships among work stressors, support, and burnout variables. Future longitudinal studies will be needed to examine causal pathways.

## 8. DISCUSSION

In this chapter we review the results of the study and their connection to theory and literature. The main findings are summarized and depicted in Table X below. To discuss the data in a meaningful way, we have organized the results within the domains of the stress process framework outlined earlier in the study (see Chapter 3). We present the main findings according to the research aims. We conclude with theoretical and practical implications and directions for future research. A brief overview of main findings is provided in a table below.

**TABLE X**

SUMMARY OF MAIN DISSERTATION FINDINGS Phase I: Qualitative Approach	
<u>Aim 1:</u> Understand the similarities and differences in the nature of stress and its consequences in African American and Russian-speaking HCAs	
Q1: What aspects of work and personal life do HCAs identify as stressful?	<ul style="list-style-type: none"> <li>Both groups reported stress as a result of difficult working conditions in home care—demanding clients (due to health issues and difficult personalities) and challenging home care environment.</li> <li>African American HCAs attributed stress to violent neighborhoods, family problems, accidents, and financial problems in their personal lives.</li> <li>Russian-speaking HCAs reported emotional care as a main stressor at work. In their personal lives they had to deal with slow adjustment to a new country.</li> </ul>
Q2: How are job resources related to emotional health among HCAs?	<ul style="list-style-type: none"> <li>Some participants had positive experience with their supervisors.</li> <li>Many of them, however, felt that their supervisors were too detached and unsupportive in helping with crisis situations at work (e.g., client having a health emergency) or with clients who had significant health issues (e.g., cognitive decline), which made their work more stressful.</li> </ul>
Q3: How are job stressors related to emotional health among HCAs?	<ul style="list-style-type: none"> <li>In many cases, job stress led to burnout. Several participants from each group showed signs and symptoms of work-related burnout, such as feelings of tension, tiredness, and exhaustion.</li> <li>They also showed physical symptoms of burnout, such as high blood pressure, eating problems, and insomnia.</li> <li>Some respondents became angry and frustrated with their clients and had intentions to quit the job.</li> </ul>
Q4: Are there differences in these relationships between the two groups?	<ul style="list-style-type: none"> <li>African American and Russian HCAs had different experience of stress in their social contexts.</li> <li>HCAs had similar experience of stress and burnout at work.</li> </ul>

SUMMARY OF MAIN DISSERTATION FINDINGS Phase II: Quantitative Approach	
<u>Aim 2:</u> Examine the structure of work-related burnout among African American and Russian-speaking HCAs and test whether it applies equally well to both groups	
Q5: Does the conceptualization of burnout as exhaustion in two domains (work environment and client-related work) apply to HCAs in the context of our study?	<ul style="list-style-type: none"> <li>• Burnout (exhaustion in two domains: work environment and client-related work) was assessed by the CBI, which was developed to be used specifically for human service personnel.</li> <li>• Confirmatory factor analysis was conducted to test two-factor models that include work and client domains separately and a one-factor model that combines the two domains.</li> <li>• The one-factor model provided good fit to the data compared with the two-factor models. Results suggest that work and client domains are inseparable for HCAs who provide care in their clients' home, unlike other healthcare professionals that work in a well-defined setting (e.g., a hospital)</li> </ul>
Q6: Is the construct of work-related burnout comparable (or equivalent) among African American and Russian-speaking HCAs?	<ul style="list-style-type: none"> <li>• The one-factor model was found to apply equally well to African American and Russian HCAs.</li> </ul>
<u>Aim 3:</u> Examine whether Russian-speaking HCAs experience higher levels of work-related burnout than African American HCAs.	
Q7: Do Russian-speaking HCAs experience higher levels of work-related burnout than African American HCAs after taking into consideration background and control variables?	<ul style="list-style-type: none"> <li>• Being Russian-speaking was associated with a higher level of work-related burnout compared to African Americans. Education accounted for most of the differences between the two groups.</li> <li>• Interestingly, being African American was associated with a higher level of work-related burnout after work-related stressors were taken into consideration.</li> </ul>
Q8: Is higher work support associated with higher work-related burnout, controlling for job-related stressors?	<ul style="list-style-type: none"> <li>• HCAs who received support from their supervisors were less likely to report burnout controlling for the levels of stress they experienced on the job.</li> </ul>
Q9. Does the association between stress levels due to emotional demands and time pressure and work-related burnout differ between African American and Russian-speaking HCAs? And,  Q10. Does the association between work support and work-related burnout differ between African American and Russian-speaking HCAs?	<ul style="list-style-type: none"> <li>• We found no group differences in the association of stressors and job support with work-related burnout.</li> <li>• This finding suggested that stressors and work support related with burnout in a similar way for both groups.</li> </ul>

### **8.1     AIM 1: The Nature of Stress and Its Consequences in Two Groups**

Focus group results revealed that African American and Russian-speaking HCAs experienced common work-related stressors and subsequent health problems. Both groups described home care for older adults as a stressful undertaking. Participants in our study especially emphasized the emotional aspect of home care as many of their clients had significant physical and mental health issues and difficult living situations. This finding was not surprising as other qualitative studies that examined working conditions of HCAs have reached a similar conclusion about the emotional toll that this caring work takes on its employees, further exacerbated by poor pay, limited benefits, and lack of career development (Aronsson, Astvik, & Thulin, 1998; Stacey, 2005). An interesting observation was that Russian-speaking HCAs felt particularly burdened by their work with clients who are immigrants. They shared that older immigrants often become completely dependent on HCAs because they tend to live alone and have very limited social interaction with others, as they do not speak English.

The results also showed that support from supervisors helped HCAs deal with stressful situations at work and gave them a sense of being appreciated and cared about. In their qualitative study, Neysmith and Aronsson (1996) also highlighted the importance of supportive supervisors as they can encourage HCAs to “do what [they] can and not to worry” or help resolve difficult situations at work by talking to a client or a member of a family. Study participants also discussed the negative aspects of working with supervisors, for example, when supervisors seemed to be removed or indifferent to problems that HCAs experience in their work with clients. A lack of such support in these examples can contribute to more distress and increase the risk of developing mental health problems, as has been documented in previous studies (Constable & Russell, 1986; Maslach et al., 2001).



While African American and Russian-speaking HCAs had common experiences of work-related stress, they reported varying causes of stress in their personal lives. African American participants faced stress related to living in poor urban neighborhoods and dealing with poverty, violence, and family issues on a day-to-day basis. Russian-speaking HCAs, on the other hand, experienced stress as a result of immigration and its consequences: limited English proficiency, and a loss of professional status. Compared to African Americans, the immediate concerns for the Russian group, however, were not as much related to personal and family safety, as immigrants from the former Soviet Union tend to live in areas with lower exposure to crime (Miller, Birman et al., 2009). As brought up by the focus group participants, the immigration process and initial adjustment in the United States were difficult transitions in the lives of these workers. With the passage of time, however, many of them started to adapt to the new environment and enjoy certain aspects of the American life (e.g., being able to drive, having opportunities to travel and carrying hopes for their children to get an education and a better life in the United States) that they did not get to experience back home. Their family environment may not have been so volatile either. Although disagreement or conflicts may emerge between family members, especially during the early stages of adjustment (Aroian et al., 2001), family support still “serves as a resource rather than a stressor” for immigrants (Lev-Wiesel & Kaufman, 2004). These findings suggest that the different social contexts in which African American and Russian-speaking HCAs live may influence how these groups respond to stressful situations at work.

## **8.2     AIM 2: The Structure of Work-related Burnout and Its Equivalence in Two Groups**

One important contribution of this dissertation was the development of a valid and comparable measure of work-related burnout for two groups, African American and Russian-speaking HCAs. We started with the conceptualization of burnout as exhaustion in two domains—work environment and client-related work (Tage S. Kristensen et al., 2005). The confirmatory factor analysis revealed that a two-factor model that treated work and client domains as separate entities did not fit the data well, despite the fact that this model had been successfully used in previous research to study health outcomes among health care staff, such as nurses (Aust et al., 2007) and geriatric staff (Nubling et al. 2009) working in hospital settings.

One possible explanation for this result lies in the organizational structure of home care that is different from other organizations in health care industry, such as hospitals. For example, work of nurses in hospitals is not limited to patients. While they may feel exhaustion because of caring for patients in critical conditions, burnout among nurses may also resurface as a result of being involved in conflicts with doctors and/or other staff or having to fill out the extensive paperwork (Moustaka & Constantinidis, 2010; B. Taylor & Barling, 2004). In this example, one can clearly see the distinct boundaries in work and client-related tasks that can affect nurses in different ways.

A unique characteristic of home care is that HCAs work alone in their clients' homes and provide help to older clients, many of whom have significant health problems. Hence, HCAs' experience of job burnout is limited to home care environment. It follows that considering work and client domains of burnout as inseparable is reasonable and appropriate in the context of home care work.

### **8.3 AIM 3: Burnout Levels in Two Groups**

#### **8.3.1 Education**

We found that being a Russian-speaking HCA was associated with a higher level of work-related burnout compared to African Americans. Through regression analysis, we established that education accounted for most of the differences in burnout between the two groups as Russian-speaking HCAs reported considerably higher levels of education compared to African Americans. While it is generally agreed that educational attainment leads to better employment opportunities, this may not be the case for the Russian-speaking HCAs, many of whom had lost their professional status after immigrating to the United States. In our focus group discussions many Russian participants expressed disappointment with work in home care as they were not physically or mentally prepared to do the job. Yet, significant language and cultural barriers and the fact that many employers do not recognize academic or professional credentials obtained outside the United States may have prevented these immigrants from finding suitable employment.

The above finding is consistent with other research on immigrants from countries of the former Soviet Union who often end up in low-paying jobs that are neither meaningful nor appropriate to their level of education (Remennick, 2001; Solari, 2006; Vinokurov, Birman, & Trickett, 2000). According to Maslach and colleagues (2001), better-educated workers may become more distressed if they feel they cannot realize their job aspirations. A loss of status may become especially problematic for those that believe there are no other options available outside the present employment, thus creating a sense of entrapment that may contribute to feelings of despair (Buunk et al., 2007). Given that many Russian-speaking HCAs in our sample were well into their working years (70% of study participants are more than 35 years of age) and had

difficulties learning English (as indicated by focus group participants), the prospects of finding a better job could have been limited, which led to a sense of unfulfilled expectations, that could further exacerbate the feelings of burnout.

### **8.3.2 Job Stressors**

Our findings showed that job stressors were important factors in the stress process for African American and Russian-speaking HCAs. Stress from emotional demands, time pressure at work, and unpredictable work environment significantly contributed to burnout in African American and Russian-speaking HCAs. Interestingly, being an African American was associated with higher levels of burnout compared to Russian-speaking HCAs, after taking into consideration job stressors and work support. The quantitative information itself did not give much explanation of why this was the case. However, in combination with the focus group data, we were able to gain a deeper insight into other factors not available in the survey that may have contributed to this result, as shown in 8.3.4. Our assessment of interaction effects revealed no group differences in the association of emotional demands and time pressure at work with work-related burnout, suggesting that both of these factors related to stress in a similar way in both groups.

### **8.3.3 Support from Supervisors**

We hypothesized that supervisory support will help reduce work-related burnout among HCAs. Our results were consistent with this hypothesis and resonate with findings of other empirical studies that found a direct effect of work support (Chou & Robert, 2008; Delp et al., 2010). This finding was not surprising considering the fact that the only on-the-job support that HCAs receive is from supervisors. Supervisors can provide much needed support, especially in situations when HCAs need assistance with emergencies, for example, when a client is having a

stroke, or when a client exhibits inappropriate behavior. A supervisor may provide necessary directions or engage in concrete actions to address the problem (e.g., talk to a family member), or she can simply give words of encouragement to diffuse a heated situation (Neysmith & Aronson, 1996). An examination of interaction effects revealed that the role of supervisory support in mitigating burnout among Russian-speaking and African American HCAs was similar.

#### **8.3.4 Integrating the Findings from Qualitative and Quantitative Research Phases**

Qualitative findings showed that both African American and Russian-speaking HCAs experienced similar work-related stressors, specific to client care, and the general work environment. Quantitative findings further demonstrated that emotional demands and time pressure at work contributed equally to the prediction of job burnout among African American and Russian-speaking HCAs. Support from supervisors, on the other hand, helped reduce the levels of burnout when facing stressful situations at work.

What was less clear from the quantitative research was why being African Americans was associated with higher levels of work-related burnout compared to Russians when taking into consideration work stress. While adding work-related stressors (i.e., emotional demands, time pressure, lack of job influence, and lack of predictability) in the regression model explained additional 28% of variance, some other factors (i.e., most likely, non-work related stress) must have contributed to burnout among African Americans. Findings from the qualitative phase helped further clarify the nature of this result. Qualitative inquiry offered narratives from African American HCAs who frequently described chronic life conditions and traumatic events, as they had to deal with financial pressures, family issues, such as violence-related deaths in their families, marital conflict or divorce, and safety concerns in poor inner-city neighborhoods. Research suggests that the stress that African Americans experience over the course of their lives

can accumulate over time (Ong, Fuller-Rowell, & Burrow, 2009; Pearlin, 1999; Pearlin & Skaff, 1996) and compound work stress (Noelker et al., 2006; Pearlin et al., 1981). For example, the ongoing personal problems may result in employees having to frequently miss work or come in late. They may also become less motivated to do their jobs well and less empathetic to the emotional needs of their clients that can put them at risk for losing their job (Noelker et al., 2006). Pearlin and colleagues (1999; 2005) refer to this process as *stress proliferation*, in which stressors in one area of life can become predominant, and eventually spill over to other areas, leading to or augmenting mental health problems. Previous research suggests that the cumulative effect of multiple stressors in work and personal lives can lead to significant physical and psychological health outcomes for caregivers (Pearlin et al., 2005; Silver, Mulvey, & Swanson, 2002). This can also result in negative feelings about the care recipients (Knussen et al., 2005). Constant stress, poor health and negative attitudes about one's job can lead to extreme fatigue and considerations about leaving the job.

#### **8.4     Research Implications**

The findings from this study have two important implications for cross-cultural research on mental health among workers in long-term care. First, the results highlighted the importance of using the mixed-methods approach to understand the complexity of the stress process leading to burnout. The qualitative approach allowed us to examine the contextual factors of African American and Russian-speaking HCAs (e.g., living environment, past and present experiences, attitudes towards work and clients) that helped explain why two racial/ethnic groups had different experiences of stress in home care in the quantitative phase of this research.

Second, findings highlighted the importance of testing the factor structure of measurement instruments and examining their cross-group invariance when groups from different cultures are involved. For example, the results of this study showed that despite its wide application, a conceptualized two-factor model of work-related burnout that treats work and client domains separately did not fit the data well, when applied to HCAs. A one-factor model provided the best fit to the data and applied equally well to African American and Russian HCAs. This analysis helped ensure that the instrument is valid and culturally appropriate for assessing work-related burnout among HCAs from different racial/ethnic and cultural backgrounds. Omission of this important step in research can lead to the construct biases and poor assessment of mental health issues across cultural groups (Byrne, 2004; Cheung & Rensvold, 2002; Scherzer & Newcomer, 2007).

## **8.5 Practical Implications**

The research findings of this study have implications for programs aimed at reducing stress and work-related burnout in the home care industry. Our study showed that emotional demands and time pressure at work were important in predicting work-related burnout. Hence, one practical implication is to consider alleviation of these stressors as a way of reducing job burnout. Home care agencies should consider providing psychological counseling and education sessions as part of the in-service training to help HCAs in their work with older adults. Agencies can also help reduce time pressures for HCAs by clarifying job-related tasks and expectations on the job. In addition, we could also consider reducing the impact of an unpredictable work environment and support from supervisors on burnout. Designing an intervention program that considers these factors would seem to be a reasonable consideration. The qualitative findings

especially underscored the importance of work support, as HCAs with supportive supervisors felt valued, appreciated and cared about. A lack of such support in these examples can contribute to more distress and increase the risk of developing mental health problems, as has been documented in previous studies (Constable & Russell, 1986; Maslach et al., 2001).

The qualitative analysis allowed us to gain insight on other potential factors that can be effective in an intervention setting. For example, qualitative findings revealed significant personal issues of African American HCAs related to living in disadvantaged neighborhoods and dealing with difficult family circumstances that can compound work stress. Agencies may wish to consider providing classes in areas of education, finance, family relationships, and in other areas of personal management. Offering these classes would help HCAs better manage multiple stressors in their daily lives that could potentially prevent the spill-over effect of the daily stress into work. Thus, future intervention programs could focus on addressing issues that African Americans experience not only in their immediate environment but also in other areas of their lives. Creating awareness of stressors outside work and devising programs that address some of them may lower stress proliferation and ultimately lead to a better well-being of not only HCAs but also of their clients.

Russian-speaking HCAs, on the other hand, experienced stress related to immigration and limited English proficiency. Agencies should take an initiative to provide the necessary resources to make the initial adjustment period of immigrant workers less stressful. For example, they could encourage employees to attend English as a Second Language programs, or set up social clubs so that people have opportunities to make new friends and connections outside their established circle of friends and family.



Considering the isolated nature of home care and inability to seek support from co-workers or other staff, HCAs may be particularly at risk for poor emotional health compared to other direct care workers providing care in formal settings, such as assisted living or hospitals (Chou & Robert, 2008). Agencies may wish to consider organizing social support groups for employees to regularly meet with their coworkers. Such gatherings will help them exchange information, share problems and concerns with one another, as well as develop new relationships and friendships. This may also create a sense of belonging both in their groups and organization that can be beneficial for employees' mental health.

Finally, both groups shared facing multiple stressors at work while receiving low pay and limited benefits in exchange, which led to significant stress and thoughts about leaving the job. For Russian-speaking participants who were educated and worked in professional fields prior to immigration it was particularly difficult to accept the reality of low-pay. Home care agencies may want to provide opportunities for advancement that would benefit HCAs. For example, they may want to consider implementing pay incentives or increases in wages based on tenure and job performance of employees. In turn, this may motivate some HCAs to do a better job while others may reconsider leaving home care for other employment with better pay incentives.

Home care agencies should consider addressing these areas of need as part of the in-service training or facilitate such classes/training in a different venue. It is also important to make these events, to the extent possible, targeted and specific to the needs of the particular group.

## **8.6 Directions for Future Research**

While this study makes an important contribution to the literature, we recognize some limitations in the use of the stress process model (i.e., the interrelationship between stressors,

resources, and outcomes) in the context of this research. The most significant limitation of this study was the inability to examine the stress process fully in the quantitative phase of this research due to its cross-cultural design, which prevents drawing causal inferences.

Furthermore, certain stressors that could be of importance in examining group differences in the stress process were not available. For example, in the African American group, we did not assess the extent to which racial discrimination contributes to burnout. Previous research has linked racism to chronic stress in African Americans (Pieterse & Carter, 2007). Several recent empirical studies showed that discrimination against African Americans, and in general, can lead to poor mental health (Ong et al., 2009), a higher chance of stressful life events (Pieterse & Carter, 2007), and a higher likelihood of alcohol and drug dependence (Utsey et al., 2000). In the Russian-speaking group, acculturation factors, such as length of time in the United States, extent of language maintenance, and strength of ethnic identification, were not explored due to data limitations; such factors could have also potentially accounted for some of the differences in burnout between the two groups (Miller, Chandler, et al., 2004; Miller, Wang et al., 2009).

In addition to support from supervisors, other resources, such as self-esteem, mastery, and self-efficacy are important factors to examine, as they may influence the way people perceive and deal with stressful events in their lives. In general, people with strong emotional reserves are also more likely to have problem-solving skills to handle stress, which, in turn, can help lower their psychological distress (Pearlin et al., 1981; S. E. Taylor & Stanton, 2007).

Finally, the quantitative phase of this study focused on the work-related aspect of burnout in the quantitative phase. Non-work related stressors were not explored. Qualitative findings, however, suggested that the stressors HCAs experienced in their personal lives can have an

impact on how they react and deal with stressful situations at work, and hence, should be considered in future research.

## **8.7 Conclusion**

In urban areas like Chicago, HCAs who provide housekeeping and personal assistance to older adults are mostly African American women and Russian-speaking immigrants. They face stress at work and in their personal lives, exacerbated by low wages, limited benefits, and poor recognition for their work. This situation makes them particularly vulnerable to psychological problems, including burnout. To have a deeper understanding of how African American and Russian-speaking HCAs experience stress in home care, we used a mixed methods approach guided by the theoretically based conceptual framework.

Findings from qualitative and quantitative data analyses showed that job stress and burnout were significant issues in both groups. Qualitative analysis underscored the importance of life contexts in how HCAs from different backgrounds experienced work-related stress. Furthermore, this study enabled us to provide a detailed examination of the factor structure of work-related burnout among HCAs from different cultural backgrounds and to offer an alternative version of this measure that has been validated and tested for the equivalence in HCAs across race/ethnicity. Results also helped identify strategies and important points of intervention tailored to the needs of each group to relieve burnout and its debilitating consequences. The use of both qualitative and quantitative methods contributed to data quality and provided rich information. The theoretical framework developed in this study has a wide application and can be used to examine the process of stress in other groups of HCAs (e.g., Whites, Hispanics) and employees in different types of long-term care services, for example, assisted living and nursing home settings.

In conclusion, this study enhanced our understanding of how HCAs from different backgrounds experience job stress within their work and life contexts—an area of research that has not been explored previously. We believe that home care agencies will benefit from this research as they will be able to better position their resources and support toward HCAs. For example, we established the positive role of work support in mitigating burnout so agencies can consider how to optimize resources in work to provide adequate support. In addition, we established that stressors (emotional demands and time pressure) were associated with higher employee burnout. Agencies may want to consider ways to reduce these stressors (through increased resources or training) as a way of mitigating the level of work-related burnout among HCAs. Finally, future intervention programs should focus on addressing the stress-related issues of HCAs not only in their immediate work environment but also in other areas of their lives.

## APPENDICES

## APPENDIX A

### **FOCUS GROUP GUIDE—Home Care Aides**

Hello. Welcome to our discussion and thank you for coming today. My name is Naoko Muramatsu and this is Valentina Lukyanova, a doctoral student research assistant for our project. I will be asking questions, and Valentina will be taking detailed notes of our conversation to make sure that we don't miss anything.

We have invited you here today, because we are interested in learning more about the health and health promotion needs among home care aides.

Before we begin, let's set up some ground rules. I'll introduce a topic for discussion, and then I'd like to hear from each of you about your experiences in that area. There are no right or wrong answers; I'm just interested in your opinions. We'll be tape recording the discussion and taking notes to make sure we don't miss what you say. We would like to ask you not to use the names of your clients to protect their confidentiality. You'll see that there are name cards in front of each of you. That's to help us remember each other's names, but you can be sure we'll be keeping the information you share with us confidential. To protect your privacy, we won't be using last names. We will not use last names when we put this information together, and we present the information so that nobody can identify any individual person with any particular comments. We would greatly appreciate it if one person could speak at a time. We'll be talking for about one and a half hours.

[Note: Text printed in bold are the main statements that will be said during the focus group. The additional questions will be asked to clarify and probe further as necessary.]

## APPENDIX A (continued)

### HEALTH PROMOTION NEEDS FOCUS GROUP

Let's begin by finding out some more about each other. Why don't we start our discussion by going around the room one person at a time. Tell us your first name and tell us how long you have been working in home care.

**I. What makes you feel healthy?**

- a. What is the first thing that comes to mind when you hear the word, "healthy"?

**II. Think back over all the years that you've provided home care. Tell us about any work situations that have affected your health.**

- a. How have they affected your health?

**III. What other situations in your life have affected your health? (e.g., family situations)**

- a. How have they affected your health?

**IV. (Summarize health conditions mentioned. Ask "Are there any other health conditions that affect you?") Let's think about the health conditions that you just mentioned. Have they affected your ability to work? If so, how?**

Health promotion activities: experience and suggestions

**V. What do you currently do to take care of your health?**

- a. What activities, programs, or services do you currently participate in to prevent such health conditions? (e.g., change diet, start exercising, quit smoking)
- b. What activities, programs, services designed to promote health did you participated in the past?

**VI. Let's think about health promotion activities that you have just mentioned. What types of things did you do to make the changes?**

- a. Was there anything that helped you make the change (support from (i) family, friends, colleagues; (ii) doctor; or (iii) incentives form work or health insurance)
- b. Did you come up against any barriers to making changes?

**VII. Of all the health promotion strategies we've talked about, what is most important to you?**

**VIII. Suppose that you were in charge and could propose one health promotion program or training for home care aides, what would you do?**

Health-promoting role for elderly clients

**IX. How do you currently contribute to the health and well-being of your client(s) in the Community Care Program?**

**APPENDIX A (continued)****X. What do you think of expanding your role to promote health among your elderly clients?**

- a. How about encouraging or teaching appropriate exercise to your clients?
- b. How about encouraging healthy diet to your clients?
- c. Do you think you will come up against any barriers to playing such roles?

**XI. We wanted you to help us understand health and health promotion needs among home care aides. Is there anything that we missed? Is there anything that you came wanting to say that you didn't get a chance to say? (If time allows, go around the room to ask each one so that everyone has a chance to add something.)**



## APPENDIX B

### Institutional Board Approval Letter for African American Focus Groups

#### Approval Notice Amendment to Research Protocol and Consent Document – Expedited Review UIC Amendment # 1

February 28, 2008

Naoko Muramatsu, PhD  
Community Health Sciences  
1603 W. Taylor Street, 6th Floor  
687 SPHPI, M/C 923  
Chicago, IL 60612  
Phone: (312) 996-5679 / Fax: (312) 996-3551

**RE: Protocol # 2007-0882**  
**“Health and Prevention among Home Care Aides Serving Older Adults: Needs Assessment”**

Dear Dr. Muramatsu:

Members of Institutional Review Board (IRB) #2 have reviewed this amendment to your research and consent form under expedited procedures for minor changes to previously approved research allowed by Federal regulations [45 CFR 46.110(b)(2)]. The amendment to your research was determined to be acceptable and may now be implemented.

**Please note that the final version of the focus group guide should be submitted prior to use.**

Please note the following information about your approved amendment:

**Amendment Approval Date:** February 21, 2008

**Amendment:**

Summary: UIC Amendment #1, signed February 15, 2008 and submitted February 18, 2008, is an investigator-initiated amendment regarding addition of the following:

- 1) Focus groups with home care aides (previously supervisors only).
- 2) Focus group guide, Version #1, 02/11/2008.
- 3) Focus group survey, 01/28/2008.

## APPENDIX B (continued)

- 4) Recruitment letter, Version #1, 02/11/2008.
- 5) Informed Consent Document , Version #1, 02/12/2008.
- 6) Key research personnel: Myra Glassman, Erica Bland, and Angela Mojekwu.

**Approved Subject Enrollment #:** 350  
**Performance Sites:** UIC  
**Sponsor:** National Institute on Aging  
**Recruiting Materials:**

**a) Home Care Aides Recruitment Letter; Version 1; 02/11/2008**  
 Informed Consents:

- a) Health and Prevention, Focus Group Guide; Version 1; 02/11/2008**
- b) Health and Prevention among Home Care Aides; Version 1; 02/12/2008**

**Please note the Review History of this submission:**

Receipt Date	Submission Type	Review Process	Review Date	Review Action
02/18/2008	Amendment	Expedited	02/21/2008	Approved

Please be sure to:

→ **Use only the IRB-approved and stamped consent documents enclosed with this letter when enrolling subjects.**

→ Use your research protocol number (2007-0882) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure, "**UIC Investigator Responsibilities, Protection of Human Research Subjects**"

**Please note that the UIC IRB #2 has the right to ask further questions, seek additional information, or monitor the conduct of your research and the consent process.**

**Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.**

**APPENDIX B (continued)**

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 413-1835. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Roslynn Cheryl Riley  
IRB Coordinator, IRB # 2  
Office for the Protection of Research Subjects

Enclosures:

- 1. UIC Investigator Responsibilities, Protection of Human Research Subjects**
- 2. Informed Consent Documents:**
  - a) Health and Prevention, Focus Group Guide; Version 1; 02/11/2008
  - b) Health and Prevention among Home Care Aides; Version 1; 02/12/2008
- 3. Recruiting Material:**
  - a) Home Care Aides Recruitment Letter; Version 1; 02/11/2008

cc: Bernard Turnock, Community Health Sciences, M/C 923

## APPENDIX C

### Focus Group Guide for Russian-speaking HCAs

#### ПЛАН ДЛЯ ПРОВЕДЕНИЯ ФОКУС-ГРУППЫ С РАБОТНИКАМИ ПО УХОДУ ЗА ПОЖИЛЫМИ ЛЮДЬМИ

Здравствуйте. Добро пожаловать на нашу встречу и спасибо, что Вы сегодня пришли. Меня зовут Валентина Лукьянова, и я студентка докторских наук и руководитель проекта из Иллинойского Университета в Чикаго. Сегодня я буду задавать Вам вопросы, а также делать подробные записи нашей беседы, чтобы не пропустить важной информации.

Вас пригласили сегодня, потому что мы хотели бы узнать о здоровье русскоговорящих работников.

Прежде чем мы начнем, давайте установим несколько правил. Я представлю тему для нашей дискуссии, и хотела бы услышать Ваше мнение по предложенным мною темам. Я не жду от Вас правильных или неправильных ответов; просто я хочу узнать Ваше мнение. Наша дискуссия будет записана на магнитофонную пленку, и я буду делать записи для того, чтобы провести более точное исследование. Я хочу попросить не упоминать имена Ваших клиентов, чтобы сохранить их конфиденциальность. Вы увидите перед собой карточки с Вашими именами. Это для того, чтобы запомнить имена друг друга, но Вы можете быть уверены в том, что информация, которой Вы поделились с нами, будет конфиденциальной. Я буду к Вам обращаться только по именам. Мы не будем использовать Ваши фамилии, когда мы сложим всю информацию. Все Ваши комментарии будут обобщены, а не будут являться Вашим личным высказыванием. Я также Вас прошу отвечать на вопросы по очереди. Наша беседа займет приблизительно 1.5 часа.

[Примечание: Выделенный текст является основными вопросами, которые мы будем задавать во время беседы. Дополнительные вопросы будут задаваться с целью разъяснения и исследования далее в случае необходимости.]

## APPENDIX C (continued)

### ФОКУС-ГРУППА “ЗДОРОВЬЕ РАБОТНИКОВ ПО УХОДУ ЗА ПОЖИЛЫМИ ЛЮДЬМИ”

Давайте сначала познакомимся друг с другом. Пусть каждый по очереди скажет свое имя, и срок работы в сфере по уходу за пожилыми людьми. Также скажите нам сколько лет Вы живете в Америке и на каком языке проходит Ваше общение (русский/английский). (Ухаживаете за русским клиентом?)

**ХII. Что приходит Вам на ум, когда Вы слышите слово “здоровый”?**

**ХIII. А теперь вспомните все те годы, которые Вы проработали в сфере по уходу за пожилыми людьми. Расскажите нам о ситуациях на работе, которые повлияли на Ваше здоровье.**

а. Как ситуации, сложившиеся на работе, повлияли на Ваше здоровье?

**ХIV. А как другие сложившиеся ситуации в Вашей жизни повлияли на Ваше здоровье? (например, семейные ситуации)**

а. Как эти ситуации повлияли на Ваше здоровье?

**ХV. Модератор перечислит упомянутые проблемы здоровья. (Далее она спросит, "Существуют ли еще какие-либо проблемы со здоровьем, которые мы не упомянули?"). Давайте подумаем о тех проблемах со здоровьем, которые Вы только что упомянули. Послужили эти проблемы препятствием в Вашей работе с пожилыми людьми? Если да, то как?**

Здоровый образ жизни: опыт и предложения

**ХVI. Что Вы сейчас делаете, чтобы позаботиться о своем здоровье?**

а. В каких занятиях, программах Вы сейчас участвуете, или какими услугами Вы пользуетесь, чтобы улучшить свое здоровье (например, услуги диетолога, посещение спортивного зала, попытки бросить курить)?

б. В каких занятиях, программах Вы участвовали, или какими услугами Вы пользовались в прошлом, чтобы улучшить свое здоровье?

**ХVII. Давайте подумаем о тех оздоровительных занятиях, которые Вы только что упомянули. Что Вы сделали для того, чтобы изменить свой образ жизни?**

а. Что Вам помогло изменить Ваш образ жизни (например, поддержка (i) семьи, друзей, коллег; (ii) поддержка или рекомендация врача; (iii) льготы от работы или медицинская страховка)

б. Возникали у Вас сложности, когда Вы приняли решение изменить свой образ жизни?

**APPENDIX C (continued)**

**XVIII. Из всех оздоровительных занятий, о которых мы только что говорили, какие из них являются самыми важными для Вас?**

**XIX. Если бы Вам предоставили возможность разработать оздоровительную программу или специальное обучение для работников по уходу за пожилыми людьми, чтобы Вы предложили?**

Роль работников в жизни пожилых клиентов

**XX. Что Вы сейчас делаете для того, чтобы улучшить здоровье своих клиентов?**

**XXI. А какие новые оздоровительные меры, помимо уже существующих, Вы можете предложить своим пожилым клиентам?**

- a. Как Вы думаете, могли бы ли Вы пробудить интерес своих клиентов к различным физическим упражнениям?
- b. А как насчет того, чтобы донести доступную информацию своим клиентам о правильном питании?
- c. А как Вы думаете, у Вас могли бы возникнуть проблемы с такими дополнительными задачами?

**XXII. Сегодня я с Вами встретила для того, чтобы узнать о здоровье русскоговорящих работников по уходу за пожилыми людьми на дому. Мы что-то сегодня пропустили? Может, Вы сегодня пришли с целью поделиться с нами чем-то, но Вам не представилась такая возможность? (Если позволит время, спросите каждого участника добавить к дискуссии, что они хотят.)**

## APPENDIX D (continued)

## APPENDIX D (continued)

Grant/Contract Title: **Occupational Safety and Health, ERC, University of Illinois at Chicago**

**Recruiting Material(s):**

**b) Home Care Aides Recruitment Letter (Russian Version); Version 1; 09/25/2008**

**c) Supervisor Recruitment Letter (Russian Version); Version 1; 11/26/2008**

Informed Consent(s):

**c) Supervisors, Informed Consent (Russian): Health Needs among Russian-speaking Home Care Aides; Version 1; 12/01/2008**

**d) Consent (Russian): Health Needs among Russian-speaking Home Care Aides; Version 1; 12/01/2008**

**Please note the Review History of this submission:**

Receipt Date	Submission Type	Review Process	Review Date	Review Action
01/21/2009	Amendment	Expedited	01/30/2009	Approved

Please be sure to:

→ Use your research protocol number (2008-0893) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the enclosure,  
**"UIC Investigator Responsibilities, Protection of Human Research Subjects"**

**Please note that the UIC IRB #2 has the right to ask further questions, seek additional information, or monitor the conduct of your research and the consent process.**

**Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.**

We wish you the best as you conduct your research. If you have any questions or need further help, please contact the OPRS at (312) 996-1711 or me at (312) 996-9299. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Marissa Benni-Weis, M.S.  
 IRB Coordinator, IRB # 2  
 Office for the Protection of Research Subjects



**APPENDIX D (continued)**

Enclosure(s):

- 4. UIC Investigator Responsibilities, Protection of Human Research Subjects**
- 5. Informed Consent Document(s):**
  - a) Supervisors, Informed Consent (Russian): Health Needs among Russian-speaking Home Care Aides; Version 1; 12/01/2008
  - b) Consent (Russian): Health Needs among Russian-speaking Home Care Aides; Version 1; 12/01/2008
- 6. Recruiting Material(s):**
  - a) Home Care Aides Recruitment Letter (Russian Version); Version 1; 09/25/2008
  - b) Supervisor Recruitment Letter (Russian Version); Version 1; 11/26/2008

cc: Naoko Muramatsu, Community Health Sciences, M/C 923  
Bernard Turnock, Community Health Sciences, M/C 923

## APPENDIX E

### A Codebook for FG transcripts Health Promotion Focus Groups:

#### **H1 Health of HCAs: Current Status: What Makes HCAs feel healthy?**

- |                                   |             |
|-----------------------------------|-------------|
| 1. Mental Health                  | <b>H1MH</b> |
| 2. Physical Health                | <b>H1PH</b> |
| 3. Spiritual Health               | <b>H1SH</b> |
| 4. Comparison                     | <b>H1C</b>  |
| 5. Good Health Promoting Behavior | <b>H1HP</b> |
| 6. Social Function                | <b>H1SF</b> |

#### **H2 Work and Non-Work related Factors that Affect HCA's Health and Work**

- |                                    |                           |
|------------------------------------|---------------------------|
| <b>A. Factors</b>                  |                           |
| 1. Work                            | <b>H2FW</b>               |
| a. Clients                         | <b>H2FWC</b>              |
| i. Health                          | <b>H2FWC_H</b>            |
| ii. Non-health                     | <b>H2FWC_NH</b>           |
| b. Work conditions                 | <b>H2FW_Con</b>           |
| c. Work injuries                   | <b>H2FW_Inj</b>           |
| d. Work environment                | <b>H2FW_E</b>             |
| 2. Non-work                        | <b>H2FNW</b>              |
| <b>B. Health Conditions (HCAs)</b> | <b>H2Hlth</b>             |
| 1. Chronic                         | <b>H2HlthC</b>            |
| 2. Non-Chronic                     | <b>H2HlthNC</b>           |
| <b>C. HCon_W_Process</b>           |                           |
| 1. Chronic                         | <b>H2HlthC_W_Process</b>  |
| 2. Non-chronic                     | <b>H2HlthNC_W_Process</b> |

#### **H3 Health Promotion Activities: Experience**

- |                           |                 |
|---------------------------|-----------------|
| <b>A. Current</b>         |                 |
| 1. Access to medical care | <b>H3HPC</b>    |
| 2. Self-care behavior     | <b>H3HPC_A</b>  |
| 3. Group Programs         | <b>H3HPC_SC</b> |
| 4. Equipment/gear         | <b>H3HPC_GP</b> |
|                           | <b>H3HPC_EG</b> |
| <b>B. Past</b>            | <b>H3HPP</b>    |
| 1. Access to medical care | <b>H3HPP_A</b>  |
| 2. Self-Care behavior     | <b>H3HPP_SC</b> |

**APPENDIX E (continued)**

<b>C. Changes</b>	<b>H3HPCHG</b>
1. Facilitators	
a. Family	<b>H3HPCHG_F_Fam</b>
b. MD	<b>H3HPCHG_F_MD</b>
c. Work	<b>H3HPCHG_F_W</b>
d. HCond	<b>H3HPCHG_F_Hcond</b>
e. HCduties	<b>H3HPCHG_F_HCduty</b>
f. Positive health effects	<b>H3HPCHG_F_Pos</b>
g. Limited finance	<b>H3HPCHG_F_Fin</b>
2. Barriers	<b>H3HPCHG_B</b>

**H4 Health Promotion Activities: Suggestions**

<b>A. Most Important</b>	<b>H4HPI</b>
1. Access to Medical Care	<b>H4HPI_A</b>
2. Access to Group Programs	<b>H4HPI_GP</b>
<b>A. Suggested HP</b>	<b>H4HPI_S</b>
1. Access to Medical Care	<b>H4HPI_S_A</b>
2. Group Programs	<b>H4HPI_S_GP</b>
3. Training	<b>H4HPI_S_T</b>
4. Classes & programs	<b>H4HPI_S_C/_P</b>

**H5 HP Role for Clients**

<b>A. Current</b>	<b>HP5_RoleC</b>
1. Help w/ medical aspects of clients' life	<b>HP5_RoleC_Med</b>
2. Help clients w/HP activities	<b>HP5_RoleC_HP</b>
3. Provide clients with SS	<b>HP5_RoleC_SS</b>
4. Observe a client	<b>HP5_RoleC_Obs</b>
<b>B. Expand</b>	<b>HP5_RoleE</b>
1. Already doing a lot	<b>HP5_RoleE_Alot</b>
2. Positive	<b>HP5_RoleE_P</b>
3. Barrier	<b>HP5_RoleE_B</b>

## APPENDIX E (continued)

### TABLE XI

AN EXCERPT OF CODE DESCRIPTION FOR HEALTH PROMOTION FOCUS GROUP

<b>Mnemonic</b>	<b>H1MH</b>
Short Description	Mental Health
Detailed Description	Aspects of mental health that make HCAs feel healthy
Typical Exemplars	Mental aspects (e.g., stay in good mental health), psychological aspects (e.g., perceptions of work environment as stress-free)
<b>Mnemonic</b>	<b>H1PH</b>
Short Description	Physical Health
Detailed Description	The state of physical well-being that makes HCAs feel healthy
Typical Exemplars	Free of disease, absence of pain, physical function
<b>Mnemonic</b>	<b>H1SH</b>
Short Description	Spiritual health
Detailed Description	The ability to practice moral or religious beliefs/ connect to a higher being that make HCAs feel healthy
Typical Exemplars	Go to church, use prayer, Believe in a goodness of universe
<b>Mnemonic</b>	<b>H1C</b>
Short Description	Comparison
Detailed Description	The ability to compare oneself to others to one's advantage that makes HCAs feel healthy
Typical Exemplars	Compared to people of my age, I feel healthy; I can do what younger people can do.
<b>Mnemonic</b>	<b>H1HP</b>
Short Description	Good Health Promoting Behavior
Detailed Description	Reported health-promoting behaviors that make HCAs feel healthy
Typical Exemplars	Healthy diet, exercise
<b>Mnemonic</b>	<b>H1SF</b>
Short Description	Social Function
Detailed Description	Work and non-work related social activities that make HCAs feel healthy
Typical Exemplars	Work-related social activities: ability to perform HC duties well; non-work related social activity: ability to take a good care of children.
<b>Mnemonic</b>	<b>H2FW</b>
Short Description	Work factors
Detailed Description	Work factors that affect HCAs' health
<b>Mnemonic</b>	<b>H2FWC</b>
Short Description	Client-related work factors
Detailed Description	Work factors that have to do with clients

## APPENDIX F

### An Overview Grid for African American and Russian Focus Groups

**Note for table use:** Grids use a simple table format with rows representing the focus group session identifier (e.g., E080510, corresponding to a focus group with English-speaking HCAs conducted on May 5, 2008), and columns representing study themes. In each cell, a code (with frequencies in parentheses) corresponding to a particular theme is provided.

**TABLE XII**

AN OVERVIEW GRID: AFRICAN AMERICAN FOCUS GROUPS

	<b>Focus Group Identifier</b>					
<b>Theme</b>	<b>E080510</b>	<b>E051908</b>	<b>E052708</b>	<b>E053108</b>	<b>E060208</b>	<b>E062808</b>
<b>Work factors that affect HCAs' health</b>	<b><u>Client Health:</u></b> H2FWC_H_AIDS (1) H2FWC_H_H_Virus (1)	<b><u>Client Health:</u></b> H2FWC_H_NursingHome(2) H2FWC_H_AIDS(1) H2FWC_H_Unware(2) H2FWC_H_Bedridden(1) H2FWC_H_Diab(1) H2FWC_H_Fall(1) H2FWC_H_Sore (1)	<b><u>Client Health:</u></b> H2FWC_H_Cog(1) H2FWC_H_Bedridden(1)	<b><u>Client Health:</u></b> H2FWC_H(7) H2FWC_H_Bedridden (2) H2FWC_H_Independent (1)	<b><u>Client Health:</u></b> H2FWC_H_Bedridden (3) H2FWC_H_Bruise(1) H2FWC_H_CantLeave(1) H2FWC_H_Cog(3) H2FWC_H_Coma(1) H2FWC_H_Fall(1) H2FWC_H_Hygiene(1) H2FWC_H_Old(2) H2FWC_H_Weight(1)	<b><u>Client Health:</u></b> H2FWC_H_Alzheimer(1) H2FWC_H_Hygiene(3) H2FWC_H_Infection(1) H2FWC_H_Unaware(1)
	<b><u>Client Non-Health:</u></b> H2FWC_NH_Offend (1)	<b><u>Client Non-Health:</u></b> H2FWC_NH_offend(2) H2FWC_NH_BeyondCareP(1) H2FWC_NH_ComplainSup(1) H2FWC_NH_Fam(1) H2FWC_NH_Personality(1)	<b><u>Client Non-Health:</u></b> H2FWC_NH_BeyondCareP(1) H2FWC_NH_Fam(1) H2FWC_NH_Gown (1) H2FWC_NH_StandOver(1)	<b><u>Client Non-Health:</u></b> H2FWC_NH_Fam(3) H2FWC_NH_Offend(1)	<b><u>Client Non-Health:</u></b> H2FWC_NH_Fam(4) H2FWC_NH_Offend(3) H2FWC_NH_LanBar(2) H2FWC_NH_Lie(2) H2FWC_NH_Alone(1) H2FWC_NH_Attach(1) H2FWC_NH_Buy(1) H2FWC_NH_Convert (1) H2FWC_NH_Educ(1)	<b><u>Client Non-Health:</u></b> H2FWC_NH_Attach(1) H2FWC_NH_BeyondCareP(1) H2FWC_NH_Fam(1) H2FWC_NH_Offend(1)
	<b><u>Work Environment:</u></b> H2FW_E (1)	<b><u>Work Environment:</u></b> H2FW_E(4)	<b><u>Work Environment:</u></b> H2FW_E(2)	<b><u>Work Environment:</u></b> —	<b><u>Work Environment:</u></b> H2FW_E(7)	<b><u>Work Environment:</u></b> H2FW_E(4)

# APPENDIX F (continued)

## AN OVERVIEW GRID: AFRICAN AMERICAN FOCUS GROUPS

	<b>Focus Group Identifier</b>					
<b>Theme</b>	<b>E080510</b>	<b>E051908</b>	<b>E052708</b>	<b>E053108</b>	<b>E060208</b>	<b>E062808</b>
<b>Work factors that affect HCAs' health</b>	<b>Work Conditions:</b> H2FW_Con_EG (2) H2FW_Con_Insur (1)	<b>Work Conditions:</b> H2FW_Con_Insur(1)	<b>Work Conditions:</b> H2FW_Con_Insur(4) H2FW_Con_NoDaysOff(1) H2FW_Con_T(1)	<b>Work Conditions:</b> H2FW_Con_Pay(1)	<b>Work Conditions:</b> H2FW_Con_Insur (3) H2FW_Con_Pay(1)	<b>Work Conditions:</b> H2FW_Con_Insur (1) H2F_Con_Pay(1)
<b>Non-work factors that affect HCAs' health</b>	H2FNW_Fam (5)	H2FNW_Fam(1) H2FNW_Fin(1)	H2FNW_Fam(1) H2FNW_Fin(1)	H2FNW_Fam(2)	H2FNW_Accident(1) H2FNW_Environment (1) H2FNW_Fam(5)	H2FNW_Fin(1)
<b>Health Conditions of HCAs</b>	<b>Mental Health:</b> H2Hlth_Stress (4) H2Hlth_Burnout (1)	<b>Mental Health:</b> H2Hlth_Stress (9)	<b>Mental Health:</b> H2Hlth_Stress (4) H2Hlth_Depress(1)	<b>Mental Health:</b> H2Hlth_Burnout(5) H2Hlth_Depress(2)	<b>Mental Health:</b> H2Hlth_Burnout(7) H2Hlth_CantStand(1) H2Hlth_Depress(3)	<b>Mental Health:</b> —
	<b>Physical (Chronic):</b> H2Hlth_Arth (2) H2Hlth_Asthma (1) H2Hlth_Diab (1) H2Hlth_Hyper (1) H2HLth_Osteo (1)	<b>Physical (Chronic):</b> H2Hlth_Chronic(1)	<b>Physical (Chronic):</b> H2Hlth_Arth(1) H2Hlth_Asthma(1) H2Hlth_Cellulites (1)	<b>Physical (Chronic):</b> H2Htlh_Hyper(5) H2Htlh_Athma(2) H2Hlth_Arth(1) H2Hlth_Blind(1) H2Hlth_Diab(1)	<b>Physical (Chronic):</b> H2Htlh_Hyper(5) H2Htlh_Athma(5) H2Hlth_Diab(1) H2Htlh_Liver(1) H2Hlth_Lung(1)	<b>Physical (Chronic):</b> —
	<b>Musculoskeletal:</b> H2Hlth_Inj (1) H2Hlth_Knee (1)	<b>Musculoskeletal:</b> H2Hlth_Foot(1) H2Hlth_Inj (1)	<b>Musculoskeletal:</b> H2Hlth_Knee(2) H2Hlth_Hand(1) H2Hlth_Hip(1) H2Hlth_Inj(1)	<b>Musculoskeletal:</b> H2Hlth_Back(1)	<b>Musculoskeletal:</b> H2Hlth_Disk(1) H2Hlth_Inj(1)	<b>Musculoskeletal:</b> H2Hlth_Inj(1)

## APPENDIX F (continued)

## AN OVERVIEW GRID: AFRICAN AMERICAN FOCUS GROUPS

	Focus Group Identifier					
Theme	E080510	E051908	E052708	E053108	E060208	E062808
Health Conditions of HCAs	<b>Non-Chronic:</b> H2Hlth_Dental (2)	<b>Non-Chronic:</b> —	<b>Non-Chronic:</b> H2Hlth_Cramp(1)	<b>Non-Chronic:</b> H2Hlth_Chol (1) H2Hlth_HotFlash(1) H2Hlth_Sick(1)	<b>Non-Chronic:</b> —	<b>Non-Chronic:</b> H2Hlth_Sick(1)
	<b>Other:</b> —	<b>Other:</b> —	<b>Other:</b> H2Hlth_Underweight(1)	<b>Other:</b> —	<b>Other:</b> —	<b>Other:</b> —
What HCAs do to take care of their health (current & past experiences)	<b>Current:</b> <b>Access to health services:</b> H3HPC_A_Insur(2) H3HPC_A_MD (2) H3HPC_NoInsur (2)	<b>Current:</b> H3HPC_Community(1) H3HPC_Computer(1)	<b>Current:</b> —	<b>Current:</b> <b>Access to health services:</b> H3HPC_A(3) <b>Other:</b> H3HPC_Computer(1) H3HPC_GoOut(1)	<b>Current:</b> <b>Access to health services:</b> H3HPC_A(2) <b>Other:</b> H3HPC_Fam(1) H3HPC_Music(2)	<b>Current:</b> —
	<b>Self-Care:</b> H3HPC_SC_PA (9) H3HPC_SC_PA_Walk (3) H3HPC_SC_diet (3) H3HPC_SC_checkup (1) H3HPC_SC_cleanhands(1) H3HPC_SC_EG (1) H3HPC_SC_Game(1) H3HPC_SC_Hcond (1) H3HPC_SC_KeepWork(1)	<b>Self-Care:</b> H3HPC_SC_PA(4) H3HPC_SC_diet(1) H3HPC_SC_EG(1) H3HPC_SC_Meditate(1) H3HPC_SC_Religion(1) H3HPC_SC_Sanitize(1) H3HPC_SC_SelfMotivate(1) H3HPC_SC_Spa(1)	<b>Self-Care:</b> H3HPC_SC_PA(3) H3HPC_SC_PA_Walk(4) H3HPC_SC_Diet(4) H3HPC_SC_Smoke(3) H3HPC_SC_Vit(2) H3HPC_SC_Remedy(1) H3HPC_SC_SelfEduc(1) H3HPC_SC_Religion(1)	<b>Self-Care:</b> H3HPC_SC_PA(7) H3HPC_SC_PA_Walk(3) H3HPC_SC_Diet(2) H3HPC_SC_Med(2) H3HPC_SC_EG(1) H3HPC_SC_Relax(2) H3HPC_SC_TimeOff (1)	<b>Self-Care:</b> H3HPC_SC_PA(4) H3HPC_SC_PA_Walk(1) H3HPC_SC_Diet(3) H3HPC_SC_Med(1) H3HPC_SC_Religion(1) H3HPC_SC_Counselor(1) H3HPC_SC_Dental(1) H3HPC_SC_Relax(1) H3HPC_SC_SelfDiagnose(1) H3HPC_EG(1) H3HPC_SC_Smoke H3HPC_SC_TimeOff(1)	<b>Self-Care:</b> H3HPC_SC_PA_Walk(1)

## APPENDIX F (continued)

## AN OVERVIEW GRID: AFRICAN AMERICAN FOCUS GROUPS

	Focus Group Identifier					
Theme	E080510	E051908	E052708	E053108	E060208	E062808
<b>What HCAs do to take care of their health (current &amp; past experiences)</b>	H3HPC_SC_Med (1) H3HPC_SC_Read (1) H3HPC_SC_Relax (1) H3HPC_SC_Remedy(1) H3HPC_SC_Shower(1) H3HPC_SC_Sleep(1) H3HPC_SC_SuperHlt h(1)	H3HPC_SC_TakeRide (1) H3HPC_SC_Tea(1)				
	<b>Past:</b> H3HPP_SC_PA (1)	<b>Past:</b> —	<b>Past:</b> H3HPP_SC_PA_Walk(1) H3HPP_SC_QuitSmoke (1)	<b>Past:</b> H3HPP_SC_PA (1)	<b>Past:</b> H3HPP_GP_Paint (1) H3HPP_GP_Stress (1)	<b>Past:</b> —
<b>What helped to make the changes</b>	<b>What helped:</b> H3HPCHG_F_Hcond(6) H3HPCHG_F_Fam(2) H3HPCHG_F_Lbs(2) H3HPCHG_F_MD(2) H3HPCHG_F_Class(1) H3HPCHG_F_Client(1) H3HPCHG_F_Fin(1) H3HPCHG_F_TiredSick(1)	<b>What helped:</b> H3HPCHG_F_Hcond(5) H3HPCHG_F_Accident H3HPCHG_F_Fam(1) H3HPCHG_F_HCduty(1) H3HPCHG_F_Pos(1)	<b>What helped:</b> H3HPCHG_F_Pos(5) H3HPCHG_F_Hcond (2) H3HPCHG_F_Fam(2) H3HPCHG_F_Appearance(1) H3HPCHG_F_MD(1)	<b>What helped:</b> H3HPCHG_F_C(2) H3HPCHG_F_Client(1) H3HPCHG_F_JusDolt(1) H3HPCHG_F_Lbs(1) H3HPCHG_F_MD(1) H3HPCHG_F_Remedy(1) H3HPCHG_F_TiredSick(1)	<b>What helped:</b> H3HPCHG_F_Fam(5) H3HPCHG_F_HCduty(3) H3HPCHG_F_Pos(3) H3HPCHG_F_Hcond(2) H3HPCHG_F_Fin(2) H3HPCHG_F_C(1) H3HPCHG_F_MD(1)	<b>What helped:</b> —
	<b>Barriers:</b> H3HPCHG_B_Time (2)	<b>Barriers:</b> H3HPCHG_B_Neglect (1)	<b>Barriers:</b> H3HPCHG_B_Inj(1) H3HPCHG_B_Intol(1)	<b>Barriers:</b> H3HPCHG_B_Alone(1) H3HPCHG_B_NotR(1)	<b>Barriers:</b> —	<b>Barriers:</b> H3HPCHG_B_Menop(1)



**APPENDIX F (continued)**

**AN OVERVIEW GRID: AFRICAN AMERICAN FOCUS GROUPS**

	<b>Focus Group Identifier</b>					
<b>Theme</b>	<b>E080510</b>	<b>E051908</b>	<b>E052708</b>	<b>E053108</b>	<b>E060208</b>	<b>E062808</b>
<b>What helped to make the changes</b>	H3HPCHG_B_Fin (1) H3HPCHG_B_Neglect (1) H3HPCHG_B_Tired(1)		H3HPCHG_B_NoBeliefH P(1) H3HPCHG_B_Pain(1) H3HPCHG_B_Stress(1) H3HPCHG_B_Weight(1)	H3HPCHG_B_Tired(1)	—	H3HPCHG_B_Tired(1)
<b>Suggestions (programs, training,) to help HCAs improve their health</b>	<u><b>Suggestions/Program:</b></u> H4HPI_S_GP_PA(6) H4HPI_S_Assistance (1) H4HPI_S_T_Stress (1)	<u><b>Suggestions/Program:</b></u> H4HPI_S_T_(3) H4HPI_S_Insur(2) H4HPI_S_Pay(2) H4HPI_S_GP_PA(2) H4HPI_S_GP_Vent(1) H4HPI_S_TimeOut(1)	<u><b>Suggestions/Program:</b></u> H4HPI_S_Pay(2) H4HPI_S_T(2) H4HPI_S_Certificate(1) H4HPI_S_SupportGroup (1) H4HPI_S_JobDescription (1) H4HPI_S_SupT(1)	<u><b>Suggestions/Program:</b></u> H4HPI_S_C(5) H4HPI_S_T(2) H4HPI_S_GP_PA(1) H4HPI_S_GP_Vent(1) H4HPI_S_InfoClient(1) H4HPI_S_Stressfree(1)	<u><b>Suggestions/Program:</b></u> H4HPI_S_T_Stress(3) H4HPI_S_Educ(2) H4HPI_S_GP_Vent(2) H4HPI_S_C(1) H4HPI_S_C_Aging(1) H4HPI_S_C_Assistance(1) ) H4HPI_S_GP_PA(1) H4HPI_S_OnceWeek (1) H4HPI_S_Rotate(1) H4HPI_S_Stressfree(1)	<u><b>Suggestions/Program:</b></u> H4HPI_S_C_CNA(1) H4HPI_S_CarePlan(1) H4HPI_GP_Nutrition H4HPI_S_GP_PA(1) H4HPI_S_GP_Vent (1) H4HPI_S_Rotate(1)

## APPENDIX F (continued)

TABLE XIII

## AN OVERVIEW GRID: RUSSIAN-SPEAKING FOCUS GROUPS

Theme	R020709_1	R020709_2	R031409_1	R031409_2
<b>Work factors that affect HCAs' health</b>	<b><u>Client Health:</u></b> H2FWC_H (2) H2FWC_H_Depression(1) H2FWC_H_Fall (1) H2FWC_H_Inj (1)	<b><u>Client Health:</u></b> H2FWC_H_Cog (1) H2FWC_H_Die (2) H2FWC_H_Mood (2)	<b><u>Client Health:</u></b> H2FWC_H_Cog (1)	<b><u>Client Health:</u></b> H2FWC_H_Cog (1)
	<b><u>Client Non-Health:</u></b> H2FWC_NH_Alone (1) H2FWC_NH_Attach (1) H2FWC_NH_Fam (1) H2FWC_NH_Lie (1)	<b><u>Client Non-Health:</u></b> H2FWC_NH_BeyondCare P (2) H2FWC_NH_ComplainSup (1) H2FWC_NH_Lie (3) H2FWC_NH_Load (1) H2FWC_NH_Offend (1) H2FWC_NH_Personality (3) H2FWC_NH_Vampire (1)	<b><u>Client Non-Health:</u></b> H2FWC_NH_Attach (1) H2FWC_NH_Horder(1) H2FWC_NH_Load (1) H2FWC_NH_Personality (1) H2FWC_NH_Vampire (2)	<b><u>Client Non-Health:</u></b> H2FWC_NH_Personality (1)
	<b><u>Work Environment:</u></b> —	<b><u>Work Environment:</u></b> H2FW_E (1)	<b><u>Work Environment:</u></b> —	<b><u>Work Environment:</u></b> —
	<b><u>Work Conditions:</u></b> H2FW_Con_HC(1) H2FW_Con_NoDaysOff (1)	<b><u>Work Conditions:</u></b> H2FW_Con_HC(2) H2FW_Con_Insur(1) H2FW_Con_T (1)	<b><u>Work Conditions:</u></b> H2FW_Con_Insur(7) H2FW_Con_NoDaysOff (1)	<b><u>Work Conditions:</u></b> —
<b>Non-work factors that affect HCAs' health</b>	H2FNW_Fam (1) H2FNW_Nostalgia(1)	H2FNW_Fam(3) H2FNW_Climate (1) H2FNW_Immigration(2) H2FNW_Language (1)	H2FNW_Adjustment(1) H2FNW_Immigration(2) H2FNW_Language(2) H2FNW_LifeAmerica(1)	H2FNW_Immigration(1)
	R020709_1	R020709_2	R031409_1	R031409_2
<b>Health Conditions of HCAs</b>	<b><u>Mental Health:</u></b> H2Hlth_Burnout(3) H2Hlth_Stress (4)	<b><u>Mental Health:</u></b> H2Hlth_Aggravate (1) H2Hlth_Burnout(9) H2Hlth_KeepInside(1) H2Hlth_Stress (9)	<b><u>Mental Health:</u></b> H2Hlth_Aggravate (2) H2Hlth_Burnout(3) H2Hlth_Down(3) H2Hlth_Stress (10)	<b><u>Mental Health:</u></b> H2Hlth_Burnout(1) H2Hlth_Stress (3)
	<b><u>Physical (Chronic):</u></b> —	<b><u>Physical (Chronic):</u></b> H2Hlth_EatingDisorder(3) H2Hlth_Hyper(1) H2Hlth_Sleep (2)	<b><u>Physical (Chronic):</u></b> —	<b><u>Physical (Chronic):</u></b> —
	<b><u>Musculoskeletal:</u></b> H2Hlth_Back(1) H2Hlth_Knee(1) H2Hlth_Leg(1)	<b><u>Musculoskeletal:</u></b> H2Hlth_Back(1)	<b><u>Musculoskeletal:</u></b> —	<b><u>Musculoskeletal:</u></b> —
	<b><u>Non-Chronic:</u></b> H2Hlth_Stomach	<b><u>Non-Chronic:</u></b> —	<b><u>Non-Chronic:</u></b> —	<b><u>Non-Chronic:</u></b> —

## APPENDIX F (continued)

### AN OVERVIEW GRID: RUSSIAN-SPEAKING FOCUS GROUPS

Theme	R020709_1	R020709_2	R031409_1	R031409_2
What HCAs do to take care of their health (current & past experiences)	<b>Current:</b> H3HPC_LeaveClient(1)	<b>Current:</b> H3HPC_Clean(1) H3HPC_GoOut(1)	<b>Current:</b> —	<b>Current:</b> —
	<b>Self-Care:</b> H3HPC_SC_BabySit H3HPC_SC_Diet(1) H3HPC_SC_PA (2) H3HPC_SC_PA_Walk(1) H3HPC_SC_Video(1) H3HPC_SC_Vit(1) H3HPC_SC_Sights(1)	<b>Self-Care:</b> H3HPC_SC_Diet(2) H3HPC_SC_Drive(1) H3HPC_SC_Med(1) H3HPC_SC_PA (2) H3HPC_SC_PA_Walk(1) H3HPC_SC_Relax(1) H3HPC_SC_Religion(1) H3HPC_SC_Shower(1) H3HPC_SC_Vent(1)	<b>Self-Care:</b> H3HPC_SC_Diet(1) H3HPC_SC_Drink(1) H3HPC_SC_Nature (1) H3HPC_SC_PA (4) H3HPC_SC_PA_Walk(1) H3HPC_SC_Smoke(2)	<b>Self-Care:</b> H3HPC_SC_Alone(1) H3HPC_SC_Autotraining(1) H3HPC_SC_ChangeMod(1) H3HPC_SC_Diet(2) H3HPC_SC_Distract(1) H3HPC_SC_Drive(1) H3HPC_SC_Music(2) H3HPC_SC_Nature (1) H3HPC_SC_PA (2) H3HPC_SC_PA_Walk(1) H3HPC_SC_Read (1) H3HPC_SC_Smile(1) H3HPC_SC_SS (2) H3HPC_SC_Tea(1) H3HPC_SC_ThinkPositive(2) H3HPC_SC_TV (1) H3HPC_SC_Water(1)
	<b>Past:</b> —	<b>Past:</b> —	<b>Past:</b> H3HPP_GP_Stress (2) H3HPP_SC_PA (2) H3HPP_SC_PA_Walk(1)	<b>Past:</b> —
What helped to make the changes	<b>What helped:</b> H3HPCHG_F_Fam(1) H3HPCHG_F_HCond(2)	<b>What helped:</b> H3HPCHG_F_Diet(1) H3HPCHG_F_HCDuty(1) H3HPCHG_F_HCond(1) H3HPCHG_F_Immigration(1) H3HPCHG_F_MD(1) H3HPCHG_F_NoInsur(1)	<b>What helped:</b> H3HPCHG_F_Client (1) H3HPCHG_F_Desire(1) H3HPCHG_F_NoInsur(1)	<b>What helped:</b> —
	<b>Barriers:</b> H3HPCHG_B_Insur(2) H3HPCHG_B_Time(1) H3HPCHG_B_Tired(1)	<b>Barriers:</b> H3HPCHG_B_Fin(3) H3HPCHG_B_Tired(1)	<b>Barriers:</b> H3HPCHG_B_LifeOnWheels(1) H3HPCHG_B_Time(1) H3HPCHG_B_Weather(1)	<b>Barriers:</b> H3HPCHG_B_Time(2)
Suggestions (pro-grams, training)	<b>Suggestions/Program:</b> H4HPI_S_GP_PA(1) H4HPI_S_SupportGroup(1)	<b>Suggestions/Program:</b> H4HPI_S_C_Psych(1) H4HPI_S_FollowCarePI(2) H4HPI_S_JobDescription(1) H4HPI_S_MeetClient(2) H4HPI_S_Pay (2)	<b>Suggestions/Program:</b> H4HPI_S_A_Emerg(1) H4HPI_S_C_Psych(2) H4HPI_S_GP_PA(1) H4HPI_S_Socialize(9)	<b>Suggestions/Program:</b> H4HPI_S_C_Psych(1) H4HPI_S_GP_PA(1) H4HPI_S_Vent(1) H4HPI_S_StressF(1)

**(4)** Research involving the collection or study of existing data, documents, records, pathological specimens, or diagnostic specimens, if these sources are publicly available or if the information

### APPENDIX G (continued)

is recorded by the investigator in such a manner that subjects cannot be identified, directly or through identifiers linked to the subjects.

You are reminded that investigators whose research involving human subjects is determined to be exempt from the federal regulations for the protection of human subjects still have responsibilities for the ethical conduct of the research under state law and UIC policy. Please be aware of the following UIC policies and responsibilities for investigators:

1. Amendments You are responsible for reporting any amendments to your research protocol that may affect the determination of the exemption and may result in your research no longer being eligible for the exemption that has been granted.
2. Record Keeping You are responsible for maintaining a copy all research related records in a secure location in the event future verification is necessary, at a minimum these documents include: the research protocol, the claim of exemption application, all questionnaires, survey instruments, interview questions and/or data collection instruments associated with this research protocol, recruiting or advertising materials, any consent forms or information sheets given to subjects, or any other pertinent documents.
3. Final Report When you have completed work on your research protocol, you should submit a final report to the Office for Protection of Research Subjects (OPRS).

Please be sure to:

→ Use your research protocol number (listed above) on any documents or correspondence with the IRB concerning your research protocol.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact me at (312) 355-1404 or the OPRS office at (312) 996-1711. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Sheilah R. Graham, BS  
IRB Coordinator, IRB # 2  
Office for the Protection of Research Subjects

cc: Bernard Turnock, Community Health Sciences, M/C 923

Naoko Muramatsu, Faculty Sponsor, Community Health Sciences, M/C 92

## APPENDIX H

TABLE XIV

## RESPONDENT GROUP CHARACTERISTICS (N=739)

Variable	Total (N=739)	African (N=592)	Russian(N=147)
	Frequency (%)	Frequency(%)	Frequency(%)
<b>Age</b>			
>35	155 (21%)	125 (21%)	30 (20%)
<35	501 (68%)	386 (65%)	115 (78%)
missing	83 (11%)	81 (14%)	2 (1%)
<b>Work Tenure (Years in home care)</b>			
>5 years	267 (36%)	184 (31%)	83 (56%)
<5 years	287 (39%)	241 (41%)	46 (31%)
missing	185 (25%)	167 (28%)	18 (12%)
<b>Gender</b>			
Male	65 (9%)	31 (5%)	34 (23%)
Female	674 (91%)	561 (95%)	113 (77%)
<b>Education</b>			
Less than College	430 (58%)	403 (68%)	27 (18%)
College Degree	309 (42%)	189 (32%)	120 (82%)
<b>Client Type</b>			
Non-family	555 (75%)	456 (77%)	99 (67%)
Family	184 (25%)	136 (23%)	48 (33%)
	<b>Mean (SD)</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>
<b>Qualitative Demands<sup>a</sup></b>			
Get in emotionally disturbing situations	2.11 (.205)	1.64 (1.83)	4.01 (1.79)
Have to hide feelings at work	1.37 (1.38)	1.10 (1.31)	2.46 (1.71)
<b>Quantitative Demands</b>			
Have to work fast	1.01 (1.15)	0.75 (0.99)	2.05 (1.14)
Get behind in work	0.39 (.76)	0.33 (0.71)	0.61 (0.93)
<b>Lack of Job Influence</b>			
Have a lot of control over work	1.24 (1.40)	1.18 (1.44)	1.50 (1.22)
Have any control over what HCAs do at work	1.37 (1.38)	1.31 (1.42)	1.59 (1.14)
Have any control over how HCAs do their work	1.16 (1.33)	1.15 (1.40)	1.18 (1.03)
<b>Lack of Predictability</b>			
See new clients before knowing about their behavior	0.72 (1.18)	0.81 (1.24)	0.38 (0.80)
See new clients before knowing about their health	0.81 (1.24)	0.87 (1.27)	0.58 (1.08)
<b>Supervisor Support</b>			
Supervisor cares about HCAs' satisfaction with job	2.90 (1.35)	2.88 (1.40)	2.98 (1.14)
Supervisor appreciates HCAs' hard work	2.87 (1.35)	2.76 (1.41)	3.33 (0.95)
Supervisor frequently talks to HCAs about her job	2.19 (1.39)	2.09 (1.44)	2.61 (1.09)
Supervisor understands if HCAs refuse assignment	2.83 (1.38)	2.78 (1.42)	3.04 (1.23)
Supervisor is available to help	3.28 (1.17)	3.22 (1.22)	3.54 (0.90)
Supervisor treats HCAs with respect	6.48 (1.85)	6.43 (1.94)	6.65 (1.39)
<b>Work-related Burnout</b>			
Find work to be emotionally exhausting	0.91 (1.06)	0.87 (1.08)	1.07 (0.94)
Feel burnt out from work	1.41 (1.19)	1.38 (1.21)	1.52 (1.12)
Feel worn out at the end of the workday	1.91 (1.22)	1.87 (1.26)	2.07 (1.06)
Feel exhausted at the thought of another workday	1.05 (1.11)	1.07 (1.14)	0.97 (0.98)
Feel work drains energy	1.01 (1.11)	0.99 (1.12)	1.07 (1.03)
Feel tired of working with clients	0.64 (0.96)	0.56 (0.95)	0.97 (0.93)
Have to deal with difficult clients	1.26 (1.19)	1.22 (1.22)	1.43 (1.06)

<sup>a</sup>All items in the scales have five response categories ranging from 0 ("never") to 4 ("always").

## APPENDIX I

**TABLE XV**  
REGRESSION ANALYSES WITH YEARS IN HOME CARE

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
African American	-1.131*	-1.188*	-1.676**	-0.974	-0.977	3.483***	3.026***	2.765***	1.737	0.416
	(0.537)	(0.551)	(0.569)	(0.609)	(0.609)	(0.576)	(0.585)	(0.586)	(1.115)	(1.931)
<i>Control Variables</i>										
Years in Home Care										
> 5 years		Omitted	Omitted	Omitted	Omitted	Omitted	Omitted	Omitted	Omitted	Omitted
< 5 years		0.609	0.731	0.860	0.865	0.397	0.294	0.310	0.322	0.306
		(0.502)	(0.501)	(0.500)	(0.500)	(0.424)	(0.423)	(0.420)	(0.421)	(0.421)
missing years		-0.003	0.228	0.444	0.449	0.452	0.459	0.466	0.463	0.451
		(0.570)	(0.571)	(0.572)	(0.572)	(0.483)	(0.479)	(0.475)	(0.475)	(0.475)
Female			2.460**	2.376**	2.342**	2.047**	2.066**	2.080**	2.089**	2.110**
			(0.784)	(0.780)	(0.785)	(0.664)	(0.657)	(0.653)	(0.652)	(0.653)
<i>Background Variables</i>										
College				1.477**	1.501**	0.795	0.937*	0.966*	0.957*	0.971*
				(0.473)	(0.477)	(0.405)	(0.403)	(0.400)	(0.400)	(0.401)
Client (non-family)					0.208	0.387	0.220	0.143	0.162	0.142
					(0.498)	(0.422)	(0.420)	(0.418)	(0.418)	(0.418)
<i>Stressors</i>										
Emotional demands						1.354***	1.275***	1.247***	1.266***	1.283***
						(0.103)	(0.104)	(0.104)	(0.235)	(0.236)
Time Pressure						0.969***	0.883***	0.880***	0.517*	0.508
						(0.134)	(0.135)	(0.134)	(0.261)	(0.261)
Lack of Job influence							0.021	-0.020	-0.018	-0.018
							(0.051)	(0.052)	(0.052)	(0.052)
Lack of predictability							0.332***	0.314***	0.313***	0.317***
							(0.084)	(0.084)	(0.084)	(0.084)

# APPENDIX I (continued)

## REGRESSION ANALYSES WITH YEARS IN HOME CARE

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8	Model 9	Model 10
Support										
Support from supervisors								-0.105*** (0.031)	-0.104*** (0.031)	-0.167* (0.082)
Interaction Effects										
Emotional X African									-0.021 (0.261)	-0.036 (0.262)
Time Pressure X African									0.491 (0.300)	0.499 (0.300)
Support X African										0.073 (0.088)
Constant	9.095*** (0.481)	8.905*** (0.521)	6.947*** (0.811)	5.740*** (0.894)	5.604*** (0.952)	-1.575 (0.909)	-1.424 (0.940)	0.844 (1.152)	1.733 (1.383)	2.875 (1.942)
N	739	739	739	739	739	739	739	739	739	739
R-squared	0.006	0.009	0.022	0.034	0.035	0.314	0.329	0.339	0.342	0.342
Adj. R-squared	0.005	0.005	0.016	0.028	0.027	0.306	0.319	0.329	0.330	0.330
AIC	4704.41	4706.48	4698.64	4690.89	4692.72	4444.42	4432.51	4422.69	4423.78	4425.07

Standard errors in parentheses

\*\*\* p<0.001, \*\* p<0.01, \* p<0.05



## CITED LITERATURE

- Akaike, H. (1987). Factor analysis and AIC. *Psychometrika*, 52, 317-332.
- Aroian, K. J., Khatutsky, G., Tran, T. V., & Balsam, A. L. (2001). Health and social service utilization among elderly immigrants from the former Soviet Union. *Journal of Nursing Scholarship*, 33, 265-271.
- Aronsson, G., Astvik, W., & Thulin, A.-B. (1998). Home-care workers: work conditions and occupational exclusion: A comparison between carers on early-retirement and regular pensions. *Home Health Care Services Quarterly*, 17(2), 71-91 (21 p.).
- Aust, B., Rugulies, R., Skakon, J., Scherzer, T., & Jensen, C. (2007). Psychosocial work environment of hospital workers: validation of a comprehensive assessment scale. *The International Journal of Nursing Studies*, 44(5), 814-825.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246.
- Borritz, M., Bultmann, U., Rugulies, R., Christensen, K. B., Villadsen, E., & Kristensen, T. S. (2005). Psychosocial work characteristics as predictors for burnout: Findings from 3-year follow up of the PUMA Study. *Journal of Occupational and Environmental Medicine*, 47(10), 1015-1025.
- Borritz, M. (2006). *Burnout in human service work - causes and consequences: Results of 3-year of follow-up of the PUMA study among human service workers in Denmark*. National Institute of Occupational Health, Denmark.
- Brunlin, C., Winkvist, A., & Langendoen, S. (2000). Stress from working conditions among home care personnel with musculoskeletal symptoms. *Journal of Advanced Nursing*, 31(1), 181-189 (189p.).
- Bureau of Labor Statistics (2012). U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Home Health and Personal Care Aides. Retrieved May 25, 2012, from <http://www.bls.gov/ooh/healthcare/home-health-and-personal-care-aides.htm>
- Buunk, A. P., Piero, J. M., Rodriguez, I., & Bravo, J. (2007). A Loss of Status and a Sense of Defeat: An Evolutionary Perspective on Professional Burnout. *European Journal of Personality*, 21, 471-485.
- Byrne, B. M. (2001). *Structural Equation Modeling with AMOS - Basic Concepts, Applications, and Programming*. Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Byrne, B. M. (2004). Testing for multigroup invariance using AMOS Graphics: A road less traveled. *Structural Equation Modeling*, 11(2), 272-300.

- Calasanti, T. M., & Slevin, K. F. (2001). *Gender, Social Inequalities, and Aging*. Walnut Creek, CA: Alta Mira Press.
- Cheung, G. W., & Rensvold, R. B. (2002). Evaluating goodness-of-fit indexes for testing measurement invariance. *Structural Equation Modeling*, 9(2), 233-255.
- Child, D. (2006). *The essentials of factor analysis (3rd ed.)*. New York: Continuum.
- Chou, R. J., & Robert, S. A. (2008). Workplace support, role overload, and job satisfaction of direct care workers in assisted living. *Journal of Health & Social Behavior*, 49(2), 208-222.
- Clausen, T., Nielsen, K., Carneiro, I. G., & Borg, V. (2012). Job demands, job resources and long-term sickness absence in the Danish eldercare services: a prospective analysis of register-based outcomes. *Journal of Advanced Nursing*, 68(1), 127-136.
- Cohen-Mansfield, J., & Noelker, L. S. (2000). *Nursing staff satisfaction in long-term care: An overview*. New York: Springer Publishing Company.
- Constable, J., & Russell, D. (1986). The effects of social support and the work environment upon burnout among nurses. *Journal of Human Stress*, 12, 20-26.
- Creswell, J. W., & Plano, C., V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.
- Christiansen, R. H., & Nielsen, H. O. (2010). Denmark: EWCO comparative analytical report on work-related stress. Retrieved September 26, 2010 from <http://www.eurofound.europa.eu/ewco/studies/tn1004059s/dk1004059q.htm>.
- Cutrona, C. E., Russell, D. W., Brown, P. A., Clark, L. A., Hessling, R. M., & Gardner, K. A. (2005). Neighborhood context, personality, and stressful life events as predictors of depression among African American women. *Journal of Abnormal Psychology*, 114(1), 3-15.
- Delp, L., Wallace, S. P., Geiger-Brown, J., & Muntaner, C. (2010). Job Stress and job satisfaction: Home care workers in a consumer directed model of care. *Health Services Research* 45(4), 922-940.
- Ejaz, F. K., Noelker, L. S., Menne, H. L., & Bagaka's, J. G. (2008). The impact of stress and support on direct care workers' job satisfaction. *The Gerontologist*, 48(suppl 1), 60-70.
- Ensel, W. M., & Lin, N. (1991). The life stress paradigm and psychological distress. *Journal of Health & Social Behavior*, 32(4), 321-341.

- Evans, D., Bryant, E., Sarno Owens, J., & Koukos, K. (2004). Ethnic differences in burnout, coping, and intervention acceptability among childcare professionals. *Child and Youth Care Forum*, 33(5), 349-371.
- Evers, T., Tomic, W., & Brouwers, A. (2002). Aggressive behavior and burnout among staff of homes for the elderly. *International Journal of Mental Health Nursing*, 11(1), 2-9.
- Fitzpatrick, T. R., & Freed, A. O. (2000). Older Russian immigrants to the USA: Their utilization of health services. *International Social Work*, 43, 305-323.
- Funk, L. M., Chappell, N. L., & Liu, G. (2011). Associations between filial responsibility and caregiver well-being: Are there differences by cultural group? *Research on Aging*, XX, 1-18.
- Glaeser, E., & Vigdor, J. (2012). *The end of the segregated century: Racial separation in America's neighborhoods, 1890-2010* (No. 66).
- Griffin, M. A., Patterson, M. G., & West, M. A. (2001). Job satisfaction and teamwork: The role of supervisor support. *Journal of Organizational Behavior*, 22(5), 537-550.
- Hanson, W. E., Creswell, J. W., Plano Clark, V. L., Petska, K. S., & Creswell, J. D. (2005). Mixed methods research design in counseling psychology. *Journal of Counseling Psychology*, 52, 224-235.
- Harris-Kojetin, L., Lipson, D., Fielding, J., Kiefer, K., & Stone, R. I. (2004). *Recent findings on frontline long-term care workers: A research synthesis 1999-2003*.
- House, J. S. (1981). *Work Stress and Social Support*. Reading, Mass: Addison-Wesley.
- Howes, C. (2005). Living wages and retention of homecare workers in San Francisco. *Industrial Relations*, 44(1), 139-163.
- Hu, & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 1-55.
- Institute of Medicine (IOM). *Retooling for an aging America: Building the health care workforce*. (2008). Washington, D.C.: National Academies Press.
- Karasek, R., Brisson, C., Kawakami, N., Houtman, I., Bongers, P., & Amick, B. (1998). The Job content questionnaire (JCQ): An instrument for internationally comparative assessments of psychosocial job characteristics. *Journal of Occupational Health Psychology*, 3(4), 322-355.
- Karb, R. A., Elliott, M. R., Dowd, J. B., & Morenoff, J. D. (2012). Neighborhood-level stressors, social support, and diurnal patterns of cortisol: The Chicago Community Adult Health Study. *Social Science & Medicine*, 75, 1038-47.

- Katz Policy Institute of Benjamin Rose, 2009. Aging strategic alignment project state profile for Illinois. Home-and Community-based services for older adults and adults with physical disabilities. Retrieved September 26, 2012 from <http://www.benrose.org/kpi/ASAP%20Report/IL-111609.pdf>.
- Kline, R. B. (2005). *Principles and Practice of Structural Equation Modeling (2nd Edition ed.)*. New York The Guilford Press.
- Knodel, J. (1993). *The design and analysis of focus group studies in social science research*. Newbury Park, CA: Sage.
- Knodel, J. (1995). Focus groups as a qualitative method for cross-cultural research in social gerontology. *Journal of Cross-Cultural Gerontology*, 10((1-2), 7-20.
- Knussen, C., Tolson, D., Swan, I., Stott, D., & Brogan, C. (2005). Stress proliferation in caregivers: The relationships between caregiving stressors and deterioration in family relationships. *Psychology and Health*, 20, 207-221.
- Kristensen, T. S., Bjorner, K. C., Christensen, K., & Borg, V. (2004). The distinction between work pace and working hours in the measurement of quantitative demands at work. *Work & Stress*, 18, 305-322.
- Kristensen, T. S., Borritz, M., Villadsen, E., & Christensen, K. B. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. *Work & Stress*, 19(3), 192 - 207.
- Kristensen, T. S., Hannerz, H., Hogh, A., & Borg, V. (2005). The Copenhagen psychosocial questionnaire--a tool for the assessment and improvement of the psychosocial work environment. *Scandinavian Journal of Work, Environment & Health*, 31(6), 438-449.
- Lemaire, J. (2005). The cost of firearm deaths in the U.S.: Reduced life expectancies and increased insurance costs. *Journal of Risk and Insurance*, 72(3), 359-374.
- Lev-Wiesel, R., & Kaufman, R. (2004). Personal characteristics, unemployment, and anxiety among highly educated Immigrants. *International Migration*, 42, 57-75.
- Liang, J., Lawrence, R. H., Bennett, J. M., & Whitelaw, N. A. (1990). Appropriateness of composites in structural equation models. *Journal of Gerontology*, 45(2), S52-59.
- Marmot, M. G., Smith, G. D., Stansfeld, S., Patel, C., North, F., Head, J., et al. (1991). Health inequalities among British civil servants: the Whitehall II study. *Lancet*, 337(8754), 1387-1393.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Occupational Behavior*, 2, 99-113.

- Maslach, C., & Jackson, S. E. (1986). *Maslach Burnout Inventory: Second Edition*. Palo Alto, CA: Consulting Psychologists Press.
- Maslach, C., & Goldberg, J. (1998). Prevention of burnout: New perspectives. *Applied & Preventive Psychology*, 7(63-74).
- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397-422.
- Mendes de Leon, C. F., Beckett, L. A., Fillenbaum, G. G., Brock, D. B., Branch, L. G., Evans, D. A., et al. (1997). Black-white differences in risk of becoming disabled and recovering from disability in old age: a longitudinal analysis of two EPESE populations. *American Journal of Epidemiology*, 145(6), 488-497.
- Meyer, J. D., & Muntaner, C. (1999). Injuries in home health care workers: An analysis of occupational morbidity from a state compensation database. *American Journal of Industrial Medicine*, 35, 295-301.
- Miller, A. M., Chandler, P. J., Wilbur, J., & Sorokin, O. (2004). Acculturation and cardiovascular disease risk in midlife immigrant women from the former Soviet Union. *Progress in Cardiovascular Nursing*, 19(2), 47-55.
- Miller, A. M., Birman, D., Zenk, S., Wang, E., Sorokin, O., & Connor, J. (2009). Neighborhood Immigrant Concentration, Acculturation, and Cultural Alienation in Former Soviet Immigrant Women. *Journal of Community Psychology*, 37(1), 88-105.
- Miller, A. M., Wang, E., Szalacha, L. A., & Sorokin, O. (2009). Longitudinal changes in acculturation for immigrant women from the former Soviet Union. *Journal of Cross-Cultural Psychology*, 40(3), 400-415.
- Mitrani, V. B., Lewis, J. E., Feaster, D. J., Czaja, S. J., Eisdorfer, C., Schulz, R., et al. (2006). The role of family functioning in the stress process of dementia caregivers: a structural family framework. *The Gerontologist*, 46(1), 97-105.
- Montgomery, R. J. V., Holley, L., Deichert, J., & Kosloski, K. (2005). A profile of home care workers from the 2000 Census: How it changes what we know. *The Gerontologist*, 45(5), 593-600.
- Moustaka, E., & Constantinidis, T. C. (2010). Sources and effects of work-related stress in nursing. *Health Science Journal*, 4, 210-216.
- Ndao-Brumblay, S. K., & Green, C. R. (2005). Racial differences in the physical and psychosocial health among black and white women with chronic pain. *Journal of the National Medical Association*, 97(10), 1369-1377.

- Neysmith, S., & Aronson, J. (1996). Home care workers discuss their work: The skills required to "use your common sense". *Journal of Aging Studies*, 10(1), 1-14.
- Nielsen, K., Albertsen, K., Brenner, S. O., Smith-Hansen, L., & Roepdorff, C. (2009). Comparing working conditions and physical and psychological health complaints in four occupational groups working in female-dominated workplaces. *International Archives of Occupational and Environmental Health* 82, 1229-1239.
- Noelker, L. S., Ejaz, F. K., Menne, H. L., & Jones, J. A. (2006). The impact of stress and support on nursing assistant satisfaction with supervision. *Journal of Applied Gerontology*, 25, 307-323.
- Novak, M., & Chappell, N. L. (1994). Nursing assistant burn-out and the cognitively impaired elderly. *International Journal of Aging and Human Development* 39, 105-120.
- Nubling, M., Vomstein, M., Schmidt, S. G., Gregersen, S., Dulon, M., & Nienhaus, A. (2009). Psychosocial work load and stress in the geriatric care. *BMC Public Health*, 10, 428.
- Ong, A. D., Fuller-Rowell, T., & Burrow, A. L. (2009). Racial discrimination and the stress process. *Journal of Personality and Social Psychology*, 96(6), 1259-1271.
- Pearlin, L. I. (1999). The Stress Process Revisited. In *In Aneshensel, Carol S. & Phelan, Jo C. (eds.) Handbook of Sociology of Mental Health* (pp. 395-415). New York Kluwer Academic/Plenum Publishers.
- Pearlin, L. I., Lieberman, M. A., Menaghan, E. G., & Mullan, J. T. (1981). The stress process. *Journal of Health & Social Behavior*, 22(4), 337-356.
- Pearlin, L. I., & Skaff, M. M. (1996). Stress and the life course: a paradigmatic alliance. *The Gerontologist*, 36(2), 239-247.
- Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: some conceptual perspectives. *Journal of Health & Social Behavior*, 46(2), 205-219.
- Petrocelli, J. V. (2003). Hierarchical multiple regression in counseling research: Common problems and possible remedies. *Measurement and Evaluation in Counseling and Development*, 36, 9-22.
- Pieterse, A. L., & Carter, R. T. (2007). An examination of the relationship between general life stress, racism-related stress, and psychological health among Black men. *Journal of Counseling Psychology*, 54, 101-109.
- Potter, S. J., Churilla, A., & Smith, K. (2006). An Examination of full-time employment in the direct-care workforce. *Journal of Applied Gerontology*, 25(5), 356-374

- Rai, G. S. (2010). Burnout among long-term care staff. *Administration in Social Work, 34*(3), 225 - 240.
- Remennick, L. (2001). My life is one big nursing home.” Russian immigrant women in Israel speak about double caregiver stress. *Women’s Studies International Forum, 24*(6), 685-700.
- Remennick, L. (2005). Immigration, gender, and psychosocial adjustment: A study among 150 immigrant couples in Israel. *Sex Roles: A Journal of Research 53*, 847-864.
- Scheffer, J. (2002). Dealing with missing data. *Research Letters in the Information and Mathematical Sciences, 3*, 153-160.
- Scherzer, T., & Newcomer, R. (2007). Barriers to documenting occupational Injuries among personal assistance services workers. *American Journal of Industrial Medicine, 50*, 536-544.
- Setterlind, S., & Larsson, G. (1995). The stress profile: A psychosocial approach to measuring stress. *Stress Medicine, 11*, 85–92.
- Silver, E., Mulvey, E. P., & Swanson, J. W. (2002). Neighborhood structural characteristics and mental disorder: Faris and Dunham revisited. *Social Science & Medicine, 55*(8), 1457-1470.
- Skaff, M. M., Pearlin, L. I., & Mullan, J. T. (1996). Transitions in the caregiving career: Effects on sense of mastery. *Psychology and Aging, 11*(2), 247-257.
- Smith, K., & Baughman, R. (2007). Caring for America’s aging population: A profile of the direct care workforce. *Monthly Labor Review 130*(9), 20-26.
- Solari, C. (2006). Professionals and saints: How immigrant careworkers negotiate gender identities at work. *Gender & Society, 20*, 301-331.
- Spencer, M. S., Fitch, D., Grogan-Kaylor, A., & McBeath, B. (2005). The equivalence of the behavior problem index across U.S. ethnic groups. *Journal of Cross-Cultural Psychology, 36*, 573-589.
- Stacey, C. L. (2005). Finding dignity in dirty work: the constraints and rewards of low-wage home care labour. *Sociology of Health & Illness, 27*(6), 831-854.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research, 25*(2), 173-180.
- Stone, R., & Wiener, J. M. (2001). *Who will care for us? Addressing the long-term care workforce crisis. (Executive Summary)*. Washington, DC, US: Department of Health and Human Services and the Urban Institute.

- Stone, R. (2004). The direct care worker: The third rail of home care policy. *Annual Reviews of Public Health*, 25, 21-37.
- Taylor, B., & Barling, J. (2004). Identifying sources and effects of carer fatigue and burnout for mental health nurses: a qualitative approach. *International Journal of Mental Health Nursing*, 13(2), 117-125.
- Taylor, B. J., & Donnelly, M. (2006). Risks to home care workers: Professional perspectives. *Health, Risk & Society*, 8(3), 239-256.
- Taylor, S. E., & Stanton, A. L. (2007). Coping resources, coping processes, and mental health. *Annual Review in Clinical Psychology*, 3, 377-401.
- Tsytsarev, S., & Krichmar, L. (2000). Relationship of perceived culture shock, length of stay in the US, depression, and self-esteem in elderly Russian-speaking immigrants. *Journal of Social Distress and the Homeless*, 9, 35-49.
- Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis *Psychometrika*, 1-10.
- Utsey, S. O., Ponterotto, J. G., Reynolds, A. L., & Cancelli, A. A. (2000). Racial discrimination, coping, life satisfaction, and self-esteem among African Americans. *Journal of Counseling and Development*, 78, 72-80.
- Van der Ark, L. A., & Bergsma, W. P. (2010). A note on stochastic ordering of the latent trait using the sum of polytomous item scores. *Psychometrika*, 75, 272-279.
- Thorsen, S. V., & Bjorner, J. B. (2010). Reliability of the Copenhagen Psychosocial Questionnaire. *Scandinavian Journal of Public Health*, 38, 25-32.
- Vinokurov, A., Birman, D., & Trickett, E. J. (2000). Psychological and acculturation correlates of work status among Soviet Jewish refugees in the U.S. *International Migration Review*, 34, 538-559.
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, 54(2), 314-334.
- Warren-Findlow, J. (2006). Weathering: stress and heart disease in African American women living in Chicago. *Qualitative Health Research*, 16(2), 221-237.
- Weitzman, B. C., & Berry, C. A. (1992). Health status and health care utilization among New York City home attendants: An illustration of the needs of working poor, immigrant women. *Women Health*, 19(2-3), 87-105.



- Wharton, A. (2009). The sociology of emotional labor. *Annual Reviews of Sociology*, 35, 147-165.
- Williams, D. R., & Collins, C. (2005). Racial residential segregation: A fundamental cause of racial disparities in health. *Public Health Reports*, 116, 404-416.
- Wu, A. D., Li, Z., & Zumbo, B. D. (2007). Decoding the meaning of factor invariance and updating the practice of multigroup confirmatory factor analysis. *Practical Assessment, Research and Evaluation*, 12 (3), 1-26.
- Yamada, Y. (2002). Profile of home care aides, nursing home aides, and hospital aides: Historical changes and data recommendations. *The Gerontologist*, 42(2), 199-206.

## VITA

NAME: Valentina V. Lukyanova

EDUCATION Ph.D., Public Health, University of Illinois at Chicago, Chicago, Illinois, 2012  
M.A., Sociology, Virginia Tech, Blacksburg, Virginia, 2005  
B.A., Sociology, Berea College, Berea, Kentucky, 2003

PROFESSIONAL EXPERIENCE Postdoctoral Research Fellow, Department of Disability and Human Development/ Department of Occupational Therapy, University of Illinois at Chicago (funded by the Department of Education and the National Institute on Disability and Rehabilitation Research (NIDRR), 2012–present.

Research Specialist/Project Coordinator, Department of Occupational Therapy, and Center for Capacity Building on Minorities with Disabilities Research, University of Illinois at Chicago, 2011–2012.

Research Assistant/Principal Investigator, University of Illinois at Chicago School of Public Health, Center for Research on Health and Aging, 2007–2010.

Research Assistant, Department of Sociology, Virginia Tech, 2003–2006.

TEACHING EXPERIENCE **Instructor:**  
OT 553: Program Evaluation: Documenting the Impact of Human Services—Co-Instructor with Dr. Suarez-Balcazar (Fall, 2012)  
CHSCS 446: Research Methods (online)—Fall/Spring, 2012–2013  
**Teaching Assistant:**  
CHSC 401: Behavioral Sciences in Public Health (Spring 2010, Spring 2011)  
CHSC 446: Research Methods in Community Health, Spring 2010  
CHSC 430: Public Health Policy and Advocacy (Fall 2010)

PUBLICATIONS

1. **Lukyanova, V.**, Balcazar, F., Oberoi, A., & Suarez-Balcazar, Y. (in press). Differences in employment outcomes among African Americans and Whites with mental illness”, *Work: A Journal of Prevention, Assessment, and Rehabilitation*.
2. Suarez-Balcazar, Y., **Lukyanova, V.**, Balcazar, F., Ali, A., Morton, D., & Alvarado, F. (in press). An evaluation of employment outcomes of Community Rehabilitation providers. *Journal of Rehabilitation*.
3. Suarez-Balcazar, Y., Kouba, J., Jones, L., **Lukyanova, V.**, & Martinez, L. (in press). An university-school collaboration to enhance healthy choices among children. *Journal of Prevention & Intervention in the Community*.
4. **Lukyanova, V.**, & Calasanti, T. (2009). Satisfaction with family planning services among Appalachian and non Appalachian

### VITA (continued)

women in Virginia, *Journal of Appalachian Studies*, 15, 49-69.

- PRESENTATIONS**    **Lukyanova, V.** & Muramatsu, M. (2010). "Stress Process and Health among African American and Immigrant Russian-speaking Home Care Aides." Paper presented at the 63rd Annual Scientific Meeting of the Gerontological Society of America, November 21, 2010. New Orleans, LA.
- Muramatsu, N. & **Lukyanova, V.** (2009). "Fall prevention needs among home care aides: Let's listen to their voices." Paper presented at the 62nd Annual Scientific Meeting of the Gerontological Society of America, November 21, 2009. Atlanta, GA.
- Muramatsu, N., & **Lukyanova, V.** (2009). "Health promotion needs among home care aides: Let's listen to their voices." Paper presented at the American Public Health Association 137th Annual Meeting and Exposition, November 11, 2009. Philadelphia, PA.
- Muramatsu, N., & **Lukyanova, V.** Home care aides: Let's listen to their voices—Health promotion and falls prevention needs. Paper presented as part of the workshop, "Healthy Workers, Healthy Clients." 2009 Aging in America: Annual Conference of the American Society on Aging and the National Council on Aging, March 18, 2009. Las Vegas, NV.
- Lukyanova, V.,** & Muramatsu, N. (2008). "Marital status and disease-specific social support: A study of older adults with diabetes." Paper presented at the 61st Annual Scientific Meeting of the Gerontological Society of America, November 24, 2008. National Harbor, MD.
- Calasanti, T., **Lukyanova, V.,** & King, N. (2006). "Gendered bodies and the anti-aging industry." Paper presented at the 59th Annual Scientific Meetings of the Gerontological Society of America, November 17, 2006. Dallas, TX.
- SPONSORED RESEARCH**    Roybal Center Pilot Funding for Dissertation Research. National Institute of Aging, Midwest Roybal Center for Health Promotion, 2011–2012.
- Work stress among immigrant Russian-speaking home care aides. Principal Investigator (Co-PI: Naoko Muramatsu). The National Institute for Occupational Safety and Health (NIOSH). Pilot Project Research Training Program, 2008–2009.
- PROFESSIONAL MEMBERSHIPS:**    Gerontological Society of America  
American Society on Aging (2009–2010)  
Society for Community Research and Action (2011)

**VITA (continued)**

HONORS: Estelle Goldstein Memorial Scholarship, University of Illinois at Chicago, 2011–2012  
Chancellor's Supplemental Graduate Research Fellowship, 2009–2011  
Peggy Lavery Gerontology Research and Professional Development Award, Virginia Tech, 2006  
Award for Undergraduate Research and Creative projects, Berea College, 2002.