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LOYOLA UNIVERSITY CHICAGO

SOCIAL DETERMINANTS OF ECONOMIC SELF-SUFFICIENCY (ESS)
IN HEALTH PROFESSION OPPORTUNITY GRANTS (HPOG):
FOCUSING ON THE PROCESS OF HEALTH CARE CAREER PATHWAYS

A DISSERTATION SUBMITTED TO
THE FACULTY OF THE GRADUATE SCHOOL
IN CANDIDACY FOR THE DEGREE OF
DOCTOR OF PHILOSOPHY

PROGRAM IN SOCIAL WORK

BY
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ABSTRACT

The purpose of this dissertation was to investigate the social determinants of economic self-sufficiency among low-income jobseekers in a federally sponsored healthcare career pathways program. Particularly this dissertation focused on the effects of the process element of self-sufficiency called psychological self-sufficiency, which consist of perceived employment barriers (PEB) and employment hope (EH) (Hong 2013b; 2016). Although many studies have evaluated the effectiveness of workforce development programs that focus on economic outcomes, little empirical research has been conducted to examine the psychological prerequisites for achieving economic self-sufficiency. To address this gap in the literature, this dissertation examined potential effect of psychological self-sufficiency (PSS) – representing diverse aspects of an individual’s circumstances – in a government-funded workforce development program.

The purpose of the first study was to investigate the relationship between the rate of PSS change and one’s later levels of economic self-sufficiency. A lagged multivariate regression model was conducted using a sample of 350 participants in a government-sponsored health sector career pathway training program. Results showed that increased PSS score positively affects economic self-sufficiency outcome, controlling for other demographic and economic-related variables. The purpose of the second study was to examine the relationship between PSS score groups and economic self-sufficiency among workforce development program participants.

Propensity score matching was used to eliminate selection bias and divide the participants
into treatment and control groups based on the PSS score. Results indicated that the treatment group (increased PSS) is positively related to economic self-sufficiency. The purpose of the third study was to find distinct patterns of perceived employment barriers among welfare-to-work program participants. Four meaningful patterns of employment barriers – All high levels of employment barriers, Work-related barriers, Work-related + Community-related barriers, and Low levels of employment barriers – were found using latent class analysis (LCA).

By examining the effect of PSS on ESS and finding patterns of employment barriers, these three present studies supported the importance of the processual element of self-sufficiency in workforce development evaluation. Each of the studies proposes a discussion of the implications for social work practice, research, and policy.
CHAPTER ONE
INTRODUCTION

Purpose

This dissertation focuses on deeper understanding of the perception of modern structural poverty and assesses a federal career pathways demonstration program called the Health Profession Opportunity Grants (HPOG) using rigorous measurement and evaluation methods. It seeks to advance the knowledge base on the participant-centered self-sufficiency process (Hong, 2013b) as it relates to individual and programmatic outcomes in employment and workforce development. Also, it aims to add to the existing literature on how overtime increase or decrease in the empowerment-based self-sufficiency process leads to various workforce development outcomes in the HPOG program (P.Y.P. Hong, O’Brien, Park, R. Hong, Pigott, & Holland, 2019). Lastly, it builds on previous literature on the latent patterns of individual and structural employment barriers as program participants start their journey toward reaching their success goals (Hong, Gumz, Choi, Crawley, & Cho, 2021a). The empirical findings from this dissertation will provide social work implications to strengthen inclusive, human-centered system building in workforce development programs.

The purpose of this dissertation is to investigate the social determinants of economic self-sufficiency (ESS) among low-income jobseekers in a federally sponsored healthcare career pathways program. Particularly of interest is to understand the effects of the process element of self-sufficiency called psychological self-sufficiency (PSS; Hong, 2013b) on ESS within the
context of a well-defined, quality, adequately resourced, and targeted education and training towards healthcare jobs. PSS is conceptualized as a socially determining process that significantly contributes to employment, retention, and ESS outcomes in workforce development (Hong, Choi, & Key, 2018a; P.Y.P. Hong et al., 2019). Recent studies have found the PSS process to be a core success ingredient in in the HPOG program (P.Y.P. Hong, R. Hong, Lewis, & Williams, 2020c; P.Y.P. Hong, Kim, R. Hong, Lewis, & Park, 2020d).

HPOG provides a unique opportunity to take a deeper dive in understanding PSS while controlling for the labor supply characteristics—e.g., employee motivation, job readiness, etc.—and the labor demand variations—e.g., types of jobs and industries, regional labor shortages, employer hiring practices and retention commitment, etc. As such, this dissertation contributes to the growing body of conceptual, empirical, and practice knowledge on PSS as a bottom-up empowerment process for individuals to reach their full potential (Gonzales, Lee, & Harootyan, 2019; Hong, Sheriff, & Naeger, 2009; R. Hong, Northcut, Spira, & P.Y.P. Hong, 2019; Olsson, Hollertz, & Starke, 2020). Further, it extends the applicability of PSS to system change for employers to strengthen their organizational capacity by focusing on supporting individual PSS processes (Harvey, 2018; Hong et al., 2021a; Hong, Hodge, & Choi, 2015).

**Problem Statement**

Over the past 20 years, achieving self-sufficiency has been the primary goal of social policy and implementing welfare-to-work programs in the United States (Gowdy & Pearlmutter, 1993; Hawkins, 2005; Hong & Crawley, 2015). Self-sufficiency has been measured in research and evaluation using economic and financial outcomes such as employment, hourly wages, and household income (Dworsky, 2005; Hall, Graefe, & De Jong, 2010; Lehrer, Crittenden, & Norr,
These ESS measures have been generally used by various public workforce development programs with different populations, services, and implementation processes. However, there has been a lack of programmatic support of the participants’ empowerment process towards reaching the ESS outcomes (Harvey, Hong, & Kwaza, 2010; Hong, 2013b; Hong et al., 2009).

The effectiveness of employment and training programs in assisting low-income individuals and families to escape poverty by focusing on self-sufficiency is debated in the literature (Cooney, 2011; Danziger & Ratner, 2010; Lee & Vinokur, 2007; Harvey et al, 2010; Ybarra & Noyes, 2019). Some authors suggest that welfare-to-work programs are effective primarily in programs that offer job opportunities in service sectors (DiNitto & Johnson, 2016) or when aligned with sector-based strategies such as career pathways (King & Prince, 2015, 2019). Others claim that workforce development policies/programs do little to help program participants out of poverty (Acs & Loprest, 2007; Danziger, Danziger, Seefeldt, & Shaefer, 2016a; Holzer, Stoll, & Wissoker, 2004). More than half of the people leaving the welfare system lose their jobs and return to the welfare system within a year (Andersson, Lane, & McEntarfer, 2004; Cancian, Noyes, & Ybarra, 2012; Long, 2001).

ESS is often considered inadequate in measuring the success of welfare-to-work programs and attempts have been made to broaden the definition of self-sufficiency (Gowdy & Pearlmutter, 1993; Hawkins, 2005; Hong, 2013b; Hong et al., 2009). Researchers found that studies focusing on leaving welfare and attaining employment fall short in terms of explaining participants’ journey from being on welfare to labor market entry (Hong, 2013b). Hawkins (2005) considered self-sufficiency as maximizing human potential and viewed it as having multiple dimensions rather than simply focusing on the economic aspect.
Hong, Sheriff, and Naeger (2009) also found self-sufficiency as not a unidimensional economic concept but rather complemented by an empowerment-based process called PSS. PSS in the context of employment and workforce development comprises two major pillar conceptual components of perceived employment barriers (PEB) and employment hope (EH) (Hong, 2013b). Research has consistently found that interaction of PSS components contribute to ESS and labor market outcomes among various samples of the vulnerable populations (Hong, 2013b; Hong, Polanin, & Pigott, 2012; Hong, Choi, & Polanin, 2014a; Hong, Polanin, Key, & Choi, 2014c; Hong, Song, Choi, & Park, 2016a; Hong, Stokar, & Choi, 2016b; Hong et al., 2018a; Hong, Choi, & Key, 2018a; P.Y.P. Hong et al., 2019; P.Y.P. Hong, R. Hong, Choi, & Hodge, 2020b).

**Significance of the Issue**

The problem issue addressed in this dissertation is ESS in the context of a federal policy demonstration of the HPOG program aimed at supporting Temporary Assistance for the Needy Families (TANF) eligible low-income jobseekers to be trained, certified, and hired in the healthcare professions (Bruck, Popham, & Stupica-Dobbs, 2019). ESS among low-income jobseekers is an issue of significance because HPOG provides the eligible participants with fully paid for and education-to-employment pipeline opportunities to train and pursue a long-term career in healthcare (King & Hong, 2019). While limited in its scope with ESS by itself, when paired with PSS, it is likely to benefit participants with increased financial resources, stability in the labor market, upward mobility opportunities, improved health and mental health, family strengthening, etc.
In the absence of PSS, however, it is likely that ESS outcomes alone could not sustain such positive outlook of labor market participation among low-income jobseekers. ESS as paired with PSS is a significant issue as it represents the bottom-up, participant-centered definition of self-sufficiency (Hong et al., 2009). It is not just about reaching the policy outcome of ESS as imposed by the funders upon the programs (Harvey et al., 2010) but an empowerment process that each participant can own as they progress toward their individualized success goals. Given that PSS is a relational process that enhances full human potential (Hong et al., 2020c), this makes it a significant social justice issue that challenges the oppressive system by protecting the dignity and worth of the person as mentioned in the National Association of Social Workers (NASW) Code of Ethics (NASW, 2017).

To better understand how people move from receiving public assistance to being out of poverty by entering the job market, Hong (2013b) proposed the PSS theory based on qualitative data received from a series of focus groups with service providers and workforce development program participants. Simply put, PSS is “the answer to the question of how one becomes economically self-sufficient—by arduously and meaningfully trotting the path, by engaging in a forward process, and by switching from perceived barriers to employment hope” (Hong et al., 2018a, p.23). PSS was found to have two components—employment hope (EH) and perceived employment barriers (PEB). Hong and colleagues have tested and validated two components of the PSS theoretical framework—the Employment Hope Scale (EHS; Hong et al., 2012; Hong et al., 2014a) and the Perceived Employment Barrier Scale (PEBS; Hong, Polanin, Key, & Choi,

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1 To avoid confusion, here and after, EH refers to a concept, and EHS refers to a measurement. Similarly, PEB is a concept, and PEBS is a measurement.
PSS is the process element of self-sufficiency that leads to the ESS outcome through finding employment (Hong, 2013b; Hong et al., 2014c; Hong et al., 2018a). The process of balancing these two main traits—decreasing PEB and increasing EH—is important in the PSS theory (Hong, 2013b, 2014a, 2016; R. Hong et al., 2019).

Introducing and testing the multidimensional aspects of self-sufficiency has contributed to understanding of the participant-centered definition of success (Hong et al., 2009) that have been overlooked, as most previous studies have only focused on employment. For example, once individuals recognize and evaluate the extent to which their barriers exist—both structural and individual barriers (Hong et al., 2021a)—they become more aware of their predicaments, leading to reflections on how to find ways to move forward and overcome their obstacles (Hong, 2016). Thus, in the PSS theory, recognizing perceived employment barriers is the first step in moving forward in their pathway of hope (Hong, 2013b; Hong et al., 2014c; Hong et al., 2020b; P.Y.P. Hong, R. Hong, Lewis, Swanson, & Smith, 2021b). Then, with EH, a positive change of direction for their future can facilitate individuals to reach self-sufficiency, or labor market outcomes (Hong, 2013b; Hong et al., 2009; Hong et al., 2014a; Hong et al., 2018a; Hong et al., 2020b).

**Contribution to Knowledge**

Many studies on ESS in the context of workforce development and poverty reviewed to date attempt to explain factors contributing to labor market entry, and subsequent achievements of economic success using regression analyses and cross-sectional study designs. While these studies may have assessed the anti-poverty effects of workforce development programs, poverty has become much more complex than that of the past. This is a huge gap in knowledge what
warrants a more rigorous research design to better understand the effectiveness and transition processes of individuals in welfare-to-work programs, and to identify the consequences of programs, controlling for various conditions.

In addition, only a handful of empirical studies on ESS used the PSS theory as the framework in selecting variables for their research model. The PSS theory is an emerging social work theory that underscores the empowerment-based process of people overcoming perceived barriers and moving forward with goal-directed hope actions toward employment, economic independence, and financial security (Hong, 2013b; Hong et al., 2020b). By using the PSS theory, this dissertation provides a deeper understanding of the multidimensional aspects of self-sufficiency (Hong et al., 2009) and how the dynamic process of switching from barriers to hope affect economic outcomes (Hong, 2013b).

The second gap among the known literatures on ESS is the dearth of studies investigating the rate of PSS change. Recent studies that used PSS theoretical framework examined the effect of PSS on ESS by examining participants’ characteristics point in time (Hong et al., 2018a; P.Y.P. Hong et al., 2019; Hong et al., 2020b). For instance, Hong et al. (2018a) investigated the PSS change—subtracting the normalized scores of PEBS from EHS—model using a cross-sectional study design that attempted to explain the relationship between PSS and ESS. However, developmental changes in PSS characteristics may require a longitudinal view. Therefore, this dissertation was designed as a longitudinal study to measure changes in PSS.

Finally, little attention has been paid to the potential patterns of employment barriers among workforce development program participants. Many previous empirical studies tended to focus on one or two main effects of employment barriers (such as health, mental health or
substance use) on labor market outcomes while controlling for other factors in the regression model. Several researchers investigated the number of employment barriers that welfare-to-work program participants face (Bloom, Loprest, & Zedlewski, 2011; Danziger et al., 2000a; Dworsky & Courtney, 2007; Hahn, Derrick-Mills, & Spaulding, 2018; Nam, 2005), but these studies were also limited by finding co-occurring items on participants’ employment barriers. Only one recent study has provided preliminary findings on the patterns of perceived employment barriers using a latent profile analysis (Hong et al., 2021a). Finding distinct patterns of employment barriers is essential because it helps researchers and policy makers identify suitable intervention(s) that are sensitive and responsive to participants’ employment barriers patterns.

**Research Questions**

As a step toward addressing these research gaps, specific research questions that stem from each aim of the dissertation is stated below:

1. How does change in PSS over time contribute to economic self-sufficiency (ESS) among HPOG program participants?
2. How does the group demonstrating PSS increase differ in ESS compared to the group that show PSS decrease among HPOG program participants?
3. What are the unmeasured class membership of employment barriers among HPOG program participants?

**Aim 1: Longitudinal Effects of Psychological Self-Sufficiency (PSS)**

According to the PSS theory, a decrease in PEBS and an increase in EHS have been identified as prerequisites for employment and training program participants to achieve economic success. Going one step further, the first aim seeks to understand how PSS changes
over time and how these changes affect the HPOG program participants’ economic success. The specific aim of this study is to examine associations between the change in PSS and economic success using a lagged multivariate regression. The research hypothesis is that participants with an increased PSS score will have a higher level of economic success when other demographic factors are controlled.

**Aim 2: A Propensity Score Analysis of Psychological Self-Sufficiency (PSS) Groups**

For Aim 2 of the dissertation, the group of participants in the HPOG programs with an increased PSS score (considered as a treatment group) were compared with a group with a decreased PSS score (considered as a control group) using a propensity score matching technique. The dissertation examined if people in the increased PSS group ended up with greater economic success after eliminating selection bias. Analysis was conducted to investigate if an increased PSS score group will have greater economic success than the comparison group with a decreased PSS score. It was hypothesized that the group with the increased PSS score will have a higher level of ESS than the group with a decreased PSS score.

**Aim 3: A Latent Class Pattern of Perceived Employment Barriers**

The last aim of this dissertation was to identify a unique pattern of employment barriers among participants in the HPOG program. In particular, because participants are experiencing various multi layered employment barriers in the job market, this study uses PEBS, which can measure multiple aspects of employment barriers (Hong et al., 2014c), to measure the size and pattern of each barrier (e.g., health, labor market exclusion, childcare, human capital, and soft skills). A latent class analysis was used to find meaningful subgroups that share similar patterns.
of observed variables (Collins & Lanza, 2010; Lanza, Tan, & Bray, 2013). It is hypothesized that more than two distinct class membership of employment barriers will be identified.
CHAPTER TWO

BACKGROUND LITERATURE

This background literature chapter will provide an overview of the history and key concepts needed to understand employment and training programs\(^1\) for low-income individuals and families in the United States. First, this chapter provides the context of how the issue of poverty is addressed as a society and in social policy. Second, a historical perspective of social welfare policies and policy gaps are presented. Third, the evolution of employment and training programs in the United States is discussed. Fourth, a general overview of the sector-specific employment and training programs, especially the HPOG, is presented. Third, the use of self-sufficiency in the evaluation of anti-poverty policies/programs is explored. Lastly, empirical evaluation studies examining the effects of various factors on self-sufficiency in the workforce development programs are reviewed.

### Contextualizing Poverty in the United States

Poverty is one of the persistent social problems in the United States. Federally funded anti-poverty policies and programs have been serving economically vulnerable populations by providing job skills, job opportunities, and other employment-related resources (Government Accountability Office [GAO], 2019). Despite many of these anti-poverty policies and workforce development programs, about 34 million Americans (10.5% of the population)

\(^1\) The term ‘workforce development program’ was used interchangeably with employment and training (E&T) programs, welfare-to-work programs, and job training programs in this dissertation.
still lived below the poverty level in 2019 (Semega, Kollar, Shrider, & Creamer, 2020). Among the 34 million poor Americans, African Americans experienced the highest poverty rate of all racial groups (18.8%), and disproportionately represented about a half of female-headed households with children under the age of six lived in poverty (Semega et al., 2020).

A unique severity of the poverty issues in the United States is seen when compared with other developed countries. In spite of being the wealthiest economic power in the world, the United States has the higher poverty rate (0.178) compared to the other countries that are members of the Organization for Economic Cooperation and Development (OECD), such as South Korea (0.174), Germany (0.104), and the United Kingdom (0.117) (OECD, 2020a). In general, this implies that 17.8 percent of Americans have the potential to fall into poverty. Also, in 2017, the U.S. government’s expenditure on employment and training programs was only 0.3 percent of the U.S. gross domestic product (GDP), which is significantly lower than the OECD average (0.12 percent) (OECD, 2020b). These OECD data indicate that, despite the high possibility of severe poverty, the United States has a lower commitment to social welfare system, especially labor-market-related welfare system, than other developed countries.

In addition, many domestic and international sources report that the United States' income and asset inequality is currently unprecedented in its history. Among the OECD countries, United States is the fourth most unequal country in terms of income distribution, followed by Chile, Mexico, and Turkey (OECD, 2020c). According to data from the Federal Reserve's 2016 Survey for Consumer Finances (SCF), the top one percent of Americans hold 24% of all income, while the bottom 90% accounted for 50% of all income (Stone, Trisi, Sherman & Beltrán, 2020). The distribution of wealth, such as savings, stocks, homes, and other
financial assets, is currently severely skewed toward the few wealthy, and therefore problematic. Similarly, according to SCF data, the top one percent of wealthy Americans owned 39% of total assets, while the bottom 90 percent of people held 23% of total assets (Stone et al., 2020). In other words, the distribution of wealth held by the top one percent is close to twice the assets owned by the bottom 90 percent of Americans. This data implies that the 90% of the population who are economically vulnerable have more difficulty escaping poverty in the United States than in other countries.

According to many studies focusing on the social welfare system today, the issues of poverty and inequality are not limited to monetary income, but also include access to a wide array of individual-, community- and structural-levels resources (Desmond & Gershenson, 2017; DiNitto & Johnson, 2016; Rank, 2020; Royce, 2018). These resources include racial, gender and ethnic discrimination, accessible healthcare, affordable childcare, stable housing, safe communities, lack of family and social support networks, transportation, education, job-related skills, and retirement plans (Acs & Loprest, 2007; Danziger, Kalil, & Anderson, 2000b; Royce, 2018). In addition, current studies on social inequality also consider economic and political inequalities as greatly stagnating social mobility and poverty level (Royce, 2018).

People in poverty are particularly vulnerable to disasters, and environmental changes. The coronavirus pandemic (COVID-19) has impacted great number of Americans’ life circumstances. The U.S. unemployment rate reached 14.7% (about 23.1 million) in April 2020 (U.S. Bureau of Labor Statistics, 2020), which is the highest unemployment rate recorded over past several decades. Many, including individual in poverty, lost their jobs and initially claimed unemployment benefits that soared to 6.21 million in the week of April 4, 2020 (U.S.
Department of Labor employment and Training Administration, 2020a). As the corona virus continued to affect the labor market, a total of 70 million Americans had applied for unemployment assistance in 2020 (U.S. Department of Labor Employment and Training Administration, 2020a). By the end of December 2020, more than 19 million people continue to receive unemployment benefits from government including regular unemployment benefits and pandemic unemployment assistance under the Coronavirus Aid, Relief, and Economic Security Act (U.S. Department of Labor Employment and Training Administration, 2020b).

**Market-Based U.S. Social Welfare Policies and Programs**

The United States’ primarily response to poverty issues was in providing government’s resources to help vulnerable population get out of poverty through employment and training policies/programs. Two key pieces of federal legislation served as the basis for the above employment and training programs (Barnow & Smith, 2016; GAO, 2019): The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA) and the Workforce Innovation and Opportunity Act (WIOA). The ultimate goal of these two federal laws was to enable economically vulnerable populations to escape poverty through jobs that will eventually lead to living independently without government support (Iversen & Armstrong, 2006; Shaw, Goldrick-Rab, Mazzeo, & Jacobs, 2006; Smith, 2008). These federal laws made significant changes to the U.S. welfare system.

The PRWORA, generally known as the welfare reform act, replaced Aid to Families with Dependent Children (AFDC) with Temporary Assistance for Needy Families (TANF) (GAO, 2019; Holzer, 2008; Iversen & Armstrong, 2006; Lewis, Lee, & Altenbernd, 2006). The switch to TANF signaled a significant social policy change from entitlement-based cash assistance to
conditional work-based programs for low-income individuals and families (Nam, Meezan, & Danziger, 2006). Under TANF, welfare recipients were required to engage in work-related activities within a total of five years of welfare benefit in one’s lifetime (Iversen & Armstrong, 2006; Shaw et al., 2006).

The WIOA led to the creation of varying programs for different targeted populations (including adult, youth, and dislocated worker groups), as well the Employment Service/Wagner-Peyser program (GAO, 2019). WIOA, which was enacted in 2014, replaced WIA and also began to emphasize the importance of the work-first philosophy on welfare-to-work programs (Iversen & Armstrong, 2006; Shaw et al., 2006). Employment and training programs were created under this legislation targeted to low-income individuals and families. Most of the employment and training programs provided a variety of services needed to search for a job, such as affordable childcare, accessible transportation, and other work-related services (DiNitto & Johnson, 2016; Hahn, Adams, Spaulding, & Heller, 2016).

There are three central criticisms of federal policies and programs for vulnerable population. According to critics, these new social welfare policies and programs lack three important elements: 1) understanding of the unique features of modern poverty structures, 2) gainful financial and resource investments, and 3) rigorous evaluation and measurement systems (DiNitto & Johnson, 2016; Edwards & Murphy, 2011; Eyster, Anderson, & Durham, 2013; Hahn et al., 2016; Holzer, 2008; Hong et al., 2018; Iversen & Armstrong, 2006; Maguire, Freely, Clymer, Conway, & Schwartz, 2010; Rank, 2020; Royce, 2018).

First, the understanding and perception of the poor of today has become more complicated. The poor of today experience multiple layers of difficulties in their life. United
States has historically viewed poverty as result of an individual’s weaknesses, failures, and deficiencies, referred to as the *individualistic perspective of poverty*. This perspective inadequately explains the today’s problem of poverty. From the individualistic perspective, poverty is seen as a result of series of individual’s wrong choices and actions. The poor are categorized as a group of people who lack intelligence and abilities, have low levels of education, lack work experience and skills, and lack human agency and internal motivation to achieve economic success. Today, however, social workers and even other fields of researchers such as economists, sociologists, educationists and psychologist, view poverty as a combination of political and social problems beyond the individual’s control, referred to as the *structural perspective of poverty* (Danziger et al., 2016a; Holzer, 2018; Iversen & Armstrong, 2006; Rank, 2020; Royce, 2018). Meaning, the ecology a person is born into significantly impacts perpetuation of generational poverty.

From a structural perspective of the poverty view, the people in poverty need more diverse social welfare policies and programs to address their complex living environments and to effectively overcome poverty (Holzer, 2002). For example, it is difficult for a vulnerable individual who lacks education and work-related experiences to obtain a decent job. Even if the vulnerable individual is lucky enough to find any kind of job(s), he or she will struggle to pay monthly rent and bills. Also, the earned income from these job(s) are not sufficient for economic improvement and for advancement. Having children adds additional layers of challenges, such as finding affordable childcare services while working, training, or schooling (Danziger et al., 2000b; Turner, Danziger, & Seefeldt, 2006). Another layer of difficulty is that many vulnerable individuals live in neighborhoods where adequate transportation to their workplace is not
available. In addition, their employers often do not provide health insurance benefits, which makes maintaining healthy lifestyle difficult when they become sick (Holzer, 2002; Rank, 2020; Royce, 2018). Aside from above mentioned challenges, poor families and children face many other social and economic hardships (e.g., social isolation, trauma, substance use, and unaddressed mental health crises, etc.), which perpetuate their disadvantaged life course.

The second critics of these policies and programs is that federal- and private-level supports are still inadequate in lifting the at-risk population out of poverty. As noted earlier in OECD data, on average, the United States invests less in fighting poverty than other developed countries (OECD, 2020b). In 2009, about $5.8 billion was spent on employment and training programs; WIA adult program, youth activities, and dislocated workers (GAO, 2019). Under PRWORA act of 1996, federal government spending for TANF was fixed at $16.5 billion annually to support workforce development programs, including affordable childcare, accessible transportation, and other work-related services (DiNitto & Johnson, 2016; Hahn et al., 2016). However, as the fixed amount of support does not take into account annual inflation, the TANF programs’ actual monetary award value is decreasing every year (Rank, 2020).

These federal funds for anti-poverty policies and programs were not enough in addressing all the at-risk population in the United States. While there is no study yet that has comprehensively investigated the overall cost estimates on addressing poverty, a relatively recent study by McLaughlin and Rank (2018) estimated that the annual social cost for addressing childhood poverty requires at least $1.02 trillion per year. However, this study was only targeted for children in poverty. The social cost may significantly increase as the study population
expands to include the entire impoverished population, including adults, aging, inmates, and immigrants, etc.

Not only does the current U.S. fight on poverty lack economic support from the federal government, but there also are problems with the program policies and outcomes. One of the most significant changes in TANF was to provide time-limited support for no more than 60 months in a lifetime (Barnow & Smith, 2016). For the vulnerable population who are struggling with multiple layers of difficulties, 60 months is an inadequate length of support. Also, TANF and WIOA policies and programs mainly focus on being employed as a program outcome. However, most of the jobs that the vulnerable population can easily and quickly access are low-paying, unstable, entry level and service-related jobs, which do not require higher levels of education, have a low potential for advancement, and/or support retirement plan (Danziger et al., 2000a; Harper-Anderson, 2018; Jayakody, Danziger, & Pollack, 2000; Rank, 2020; Royce, 2018; Turner et al., 2006). The low quality of these jobs produces many unintended consequences, such as the emergence of the “working poor” (Anderson, Hall, & Derrick-Mills, 2013; Danziger et al., 2016a; Hong & Wernet, 2007; Peck et al., 2018; Stewart, 2007). Simply put, the “working poor” are the people who are working but still live below the poverty line as a direct result of having to maintain a low paying and unstable job with no assurances for advancement. This is a manifestation of the failed federal policy design in inadequately supporting the at-risk population.

The final criticism of these policies and programs is the lack of rigorous evaluation and measurement systems. Rigorous evaluation and measurement outcomes are essential parts of understanding the effectiveness of anti-poverty policies and programs. Rigorous evaluations and
appropriate measurements provide insight into the efficacy of the programs by suggesting the programs’ actual direction and outputs. In addition, assessing what needs more focus, and where it is ineffective, will be important for anti-poverty policies/programs in the United States.

**Employment and Training and Workforce Development Programs**

The term workforce development programs (used interchangeably with employment and training (E&T), welfare-to-work, or job training programs) has been widely used by policymakers, practitioners, and researchers in diverse social research field. In 2017 fiscal year, 43 employment and training programs funded by nine federal agencies served 24 million vulnerable people experiencing financial difficulties (GAO, 2019).

Every employment and training program, and government agency, have their own uniquely defined program. It is difficult to find a commonly accepted, and clearly explicit, definition that encompasses the whole range of workforce development programs (Cancian et al., 2012; Daugherty & Barber, 2001; Hong, 2013b). The National Governors’ Association defined workforce development as an effort in education, employment, and job training to help individuals achieve success in the workplace (GAO, 2019). Bradley (2015, p.1) explained workforce development as highlighting individuals’ skills and capabilities “a combination of education and training services to prepare individuals for work and to help them improve their prospects in the labor market.” Meléndez (2004, p.29) defined workforce development “as a field of study encompasses the transitional social and supportive services necessary for job seekers to succeed in the labor market, as well as employer services and employer-intermediary relationships that influence successful recruitment and incorporation of workers into the workplace, career advancement, and increased productivity.” Jacobs and Hawley (2009) defined
workforce development as “the coordination of public and private sector policies and programs that provides individuals with the opportunity for a sustainable livelihood and helps organizations achieve exemplary goals, consistent with the societal context” (Jacobs & Hawley, 2009, p. 12). In summary, a comprehensive definition of a workforce development program is a program that provides a combination of vocational skills, training, opportunities, and other services to vulnerable populations to achieve positive labor market outcomes and get out of poverty.

The target population of workforce development programs and the perspective on who they are has changed over time. The target population of the initial welfare programs in the early 1900s was widowed white mothers (Shaw et al., 2006). The assumptions of the society at large for this particular group was that they are inevitably poor (Royce, 2018). The goal of the program at this era was to keep these women at home and allow them to take care of their children (Falk, 2019). Subsequently, with the onset of the Great Depression in the 1930s, the financial burden for these initial welfare programs soared (Ziliak, 2016). Under the Social Security Act of 1935, a part of New Deal programs proposed by President Franklin Roosevelt, major job training programs and other labor market interventions were created through the Aid to Dependent Children Act (ADC; Edwards & Murphy, 2011). In 1962, ADC was reauthorized and renamed the Aid to Families with Dependent Children (AFDC). During the 1960s and 1970s, the early workforce development programs were expanded (Barnow & Smith, 2016). Also, the targeted population changed from widowed white mothers to women of color, especially the African Americans mothers with children (Edwards & Murphy, 2011; Shaw et al., 2006; Smith, 2008; Ziliak, 2016). The society assumed that this group could avoid falling into poverty if they
work hard (Royce, 2018). According to this logic, it was understood that the reason why people are poor is that they do not work hard, and instead pursue wrong actions and choices.

Two federal laws—the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA; U.S. Public Law 104–193) and the Workforce Innovation and Opportunity Act (WIOA; U.S. Public Law 113-128)—played important roles in development of major workforce development programs from 1930s to present day. With the support of several government agencies (the Departments of Labor, Education, Agriculture, Defense, Justice, Veterans Affairs, and Health and Human Services (Barnow & Smith, 2016; Falk, 2019; GAO, 2019; Holzer, 2002), a number of workforce development programs were developed, offering welfare services to each program’s targeted vulnerable populations.

PRWORA was enacted in 1996 and is also known as the welfare reform law. Pursuant to PRWORA, Temporary Assistance for Needy Families (TANF) was created. TANF is now primarily administered by the Department of Health and Human Services (GAO, 2019; Lewis et al., 2006). It has evolved through several early workforce development programs: (1) ADC created by the Social Security Act of 1935, later renamed AFDC in 1962, (2) Work Incentive Programs activated by the Social Security Amendments of 1967, and (3) Job Opportunities and Basic Skills Training Program established by the Family Support Act of 1988 (Falk, 2019; Shaw et al., 2006; Ziliak, 2016).

Three significant changes in workforce development resulted from the enactment of PRWORA (Public Law 104–193): fixed block grant funding, time-limited services, and strong work requirements. First, under TANF, the federal government provides fixed block subsidies to individual states. Then the individual states are required to flexibly disseminate the federal
TANF funds following the four following goals (Center on Budget and Policy Priorities [CBPP], 2020): (1) “provide assistance to needy families so that children may be cared for in their own homes or in the homes of relatives”; (2) “end the dependence of needy parents on government benefits by promoting job preparation, work, and marriage”; (3) “prevent and reduce the incidence of out-of-wedlock pregnancies and establish annual numerical goals for preventing and reducing the incidence of these pregnancies”; and (4) “encourage the formation and maintenance of two-parent families”. However, the annual budget allocation for supporting job-seeking TANF recipients has been limited to $16.5 billion (DiNitto & Johnson, 2016; Falk, 2019). Since the TANF block grant does not account for annual inflation, the actual benefits that welfare recipients receive have decreased over time (Falk, 2019; Holzer, 2008; Rank, 2020).

Second, unlike Aid to Families with Dependent Children (AFDC), TANF establishes that states cannot provide welfare services to recipients for more than 5 years, consecutive or not (Barnow & Smith, 2016; Lewis et al., 2006). However, not all TANF recipients receive services for only 60 months. Individual states can extend benefits by making exceptions for up to 20 percent of all cases who are experiencing hardships (such as domestic violence, substance use, or other difficulties as defined by the states) (CBPP, 2020; DiNitto & Johnson, 2016; Falk, 2019). Unfortunately, five years is not be enough for TANF participants to overcome their hardships and become self-sufficient (Danziger et al., 2000a). For example, TANF participants with multi-layered difficulties (such as a combination of a low level of education, limited language skills, substance use, or/and physical and mental health problems) require longer time period to overcome the hardships. Participants who are under time pressure will more likely opt for low-wage, insecure, and poor-quality jobs.
Third, after PROWRA, TANF program recipients were forced to engage in work-related activities to receive welfare benefits (Brown & Barbosa, 2001; Johnson & Corcoran, 2003; Lee & Vinokur, 2007). Prior to enactment of PROWRA, welfare recipients under AFDC were also required to work to receive benefits (i.e., cash aid, social services, parenting, and foster care), but the provisions were not as strict as TANF’s work requirements (CBPP, 2020; Falk, 2019). Because TANF emphasizes work requirements in workforce development programs, it is not surprising to emphasize that employment status is an important element of program evaluations. However, the jobs occupied by the participants are mostly low-wage and service sector jobs, which make them “working poor” (Anderson et al., 2004; Danziger et al., 2016a; Stewart, 2007) or “disconnected workers” group (Hong, 2014a; Moore, Wood, & Rangarajan, 2012). The use of employment status in the evaluation process as a primary outcome is efficient and makes it easy to show that the United States is “doing something” for poverty (Edwards & Murphy, 2011). However, the emphasis on employment status does not improve the participants’ lives nor does it show their progress toward gainful, or meaningful, employment (Hong, 2013b).

The other federal law that played an important role in the development of workforce development is Workforce Innovation and Opportunity Act (WIOA), which was enacted in 2014 replacing WIA. Primarily administered by the Department of Labor, WIOA focuses on three targeted groups: adults, youth, and dislocated workers. Like PRWORA, WIOA programs were developed through series of early workforce development legislative actions (Edwards & Murphy, 2011; Holzer, 2008): (1) the Manpower Development Training Act of 1962, (2) the Comprehensive Employment and Training Act of 1973, (3) the Job Training Partnership Act of 1982, and (4) the WIA of 1998 (Holzer, 2008).
The WIOA (Public Law 113–128) has six objectives: (1) to increase access to education, training, and employment, for individuals with barriers to employment, (2) to create a comprehensive and high-quality workforce development system linking workforce investment, education and economic development, (3) to improve the quality and labor market relevance of work investment, education, and economic development efforts, (4) to promote improvement in the structure and delivery of services, (5) to increase the prosperity of workers and employers, and (6) to reduce welfare dependency and increase economic self-sufficiency, labor market outcomes, and productivity. In summary, WIOA seeks to provide better workforce development services to individuals with barriers to employment in a number of ways.

Like PRWORA, WIOA makes some significant changes to the U.S. workforce development system. In particular, WIOA strengthens the use of career pathway programs and sector specific strategies. Sectoral career pathway programs are defined as “a combination of rigorous and high-quality education, training, and other services” with final objective of “helping individual enter or advance within a specific occupation” (WIOA, Public Law 113-128). Ziegler (2015) defined the use of sector-specific strategies as “an employer-driven workforce development approach that directly aligns occupations skills training and other workforce development services with the needs of the business.” Barnow and Smith (2016) stated that career pathway programs “offer a clear sequence of education coursework and/or training credentials aligned with employer-validated work readiness standards and competencies.”

**Sector-Based and Career Pathways Strategies**

Initiated under the TANF and WIOA programs in the 1960s, the “work first” philosophy has been emphasized in current workforce development programs (Iversen & Armstrong, 2006;
Shaw et al., 2006). In the 1990s, an innovative approach to workforce development emerged. Sectoral and career pathway (also called industry-based or sector-specific) programs have been developed to educate and train program participants for skilled work in specific economic sectors with strong labor demand and well-paid jobs (Eyster et al., 2013; Fein, 2012; King & Prince, 2015; Maguire et al., 2010).

In recent years, career pathway programs are becoming more popular (Eyster et al., 2013). With the increased interest in sector-specific career pathway strategies through WIA/WIOA, the Patient Protection and Affordable Care Act of 2010, also known as the Affordable Care Act or Obamacare, created a first round of five-year HPOG 1.0 program in 2010 (Eyster et al., 2013; King & Hong, 2019; King & Prince, 2015; Holzer, 2008). And a second round of five-year HPOG (called HPOG 2.0) program commenced in 2015 (Loprest & Sick, 2020) as one of the federally funded career pathway programs. HPOG as a health-care-sector-specific workforce development programs was managed by the Office of Family Assistance and was directed by the Administration for Children and Families, a division of the U.S. Department of Health and Human Services.

The services and target population provided by HPOG program are as follows. HPOG provides health-care-related education and training to TANF beneficiaries and other vulnerable individuals for jobs in the health care sector that are expected to be well-paid, difficult to fill, or in high demand (Anderson et al., 2013; Fountain et al., 2015). The program also offers a variety of health-care-sector-related activities such as soft skills training, health career introduction, prerequisite coursework, and adult basic skills and language classes (Werner, Loprest, & Koralek, 2019). This program is open to the general population (16 years of age or older) who
are willing to work in the healthcare sector. However, it requires that the participant’s annual income does not exceed 200% of the federal poverty line, and the participant has no criminal record (Werner et al., 2019).

As an innovative method, sector-based career pathway programs have the following characteristics: (1) generally, but not always, provide education and training opportunities through community colleges, (2) provide well-paid jobs in key sectors, and (3) address various extraneous but serious problems such as childcare and transportation that arise during the education and training period (Holzer, 2008).

*Health Profession Opportunity Grant (HPOG)*

Specifically the goal of the HPOG program is to: “(1) prepare participants for employment in the healthcare sector in positions that pay well and are expected to either experience labor shortages or be in high demand; (2) Target skills and competencies demanded by the healthcare industry; (3) Support career pathways, such as an articulated career ladder; (4) Result in employer- or industry-recognized, portable educational credential; (5) Combine support services with education and training services to help participants overcome barriers to employment; and (6) provide training services at times and locations that are easily accessible for targeted populations” (U.S. Department of Health and Human Services, 2015).

What sets HPOG program apart from other programs is that program graduates have a chance to find a job in health-related careers (Bruck et al., 2019; King & Hong, 2019). Occupation in the health sector will experience growth and are expected to be in high demand in the near future due to an aging society (King & Hong, 2019). Because elderly people have many chronic diseases and treatment can be complicated, many medical professionals, includes
doctors, nurses, and other various allied health caregivers, are needed in an increasingly aging society. Each medical profession that HPOG can educate (e.g., certified nursing assistant, certified medical assistant, registered nurse, licensed practical nurse, etc.) requires different level of education. Therefore, HPOG provides different participation time length in the training programs according to occupation, ranging from six weeks to several years.

**Self-Sufficiency in Evaluating Workforce Development Programs**

Program evaluation is a very important process in workforce development programs and sector-specific career pathway strategies. This is because the program's strengths and weaknesses can be identified through evaluation. Also, program evaluations can help determine the direction: areas in which the program is less effective and areas that require greater focus.

Self-sufficiency, which is used interchangeably with economic self-sufficiency (ESS) in many evaluation studies, is an essential goal and measurement in many anti-poverty policies/programs (Dworsky, 2005; Hall et al., 2010; Johnson & Corcoran, 2003; Warrener, Koivunen, & Postmus, 2013). Self-sufficiency has generally been accepted as either a financial or an economic outcome (Brown, Kirby, & Conroy, 2019; Hong et al., 2009). Many studies have used various outcome measures (e.g., employment status, household income, employment retention, and well-being) to capture self-sufficiency (Barnow & Smith, 2016; Braun, Olson, & Bauer, 2002; Cancian & Meyer, 2004; Gowdy & Pearlmutter, 1993; Hawkins, 2005; Hong et al., 2009).

The existing definitions and measures of self-sufficiency can be categorized into two groups: financial or comprehensive. In the first group, self-sufficiency is defined by economic status, including annual income, but mainly by dichotomous outcomes such as gainful
employment or not, independence from government support or not, job maintenance or not, and out of welfare or not (Daugherty & Barber, 2001; Jacobs & Hawley, 2009; Lichter & Crowley, 2004; Taylor & Barusch, 2004). For instance, Dworsky (2005) measured self-sufficiency by examining employment, earnings, and welfare status among Wisconsin’s former foster youths. Hall and colleagues (2010) measured the self-sufficiency of immigrants who exited from TANF by using employment, employment stability, and wages. Lehrer and colleagues (2002) measured inner-city minority mothers’ self-sufficiency based on whether the mother received welfare services or not, worked full or part time or not, and did or did not engage in work-related activities.

In the second group, self-sufficiency is viewed more comprehensively by expanding its definition from economic to psychosocial (Gowdy & Pearlmutter, 1993; Hawkins, 2005; Hong et al., 2009). According to this group of researchers, self-sufficiency is not a dichotomous variable but has more meanings than mere ESS (Hong et al., 2009). Gowdy and Pearlmutter (1993) defined ESS as the “personal process of acquiring (1) autonomy and self-determination, (2) financial security and responsibility, (3) family and self well-being, and (4) basic assets for community living (p. 379).” According to Fineman (2004), self-sufficiency is defined as (1) being able to supply one’s own needs without external assistance and (2) having extreme confidence in one’s own resources or powers (p.7). Daugherty and Barber (2001) suggested that self-sufficiency is not a fixed status but is instead an ongoing process that can be developed over time through workforce development programs.

Hong and colleagues (2009) further expanded the definition of self-sufficiency by focusing on its multidimensionality: “Self-sufficiency (SS) is a process of developing
psychological strength properties and a goal-oriented progression toward realistic financial outcomes” (pp. 357–358). In this vein, highlighting a comprehensive approach to self-sufficiency, Hong (2013b) developed PSS from a focus group study with welfare service providers and program participants. He identified two core components of PSS as EH and PEB. Balancing these two components is important as it leads participants toward improved economic outcomes (Hong, 2013b). Hawkins (2005, pp. 85-86) defined self-sufficiency as “maximizing full human potential to establish long-term economic, physical, psychological, and social well-being for individuals and their families” which is not measured dichotomously. Also, he pointed out two drawbacks of evaluating workforce development. First, by focusing solely on financial outcomes, the workforce development evaluations fall short on addressing the comprehensive nature of participants’ circumstances (Gowdy & Pearlmutter, 1993; Hawkins 2005). Second, because these financial measurements are usually conducted within a short time period, the participants’ process toward getting ready to work is not captured in the evaluation (Hawkins, 2005; Hong et al., 2009; Negrey, Um'iani, Golin, & Gault, 2000).

A comprehensive and multifaceted approach to self-sufficiency is important in assessing workforce development as it helps researchers focus on the different aspects of success that participants achieve. This new approach allows researchers to address varying number of factors that can affect participants’ lives, either by hindering them from achieving ESS or by facilitating their move toward employment. (Acs & Loprest, 2007; Danziger et al., 2000a, Dworsky & Courtney, 2007; Hahn et al., 2018; Holzer et al., 2004; Hong et al., 2014; Nam, 2005; Rank, 2020). Studying comprehensively for multiple factors is also relevant to understanding modern poverty population that experience complex challenges on their journey toward achieving self-
sufficiency (Danziger, Danziger, Seefeldt, & Shaefer, 2016b; Holzer, 2008; Iversen & Armstrong, 2006; Rank, 2020; Royce, 2018).

The investigation on the effectiveness of the health-sector-specific career pathway of HPOG through the Planning, Research and Assessment Office (OPRE), directed by the ACF, a division of the U.S. Department of Health and Human Services, is a study on the comprehensive factors of modern poverty (Anderson et al., 2013; Fountain et al., 2015; Peck et al., 2018). It evaluates the ACF program with a rigorous research design or provides assessment projects. The OPRE awarded HPOG University Partnership (HPOG UP) research grants opportunities to several universities to assess the effectiveness of HPOG programs (Bruck et al., 2019).

The School of Social Work at Loyola University Chicago, as one of the recipients of HPOG UP research grant, evaluated two local HPOG programs. Loyola’s study aimed to provide evidence for developing new approaches to address social service needs, advocating for program participants’ demands (P.Y.P. Hong et al., 2019). Loyola collaborated with two local partners, Southland Health Care Forum (Southland) and Gateway Technical College (Gateway). Southland successfully provided healthcare occupational training and financial support for vulnerable populations in the state of Illinois since 2003. Gateway is an accredited post-secondary institution under the Wisconsin Technical College system. Gateway also provided occupational skills training in specific healthcare fields and financial aid—including childcare, case management, career counseling, and supportive services—such as transportation, dependent care, and temporary housing—to HPOG program participants (P.Y.P. Hong et al., 2019). Through the HPOG UP research grant based on Hong (2013b)’s PSS theory as a research model, Hong and colleagues uncovered the importance of PSS by expanding the definition of self-
sufficiency along the path to achieve program completion and employment outcomes (P.Y.P. Hong et al., 2019; Hong et al., 2020b).

Empirical Studies of Factors Affecting Self-Sufficiency

In many previous empirical studies evaluating either general workforce development programs and/or career pathway programs, self-sufficiency was identified as the primary outcome variable in the study models. As mentioned earlier, the term “self-sufficiency” has been used interchangeably with ESS, employment status, independence, self-reliance, or (financial) well-being. A number of demographic information and personal characteristic variables were tested to examine the impact on self-sufficiency in diverse workforce development programs. The specific demographic and personal variables and their effect on self-sufficiency will be described in the following paragraphs.

Age has been considered an important variable that affects labor market outcomes. Older participants are less likely to be employed (Lee, Slack, & Lewis, 2004). Cheng (2007) found from a sample of welfare mothers that younger mothers are more likely to become employed. On the other hand, Hong and Wernet (2007) found that program participants who are young, nonwhite, male, unmarried, and have children have higher odds of becoming part of the working poor. Caputo (1997) and Danziger and colleagues (2000a) found that there is no significant relationship between age and ESS, or the ability to escape poverty, become employed, and become self-sufficient. Race has been explored in regard to its impact on ESS. Racial minorities, primarily African Americans, tended to stay on TANF longer (Seefeldt & Orzol, 2005). However, Wu (2011) did not find a relationship between race and economic success among low-income mothers with children.
Marital status and gender have also been studied as potential factors to economic success. Kramer and colleagues (2015) examined gender disparity between single parents across incomes. They found that single mothers generally have less income than single fathers when other human capital variables, such as basic skills needed for employment, level of schooling and other demographic variables, are controlled. In addition, they found that single mothers are usually more economically disadvantaged than single fathers (Kramer et al., 2015). Kim (2000) study purported that mother on welfare are less likely to be employed than fathers. However, Hong and Wernet (2007) found that women are less likely to become working poor than their male counterparts when human capital, employment barriers, and labor market variables are controlled. Dworsky and Courtney (2007) did not find any gender differences in employment among welfare recipients.

In addition to gender, marital status was found to affect ESS. Seefeldt and Orzol (2005) found that being married or living with a partner was related to a shorter stay on welfare. Hong and Pandey (2008) found that being married was positively associated with living above the poverty line. Caputo (1997) also found a relationship between married respondents and escaping poverty in the national representative data set. However, Henly and colleagues found that cohabitation was negatively associated with monthly earnings and poverty status (Henly, Danziger, & Offer, 2005). While other studies found no statistically significant relationship between welfare recipients’ marital status and economic-related outcomes (Danziger et al., 2000a; Kim, 2000; Nam, 2005). However, having one or more additional household earners lowered the possibility of becoming part of the working poor (Hong & Wernet, 2007). Hong and
Pandey (2008) found that having one or more extra earners made it more likely that a household lives above the poverty line.

These demographic and personal variables help to provide useful information as control variables in many regression models when investigating key effects on labor market outcomes. Given the evidence supporting the link between these demographic variables, personal variables, and ESS, this study expands the examination of the effects on ESS according to Hong’s (2013b) PSS theory and measurements.
CHAPTER THREE
THEORETICAL FRAMEWORKS

In this chapter, theoretical frameworks for the proposed study are discussed. First, the structural theories of poverty and labor market are reviewed to provide the theoretical context of how the system level disadvantages contribute to poverty and labor market outcomes. Second, empowerment and positive psychology theories are discussed in regards to how they support the understanding of subjective poverty and the human development path out of it. Third, PSS theory and its two primary components—employment hope (EH) and perceived employment barrier (PEB)—are reviewed as it ties together the structural and empowerment and positive psychology theories. Finally, the application of PSS theory and the empirical studies utilizing the PSS measurements are reviewed.

Structural Theories of Poverty and Labor Market

Dual Labor Market Theory

Dual labor market theory suggests that the labor market is split into two segmented submarkets. The primary sector comprises jobs that are higher paying with better benefits, upward mobility possibilities, and higher returns to education and experience and the secondary sector having the opposite to the favorable conditions that its counterpart sector enjoys (Doeringer & Piore, 1971; Hong & Pandey, 2007; Rank, 1994; Rebitzer & Robinson, 1991; Reich, Gordon, & Edwards, 1973). The structural exclusion of capable workers in the secondary sector confines them to less opportunities characterized by “bad” jobs that reinforce
disadvantaged positions in a “vicious circle” that low-wage workers often get stuck in (Cain, 1976, p.1223; Hong et al., 2021a, p.32). The dual labor market structure makes it untenable for low-wage workers to move from the secondary sector to the primary sector. As such, this structural condition exacerbates poverty and economic vulnerability for low-skilled, low-wage workers.

Human Capital Theory

Human capital is “the stock of productive skills, talents, health and expertise of the labor force, just as the physical capital is the stock of plant, equipment, machines, and tools” (Goldin, 2016, p.75). Human capital theory posits an increased future return in the labor market by investing in increasing the human capital of individual workers in the form of education, training, and health (Schultz, 1961). Increased human capital is likely to lead to labor productivity and economic well-being even with sacrificing short-term earnings during the time needed for investment (Becker, 1964, 1993). It is found that “educated, skilled, and healthy individuals tend to enjoy higher occupational status and earnings, thus increasing their chances of upward mobility” (Hong & Pandey, 2008, p.457). Hong (2003) found that human capital had the greatest effect on welfare use, employment, poverty, and working poverty compared to welfare dependency and employment barriers.

Social Exclusion and Structural Vulnerability Thesis

Social exclusion can be defined as “an accumulation of confluent processes with successive ruptures arising from the heart of the economy, politics and society, which gradually distances and places persons, groups, communities and territories in a position of inferiority in relation to centres of power, resources and prevailing values” (Estivill, 2003, p.19). This
comprehensive definition “highlights the structural roots and multi-dimensionality of the concept” with some neighboring conceptual frameworks being “marginalization, isolation, poverty, deviation, expulsion and stigmatization” (Hong, 2006, p.521-522).

Hong and Pandey (2007) provide evidence of “structural limitations of investing in human capability to advance labor market desirability within a segmented labor market” (p.19). While postsecondary education, training, and health as human capital variables were found to be a strong predictors of poverty, being underemployed moderated these effects. Underemployed individuals were found to have inconsistent effects of human capital on the likelihood of experiencing poverty. Thus, it is suggested that:

Social exclusion could supplement poverty in an age of welfare state retrenchment, for there is less stigma attached to ‘inclusion’ as a would-be solution rather than the redistribution of wealth … [Estivill (2003)] suggests understanding social exclusion as a developmental process identified in terms of its structural origins and taking place in multiple stages of exclusion. Exclusion can occur at individual, group, social, and spatial levels … (Hong, 2006, p.522)

Structural vulnerability thesis suggests that poverty in the United States is structurally conditioned by individuals’ vulnerable positions in the economic system (Rank, 2004). Therefore, poverty is not a consequence of individuals’ lack of effort or human capital investment but that has to do with structural failings at the economic, political, and social levels. Human capital having no effect on the likelihood of moving out of poverty but having significant effects on moving from the near poverty to upper income is evidence of human capital having differential effects as a form of social exclusion (Hong & Pandey, 2008).

Despite what the human capital theory may have suggested over the years, the poor seem to be disconnected from how the theory should play out in the mainstream society. Lack of human capital for the economically disadvantaged in this case may reflect their
structurally vulnerable positions in society, resulting from being trapped in the lower segment of the bifurcated labor market. (Hong & Pandey, 2008, 459)

*Structural Dependence Thesis*

Hong (2009) maintains that there is marginalization of structural poverty by the structurally dependent public will and the political system. Structural dependence on the economic system limits full democratic participation in social development, planning, and policymaking (Hong, 2013a). According to Hong’s (2009, 2013a) structural dependence thesis, the deep-rooted cause of poverty is the economic system as the structure that produce winners and losers of economic gains. The natural process of producing uneven distribution of resources in a Capitalist economy is met with individualism as the ideological value system to steer away from the condition of poverty being recognized as a public problem. Business power in public policy decision making and the truncated labor market policy trivializes poverty as a structural problem. Subsequently, the structurally dependent system subscribes to the default individual approach in policy choice to deal with poverty. Hong (2010) found evidence of structurally contextualized socio-politico-economic factors affecting individual poverty status across 17 developed countries during a period of welfare state retrenchment and increasing globalization.

*Empowerment and Positive Psychology Theories*

Individuals’ integrative process of psychological transformation of switching barriers to hope driven action is the centerpiece of PSS (Hong, 2013b, 2016). According to PSS theory, the levels of PSS do not increase by having hopeful and positive outlooks. Whereas positive psychology contends that people become happier and more fulfilled by focusing on positive aspects, PSS research evidence shows that awareness and embracing perceived barriers is a
prerequisite step before moving toward the pathway of hope (P.Y.P. Hong et al., 2019). As such, distinctive but interconnected functions of hope and perceived barriers are crucial to fostering PSS. Through the process of identifying perceived employment barriers, people come to realize what, where, and how to start for becoming economically independent from the government’s support.

**Empowerment Theory**

Empowerment theory suggests that “the outcome of stressful life events can be less debilitating when individuals are encouraged to identify with similar others, to develop specific skills, to perceive the societal or institutional components of their problems, and to engage in change on a collective level” (Gutierrez, 1994, p.201). Zimmerman (2000) reviews various definitions of empowerment to (pp.43-44):

Empowerment [as defined by Mechanic (1991)] may be seen as a process where individuals learn to see a closer correspondence between their goals and a sense of how to achieve them, and a relationship between their efforts and life outcomes. (Zimmerman, 2000, p.43)

Empowerment [as defined by Cornell Empowerment Group (1989)] is an intentional, ongoing process centered in the local community, involving mutual respect, critical reflection, caring, and group participation, through which people lacking an equal share of valued resources gain greater access to and control over those resources. (Zimmerman, 2000, p.43)

Empowerment may occur at multiple levels of analysis [as defined by Rappaport (1984)] … [and] it is viewed as a process: the mechanism by which people, organizations, and communities gain mastery over their lives. (Zimmerman, 2000, p.44)

These definitions include not only efforts to exert control at the individually but also collectively to reflect and take actions to organize the resources. In this regard, empowerment theory suggests that “changes in beliefs and attitudes contribute to the participation of
individuals in social change and assumes that individuals will work for the collective good if they develop a sense of critical consciousness” (Gutierrez, 1995, p.229).

*Mental Contrasting and Social Cognitive Career Theories*

The process of PSS theory (Hong, 2013b, 2016)—balancing two variables: decreasing PEB and increasing EH—is supported by theory of mental contrasting (Duckworth, Grant, Loew, Oettingen, & Gollwitzer, 2011) and social cognitive career theory (SCCT; Lent & Brown, 2006). Duckworth and colleagues (2011) defined mental contrasting as “a strategy involving the cognitive elaboration of the desired future with relevant obstacles of present reality.” Mentally contrasting a desired future with real obstacles activates goal-directed behaviors, giving the person high expectations of successfully achieving the goal (Kappes, Singmann, & Oettingen, 2012; Oettingen, 2000). In mental contrasting literature, the positive and negative work progress is referred to as reverse contrasting: one starts with thinking about the desired future then assesses the present obstacles (Kappes et al., 2012). In the PSS process, however, perceiving employment barriers is the first step toward moving forward, and EH serves as the bridge to employment goals.

SCCT has helped explain the relationship between personal traits (such as beliefs in self-efficacy, outcome expectation) and personal goals and outcome performance in diverse populations (Lent, Brown, & Hackett, 1994; Lent & Brown, 2006, 2008). SCCT is based on Bandura’s (1986) general social cognitive approach, which emphasizes “the importance of personal agency” in career development (Albert & Luzzo, 1999). Self-efficacy is defined by Bandura (1986) as “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performance” (Bandura, 1986, p. 391). According to
Albert and Luzzo (1999), outcome expectations are defined as “personal beliefs about the probable outcome of behavior” that lead to performance behaviors as a mediator between self-efficacy beliefs and performance behavior in career development. Finally, a personal goal is defined as “the determination to engage in a particular behavior or activity or to affect a particular future outcome” (Albert & Luzzo, 1999).

SCCT has generally explained the educational and career development process with four models—interest development, choice-making, performance, and satisfaction (Lent & Brown, 2006, 2008). Specifically, in the SCCT performance model (Lent & Brown, 2006, 2008), both self-efficacy beliefs and outcome expectations affect work performance. In the relationship between self-efficacy beliefs and outcome expectations, the former affects the latter. Also, outcome expectation mediates between self-efficacy beliefs and performance outcomes (Brown, Lent, Telander, & Tramayne, 2011). As in SCCT, workforce development program participants who have strong self-efficacy beliefs and positive outcome expectations, such as EH, will have an increased likelihood of getting a job than those who have weaker self-efficacy beliefs and fewer outcome expectations.

SCCT identifies individual and structural variables that impact career development (Lent et al., 1994). These are gender, personality, predispositions, ethnic identity, educational experience, financial support, and socioeconomic status (Lent et al., 1994; Lent & Brown, 2006; Rogers & Creed, 2011; Scheuermann, Tokar, & Hall, 2014). However, these individual and structural variables are insufficient in capturing workforce development program participants’ complicated circumstances. In addition, there is relatively little research on SCCT with at-risk
populations because SCCT has used the general population as the basis for developing its career development model.

In sum, mental contrasting and SCCT help explain the process of PSS theory—the relationships among employment barriers (i.e., individual and structural), employment hope, and labor market performance—but it is limited in its generalizability to vulnerable populations’ unique and challenging factors that affect economic outcomes. Supported by mental contrasting and SCCT (e.g., the positive effects of EH on career-related outcomes), the PSS theory explains the conjoint interworking of negative PEB and positive EH and its effect on the workforce development populations (Hong, 2013b, 2016).

**Psychological Self-Sufficiency (PSS) Theory**

PSS is a bottom-up, empowerment-based, and practice-informed social work theory, which was developed by Hong (2013b, 2016) in an attempt to answer the question of how participants in welfare-to-work programs become economically independent from the government’s support. The definition of PSS is “a dynamic process of overcoming perceived employment barriers along the goal-oriented path to individualized success and developing employment hope within the new realities of career goals” (Hong et al., 2014, p. 693). In other words, PSS is defined as “the answer to the question of how one becomes economically self-sufficient—by arduously and meaningfully trotting the path, by engaging in a forward process, and by switching from perceived barriers to employment hope” (Hong, 2013b; Hong et al., 2018a, p. 23).

There were two phases in the development of PSS theory. First, the collection of evidence and construction of key PSS theory concepts occurred between 2004 and 2014 (Hong
Hong (2013b, 2016) developed PSS theory through a series of focus groups with workforce development program participants, service providers, and graduates at two Midwestern metropolitan cities: St. Louis, Missouri, and Chicago, Illinois. These focus groups were asked their own perceived definition of self-sufficiency (Hong, 2013b; Hong et al., 2009; Hong et al., 2020c). Specific interview questions included, “In your own words, what does self-sufficiency mean to you?”, “What makes up self-sufficiency? In other words, what are the components of self-sufficiency? And how much money do you think would be required to meet these needs?” and “Please list what factors can help you achieve self-sufficiency?” (Hong et al., 2009; Hong et al., 2020c). Focus groups’ responses were qualitatively analyzed using grounded theory (Hong et al., 2009) and qualitative content analysis (Hong et al., 2020c). Two main PSS theory concepts—EH and PEB—emerged from these qualitative analyses (Hong, 2013b, 2016).

The second phase was developing and validating PSS measurements—employment hope scale (EHS) (Hong et al., 2012) and perceived employment barriers scale (PEBS) (Hong et al., 2014c)—based on the conceptualizations resulting from the qualitative analyses of the focus groups’ responses (Hong, 2016). Quantitative survey data of these two scales collected over 5000 cases since 2010, both cross-sectionally and longitudinally. These quantitative data and PSS measurements have been analyzed through diverse quantitative analysis methods (multiple linear regression, path analysis, structural equation modeling, exploratory factor analysis, and confirmatory factor analysis) (Hong et al., 2009; Hong et al., 2014c; Hong et al., 2020c, Hong et al., 2020b).

PSS theory tries to systemically explain various dynamic steps that account for the transition from welfare to work. PSS theory (Hong, 2013b, 2016) suggests that awareness of
barriers triggers a goal-directed hope. As the perceived obstacles—structural and individual—decrease with relationship-based support, the goals are seen as more attainable, and hope-related actions become more rigorous and reliable. Therefore, the psychological transformation is seen as starting with becoming aware of one’s individual and structural barriers. Without first becoming aware of these barriers, individuals remain disconnected workers, which means they are not actively involved in the job market, with wishful hopes and financial goals (Box 1: Being disconnected group in Figure 1). Then this awareness prompts participants to move toward “having a positive future outlook” and “acquiring skills and resources” (Box 2: Discouraged and 3: Motivated group in Figure 1) (Hong et al., 2009). Finally, through psychological transformation—recognizing perceived barriers, having a positive outlook, being self-motivated, individuals become empowered workers achieving realistic and sustainable financial goals. The four-step process of transforming clients is shown in Figure 1: (1) Being disconnected, (2) Being discouraged, (3) Being motivated, and (4) Becoming an empowered worker (Hong, 2013b).
To better understand the PSS theory, metaphorical example is presented where individuals in poverty is standing before a dark tunnel. At the end of this path, individuals in poverty can see the light of financial success. Then they walk their way out of poverty by moving toward financial success. In this example, EH can be seen as willingness (intrinsic motivation) to head toward the light (one’s perception of improved life), and PEB are the barriers of potential hazards that obstruct or slow down (method and speed) one from reaching the financial success. Barriers can also be anything that causes an individual to retreat backwards. Without PEB, an individual could reach financial success much faster and with ease. So, PEB determines how quickly and easily an individual achieves their financial goals.

EH’s role here is to determine the sustained path towards economic independence. With EH, individuals in poverty in above metaphor set toward a direction of financial independence.
Now, they may at first resort to walking toward economic freedom, which metaphorically means the individuals in poverty lack adequate resources for faster transition. However, as situations improve and the challenges are overcome, the individuals in poverty may gain means to faster transportation, allowing acceleration toward economic independence. Not surprisingly, only having EH (knowing exactly where to go) or PEB (the obstacles that prevent faster exit from poverty) does not mean that the individuals in poverty can achieve economic independence. In other words, financial independence can be achieved only when sustained movement (EH) and realizations of overcoming obstacles (PEB) are harmonized. In summary, when PEB and EH work in conjunction, one’s PSS is realized in the process of psychological transformation.

*Employment Hope (EH)*

Hope is an important notion in positive psychology and has been applied in research on workforce development, career development, and vocational psychology (Diemer & Blustein, 2007; Hong et al., 2014a; Juntunen & Wettersten, 2006). Dufault and Martocchio (1985) defined hope as a multidimensional and process-oriented “dynamic life force characterized by a confident yet uncertain expectation of achieving a future good which, to the hoping person, is realistically possible and personally significant”. Vocational hope defined as “a positive motivational state associated with envisioning a future in which meaningful work is attainable” (Brown, Lamp, Telander, & Hacker, 2013). In the studies reviewed for the purpose of this dissertation, hope is further conceptually defined as a goal- and future-oriented psychological attitude related to reaching outcome expectations (Hong et al., 2015). Hodge, Hong, and Choi (2019) have found that employment hope mediates the relationship between spirituality and grit.
Employment hope (EH) is different from other concepts and measurements because it was originally developed to investigate the bottom-up definition of self-sufficiency within diverse workforce populations (Hong, Lewis, & Choi, 2014b). According to Hong and colleagues (2009), EH is generally understood as a “non-cognitive transformation by which one becomes psychologically empowered with self-worth and futuristic motivations and progresses on the path toward goals by utilizing skills and resources” (Hong et al., 2014b, p. 324). EH is the core variable for positive transformation in the process of empowerment for the low-income population (Hong, 2013b; Hong et al. 2014b). EH is then posited as transformative catalyst that could motivate and power an individual’s, and by extension change that same individual’s ecology. For instance, according to Hong and colleagues (2014b), EH could be the motivational power to have the grit and resilience to overcome barriers and put individuals on a pathway toward their goals. People with EH are more likely to have positive outcomes in workforce development programs, resulting in an employment (Hong & Choi, 2013). That is, the empowered people believe in themselves and persist on the pathway toward realizing individual goals (Graffman, Shinkfield, Lavelle, & McPherson, 2004).

Employment hope scale (EHS) was developed and validated through a series of qualitative and quantitative studies. The employment hope scale (EHS) has 24 items with four sub-factors—psychological empowerment, futuristic self-motivation, utilization of skills and resources, and goal orientation—with a total of 24 items (Hong et al., 2014a; Hong et al., 2012). EHS was revalidated, expanding sub-factors from two to four and a short version, EHS-14, was developed later (Hong & Choi, 2013; Hong et al., 2014a). EHS was also used in international and cross-cultural workforce populations. Akin and colleagues (2013) examined the validity and
reliability of the Turkish version of EHS, and Hong and colleagues (2016a) also tested the applicability of using EHS with the South Korean population.

A number of studies found that EH had a positive effect on the labor market outcomes and the economic self-sufficiency (ESS) among vulnerable populations. For example, EH was found to mediate the relationship between spirituality and economic self-sufficiency. Specifically, the agency factor—psychological empowerment or “goal-directed determination”—mediated the relationship between spirituality and economic self-sufficiency (Hong et al., 2015). Hong and colleagues (2014b) examined the effects of EH on ESS among returning citizens. They found that EH had a positive impact on ESS and played a mediating role in participants’ paths from low self-esteem and self-efficacy to ESS. These findings suggest that EH may have a critical role (at least a mediating effect) in predicting job market outcomes among diverse vulnerable populations.

In summary, EH is a key condition for achieving economic success for workforce development program participants (Hong, 2013b). Many low-income job seekers are not tied to psychological capital during the pre-or post-employment process. In these cases, temporary and tenuous psychological or behavioral changes may occur to show their readiness for a job, but the readiness is not sustainable. Hong (2013b, 2016) posited that therefore they quickly return to desperation and lose hope completely.

Perceived Employment Barriers (PEB)

According to Hong and colleagues (2014c), PEB is defined as a “low-income jobseeker’s perception of personal and environmental barriers as they relate to getting a job” (p. 349). PEB refer to an individual’s obstacles to finding a job (Hong et al., 2014c). To understand low-income
job seekers’ perceived employment barriers better, Hong and colleagues (2014c) developed a comprehensive perceived employment barrier measurement scale, called PEBS. It has five sub-factors—physical health and mental health, labor market exclusion, human capital, childcare, and soft skills—with 27 items (Hong et al., 2014c). Like EHS, PEBS was also tested in a cross-cultural context in South Korea (Hong et al., 2018b).

Studies reviewed consistently suggest that employment barriers negatively contribute to financial outcomes among workforce development program participants (Danziger et al., 2000a; Dworsky & Courtney, 2007; Holzer et al., 2004; Hong et al., 2014c; Nam, 2005; Rank, 2020). These barriers could be categorized into two groups: personal barriers (e.g., physical and mental health problems, lack of human capital, substance dependence, fear of rejection, and experiences of discrimination) and environmental or system-level barriers (structural and family-related factors such as disadvantaged neighborhoods, lack of quality job, lack of childcare, stigma of poverty, and experience of domestic violence). System-level barriers are inherent in all social, political, and economic systems, and when coupled with the individual barriers, gaining economic independence becomes difficult.

Disadvantaged populations struggle with having both physical and mental health issues (Danziger et al., 2000a; Rank, 2020; Hong et al., 2014c). Number of studies focus on the effects of physical and mental health problems among workforce development program participants while controlling for other factors (Lehrer et al., 2002). Danziger et al. (2000a) found that low-income status negatively affected program participants with health barriers. Among single mothers, mental health and substance abuse issues were strong obstacles to finding employment (Jayakody et al., 2000; Jayakody & Stauffer, 2000). Single mothers with children, especially
children younger than 18, faced more severe and complicated barriers to self-sufficiency, including lack of childcare service for their children, job skills, and work experience (Olson & Pavetti, 1996; Lehrer et al., 2002). Also, the experience of domestic violence was a common barrier among women receiving welfare (Tolman & Raphael, 2000).

Lack of human capital (i.e., education, job training experience, and skills development) was found to be one of the biggest challenges that vulnerable population face (Danziger et al., 2000a; Heckman & Masterov, 2007; Holzer, 2018; Hong & Pandey, 2007; Rank & Hirschl, 2015). Nam (2005) found that human capital barriers were predictors of welfare program participants’ lack of success. Low-income job seekers who have less education, less job training, and more health problems, had a greatly increased chance of becoming working poor (Hong & Wernet, 2007). A low education level, specifically less than high school education, is related to staying in the welfare system longer (Seefeldt & Orzol, 2005). Whereas Kim (2000) found that welfare recipients who have more than 13 years of education were more likely to be employed. Wu (2011) also found that low-income mothers with more than a high school education had more long-term success than those with less than high school education.

System-level employment barriers, such as domestic violence, lack of childcare, unstable housing, and disadvantaged neighborhoods, were also correlated with lower earnings (Dworsky & Courtney, 2007; Holzer et al., 2004; Negrey et al., 2000; Taylor & Barusch, 2004). More than half of the at-risk population spent a significant amount of their income on housing (Desmond & Gershenson, 2017). As a result, the at-risk population were found in disadvantaged neighborhoods with cheaper rents, but that also had higher crime rates, more often noisy, with few accessible childcare services, poor transportation, and little community support (Bills, West,
Many welfare leavers could not maintain their jobs due to lack of childcare services in the community and workplace conditions (Negrey et al., 2000). Therefore, former welfare recipients, typically women with children, continued to face financial difficulties (Holzer et al., 2004).

Recent studies also found a relationship between experiencing poverty in early childhood with later life challenging outcomes (McLaughlin & Rank, 2018; Shafir, 2017; Wightman & Danziger, 2014). For example, living in an unsafe and disadvantaged neighborhood could increase the likelihood of being exposed to traumatic events, such as suicide, gun violence, and gang-related violence. Also, youths who grow up in disadvantaged environments are more likely to face adverse outcomes, such as dropping out of school, experiencing high levels of depression and low self-esteem, and committing crimes (Heckman & Masterov, 2007; Wightman & Danziger, 2014). It was suggested that early childhood intervention, by moving to a better neighborhood, may be the best and most effective intervention methods (Heckman & Masterov, 2007; Shafir, 2017). Unfortunately, due to the complexity of poverty as a social problem, there currently are no comprehensive policies or solutions in place that can solve the poverty problem all at once. It will require an innovative and culturally sensitive and relevant policy approaches.

In recent workforce development evaluation studies, the quality of jobs that program participants attain is the most important issue. Because most of the workforce development programs have focused on rapid movement into employment, job quality has been overlooked. Without sufficient time to invest in developing their own skills, program participants were forced to take unstable and low-paying jobs that do not provide health benefits or retirement plans (Brown & Barbosa, 2001; Lee & Vinokur, 2007; Povich, Roberts, & Mather, 2014; Rank, 2020).
Therefore, the job quality and employment environment that government offer did not match the participant’s real needs (Peck & Theodore, 2000). Even for full-time workers, wages in these entry positions were insufficient to exit the welfare system (Hawkins, 2005; Long, 2001; Rank, 2020; Ybarra & Noyes, 2019). In addition, many low-income workers were found unable to set aside financial resources for unanticipated economic setbacks, and more importantly, they could not plan for retirement (Halpern-Meekin, Greene, Levin, & Edin, 2018; Rank, 2020).

**Empirical Studies Using Psychological Self-Sufficiency (PSS) Theory**

Prior studies that have verified PSS theory tested the relationships among EH, PEB, and ESS (Hong et al., 2014b), which was supported at a conceptual level, by the strengths-based approach of social work (Saleeby, 2013), empowerment paradigm (Gutierrez, 1994, 1995), and resiliency theory (Fraser, Galinsky, & Richman, 1999). The studies consistently supported the finding that the pathway from PEB to ESS, mediated by EHS, is statistically significant among diverse vulnerable populations, such as low-income job seekers, jobseekers with physical and mental health barriers, and carceral jobseekers (Hong et al., 2016b; Hong & Choi, 2013; Hong et al., 2015; Hong et al., 2014a, 2014b, 2014c; Hong et al., 2020b; Hong et al., 2020c).

Hong and colleagues (2016b) found a direct effect of EH and PEB on ESS among the participants in employment and training programs with physical disabilities. These authors also found a mediating effect of EH between PEB and ESS. In addition, mediating effect of EH between spirituality and ESS was found among low-income job seekers (Hong et al., 2015). Specifically, the mediating effect was analyzed by dividing EH into two sub-factors. However, in this analysis, the pathway (planning to meet goals) still showed a mediating effect, but the agency (goal-directed energy) showed no effect (Hong et al., 2015). EH showed a mediating
effect between self-esteem and ESS among returning citizens participating in employment and training programs (Hong et al., 2014b). EH also played a mediating role in a relationship between PEB and ESS among jobseekers with self-reported mental illnesses (Hong et al., 2020b). A direct and an indirect effect of PEB on ESS through EHS was also found among low-income African American jobseekers (Hong et al., 2020d). This shows that the decrease in PEB has a positive effect not only on ESS, but also on EH, which play a mediating role in the relationship between PEB and ESS.

The underlying hypothesis in these studies is shown in Figure 2. It is assumed that PEB has a negative relationship with EH, and EH has a positive relationship with ESS. It is also hypothesized that the PSS measurement difference between EHS and PEBS has a positive effect on ESS.

Figure 2. Conceptual Model of PSS and ESS (Hong et al., 2018a)
CHAPTER FOUR

STUDY 1—LONGITUDINAL EFFECTS OF PSYCHOLOGICAL SELF-SUFFICIENCY

Study 1 Background Literature

The 1996 welfare reform—PRWORA (Personal Responsibility and Work Opportunity Reconciliation Act of 1996) replacing AFDC (Aid to Families with Dependent Children) with TANF (Temporary Assistance for Needy Families)—made a dramatic change in social policies for low-income job seekers (Lewis et al., 2006). Through the welfare reform, cash assistance was ended and social policies were transformed to work-based programs (Nam et al., 2006). Program participants were now required to engage in work-related activities within the limited five years welfare service time.

To evaluate the employment and training programs’ effectiveness, measurement of self-sufficiency was used, which is a concept that has generally been accepted as an economic concept by the policy makers, researchers, and service providers (Hong et al., 2009). Specifically, in most evaluation studies, economic variables (e.g., employment status, household income, hourly wages, receiving welfare service or not after employment and training program, working full- or part-time, or/and retention of his/her current job, etc.) were assessed as desired program outcomes (Dworsky, 2005; Hall et al., 2010; Johnson & Corcoran, 2003; Warrener et al., 2013). In other words, most studies used economic perspectives of SS by measuring economic-related outcomes. However, the evaluation of workforce development programs through economic variables was not successful in explaining moving program participants into
stable employment (Cooney, 2011; Danziger & Ratner, 2010; Lee & Vinokur, 2007; Ybarra & Noyes, 2019). Workforce development programs were not very successful in actually moving program participants into stable employment (Cooney, 2011; Danziger & Ratner, 2010; Lee & Vinokur, 2007). Workforce development program participants became working poor which tend to participate more in secondary labor markets—low paying, unstable jobs, and lack proper working conditions—than in primary labor markets where pay, stability, and work conditions are regulated (Hong & Wernet, 2007). Holzer and colleagues (2004) found that welfare leavers, typically women, continued suffering from limited annual earnings, and many remain unemployed. These unfortunate consequences meant that economic self-sufficiency was not an accurate outcome measure for workforce development program effectiveness. Although economic outcomes were still important factors in assessing workforce development programs, measuring workforce development program effectiveness solely using an economic outcome was limiting to evaluating only one aspect, among many, of participants’ success.

Recently, several researchers highlighted the limitations to using the economic aspect of self-sufficiency for two reasons. First, self-sufficiency has more meaning than the aspect of economic outcomes. However, as an alternative to economic variables, only a few researchers are interested in a more holistic view of self-sufficiency (Gowdy & Pearlmutter, 1993; Hawkins, 2005; Hong et al., 2009). These studies showed that self-sufficiency is not an economic and dichotomous variable (Hawkins, 2005). Self-sufficiency has more meaning than mere economic self-sufficiency itself, and self-sufficiency also reflects a perspective on the ecology of work life and personal situation in evaluating the programs (Daugherty & Barber, 2001). Especially, Hong (2013b, 2016), in his workforce development program evaluation studies, focused on the effects
of psychological self-sufficiency (PSS), which is a holistic view of self-sufficiency that captures participants’ diverse situations (i.e., employment hope and employment barriers). In same vein, this dissertation study investigates the effectiveness of the PSS process leading to employment outcomes among workforce development program participants.

In addition, the economic aspect of self-sufficiency in the studies reviewed did not adequately address the “process” of self-sufficiency, developed within the participating workforce development programs. Daugherty and Barber (2001) suggested self-sufficiency is not a fixed status, but it is ‘an ongoing process” which can be developed over time through workforce development programs. According to Hong and colleagues (2009), focusing solely on economic status as a program outcome lacks explanations about program participants’ processes. Such as, how they overcame their barriers and ultimately reached the desired economic outcome. Therefore, a need for understanding self-sufficiency as a development process has been raised (Hong, 2013b, 2016). In most previous studies, however, program participants’ static characteristics of self-sufficiency, which did not consider a status change, have been heavily used using a cross-sectional data set. Also, in previous studies on PSS, longitudinal impact of PSS was not considered. In response to this limitation, this dissertation study sought to examine the relationship between the rate of change in PSS and economic self-sufficiency using a longitudinal data set.

**Study 1 Methods**

*Sample and Data Collection Procedures*

For the purpose of this dissertation study, secondary data from the study conducted to investigate the effect of PSS on ESS (a sample of health sector career pathway training program
participants, especially called HPOG) was used. HPOG is a federally funded program that provides education and training programs to participants to get jobs in the health sector. The sample data consists of 350 low-income job seekers participating in the HPOG programs in the United States from which surveys were collected Gateway (196 cases) and Southland (154 cases). Data were collected between September 2013 and January 2014. The participants were asked to participate in the agency survey during their initial orientation and at two midpoints (during middle phase of the program, and during exit phase the program). The participants also completed a follow-up survey six months post-exit. To capture the improved rate of PSS, participants who answered surveys at Time1 and Time2—the orientation survey and first of the two-midpoint surveys—were selected. Each participant’s study ID number was used to match the data.

The participants voluntarily completed the self-report surveys with the survey being administered by agency staff in collaboration with the research team. Survey assistants notified the participants at the beginning of the survey that this survey would remain anonymous, and their personal information would be kept confidential. This study was approved by the institutional review board (IRB) of the Loyola University Chicago, Chicago. The completed surveys were entered into SPSS for data analysis.

**Measures**

The PEBS and EHS that make up the PSS were discovered through earlier focus group studies (Hong, 2013b, 2016; Hong et al., 2009; Hong et al., 2014c). Based on focus group findings from low-income job seekers regarding the employment barriers they face, Hong and colleagues (2014c) developed the PEBS ($\alpha = .942$, $M = 1.88$, $SD = .88$) that comprises five
factors: physical and mental health, labor market exclusion, childcare, human capital, and soft skills. These focus groups also informed the development of the EHS ($\alpha = .914$, $M = 9.18$, $SD = 1.14$) that included four factors: psychological empowerment, futuristic self-motivation, utilization of skills and resources, and goal-orientation (Hong et al., 2012).

Hong and colleagues (2014a) revalidated the EHS using multi-sample confirmatory factor analysis. The 14 total items are on a self-reporting Likert scale ranging from zero (strongly disagree, not hopeful) to ten (strongly agree, very hopeful). This study used the mean of the 14 items, with a higher score indicating higher employment hope. Hong and colleagues (2014c) validated the PEBS using confirmatory factor analysis. The 20 total items are on a self-reporting Likert scale ranging from one (not a barrier) to five (strong barrier). In this study, the mean of the 20 items was used. A higher mean value on the scale indicated more perceived employment barriers.

To calculate PSS score, this dissertation follows Hong and colleagues’ (2018a) operationalization of PSS, the score differences between EHS and PEBS. That is, the PSS value was calculated by subtracting PEBS from EHS. Finally, considering the purpose of this dissertation is to investigate the improved rates of PSS, the improved PSS value was calculated by subtracting PSS at T1 from PSS at T2 ($M = .3718$, $SD = 1.42$).

The dependent variable of this dissertation, ESS ($\alpha = .922$, $M = 2.83$, $SD = .97$), was measured by using the Women’s empowerment network scale (WEN; Gowdy & Pearlmutter, 1993). This 15-item measure is a self-reporting scale ranging from one (not at all) to five (all of the time). In this dissertation, the mean of the scale at Time2 (the time of the first midpoint
survey) was used. A higher score on the scale indicates a higher level of economic self-sufficiency.

Lastly, several demographic factors at Time1 (the time at orientation) such as age, race, gender, education level, marital status, days of participation in the program, employment status, and the number of earners in their family were included in this study. Age, days of participation in the program, and the number of earners in their family were used as continuous variables. Gender was a dichotomous variable. The race was regrouped into two dichotomous groups (African American=1 or others=0). Education level was divided into three groups (high school =0, some college but no degree = 1, college and above = 2), and the “graduated high school or GED” group was used as a reference group. Marital status was divided into three groups (married = 0, spouse absent =1, and never married = 2), using the married group as the reference group. Category variables—race, education level, and marital status—converted into dummy variables using a reference group, and these demographic variables were used as control variables in the research model.

Data Analysis

The research model and descriptive characteristics of the study sample were analyzed using STATA. Multiple linear regression was used to determine whether the change of PSS, which consists of EHS and PEBS, from Time1 to Time2 impacts ESS at Time2. Demographic variables were used as control variables along with the EH and PEB at Time1 only.

Study 1 Results

All 350 participants were between the age of 17 and 59 (M = 31.06, SD = 9.72). Half of the respondents were African American (50.9%), and most were female (93.1%). About a
quarter of the respondents were high school graduates or obtained GED (24.6%), approximately a third had some college education but no degrees (35.8%), and the rest had college education (39.6%). Approximately two-thirds of the sample were never married (64.2%). The participants had average program participation of 145.62 days (SD = 115.77). Almost two-thirds were employed while participating in the program (65.9%). This sample had an average of 1.31(SD = .76) income earners, excluding the participant, in the participant’s family. Table 1 details the demographic and background characteristics of the participants.

Table 1. Description of Demographic Variables of Participants in the HPOG Program

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<tr>
<th></th>
<th>% / Mean</th>
<th>N / SD</th>
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<tbody>
<tr>
<td>Age</td>
<td>31.06</td>
<td>9.72</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>50.9</td>
<td>175</td>
</tr>
<tr>
<td>Others (Alaska Native, White, Hispanic, Multi-racial, and others)</td>
<td>49.1</td>
<td>169</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>6.9</td>
<td>24</td>
</tr>
<tr>
<td>Female</td>
<td>93.1</td>
<td>323</td>
</tr>
<tr>
<td><strong>Education level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High-school</td>
<td>24.6</td>
<td>85</td>
</tr>
<tr>
<td>Some college but no degree</td>
<td>35.8</td>
<td>124</td>
</tr>
<tr>
<td>Above</td>
<td>39.6</td>
<td>137</td>
</tr>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married (Spouse present)</td>
<td>19.1</td>
<td>66</td>
</tr>
<tr>
<td>Spouse absent (Spouse absent, divorced, Separated and Widowed)</td>
<td>16.8</td>
<td>58</td>
</tr>
<tr>
<td>Never married</td>
<td>64.2</td>
<td>222</td>
</tr>
<tr>
<td><strong>Days (Days of Participation)</strong></td>
<td>145.62</td>
<td>115.77</td>
</tr>
<tr>
<td><strong>Employed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>65.9</td>
<td>222</td>
</tr>
<tr>
<td>No</td>
<td>34.1</td>
<td>115</td>
</tr>
<tr>
<td><strong>Number of Earners in Household</strong></td>
<td>1.31</td>
<td>.76</td>
</tr>
</tbody>
</table>

According to the regression analysis, all the independent variables explained the 18.6% of the variance of ESS. The change in PSS is positively related with ESS (β = .13, p < .01). The improved rate of PSS is related to increasing ESS. EH at Time1 positively (β = .19, p < .01) and
PEB at Time1 negatively (β = -.26, ρ < .001) impacted ESS. In sum, as important components of PSS, EH and PEB were also important variables that impacted ESS.

Among the demographic variables, never married status (β = -.43, ρ < .01), a number of earners (β = .25, ρ < .01), college but no degree (β = -.35, ρ < .01), and days of participation (β = .00, ρ < .05) were found to have statistically significant impact on the participants’ ESS. Program participants who were married with high school levels of education had more chances of being ESS. Having additional earners and individuals who experienced the program longer had a higher possibility of reaching ESS (see Table 2).

Table 2. Multiple Regression Results

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>τ</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.680</td>
<td>0.644</td>
<td>2.606</td>
</tr>
<tr>
<td>Age</td>
<td>-0.007</td>
<td>0.007</td>
<td>-.075</td>
</tr>
<tr>
<td>Race (Ref. African American)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.094</td>
<td>0.230</td>
<td>.022</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Absent</td>
<td>-0.042</td>
<td>0.172</td>
<td>-.017</td>
</tr>
<tr>
<td>Never</td>
<td>-0.429</td>
<td>0.148</td>
<td>-.216</td>
</tr>
<tr>
<td>Earned</td>
<td>0.252</td>
<td>0.075</td>
<td>.199</td>
</tr>
<tr>
<td>Employed</td>
<td>0.099</td>
<td>0.116</td>
<td>.049</td>
</tr>
<tr>
<td>Education Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College but no degree</td>
<td>-0.348</td>
<td>0.133</td>
<td>-.174</td>
</tr>
<tr>
<td>Above</td>
<td>-0.258</td>
<td>0.134</td>
<td>-.132</td>
</tr>
<tr>
<td>Days of participation</td>
<td>0.001</td>
<td>.000</td>
<td>.135</td>
</tr>
<tr>
<td>PSS (T2 – T1)</td>
<td>0.127</td>
<td>0.046</td>
<td>.193</td>
</tr>
<tr>
<td>EHS (T1)</td>
<td>0.188</td>
<td>0.056</td>
<td>.233</td>
</tr>
<tr>
<td>PEBS (T1)</td>
<td>-0.255</td>
<td>0.064</td>
<td>-.224</td>
</tr>
<tr>
<td>Model Fit</td>
<td>N = 303</td>
<td>F=6.303***</td>
<td>R² .221</td>
</tr>
</tbody>
</table>

* P < .05; ** P < .01; *** P < .001 Dependent variable: Economic Self-Sufficiency (SS) at T2
**Study 1 Conclusion**

This dissertation sought to examine the relationship between the changes in PSS and ESS among the low-income jobseekers after controlling for other socio-economic variables. As expected, the improved rate of PSS positively impacted ESS. Therefore, it was concluded that PSS is a condition that positively contributes to achieving ESS.

Each component of PSS variables at Time1 affected ESS at Time2. That is, EH was found to be positively associated with ESS and PEB negatively with ESS. These findings were consistent with previous research (Danziger et al., 2000a; Dworsky & Courtney, 2007; Hong et al., 2014a; Hong et al., 2015; Nam, 2005). The control variables—married status, additional earners in the household, high school level of education, and days of participation—were found to affect ESS. Within marital status, the married individuals having a higher possibility of reaching ESS was supported by previous research findings (Caputo, 1997; Hong & Pandey, 2008). Having an additional earner in the household, which was positively related to achieving ESS, also corroborated previous study results (Hong & Wernet, 2007; Hong & Pandey, 2008). Specifically having a high school level of education also showed to have an increased the level of ESS, which was not related to previous research studies. Most of the studies reviewed found that simply having a higher level of education led to higher ESS (Dworsky & Courtney, 2007; Kim, 2000; Seefeldt & Orzol, 2005; Wu, 2011).

**Study 1 Limitations**

Clearly, the study findings contributed to our understanding, especially in terms of the positive effects of PSS in workforce development programs. Nevertheless, the results should be interpreted in light of several limitations. This study bears the limitations of generalizability,
research design, and subjective measure of the dependent variable. First, since this study used geographically limited convenience sampling—two Midwestern metropolitan areas—findings would not be generalizable to all low-income jobseekers in other HPOG programs or other job training programs. Second, a more structured longitudinal research design is needed to strengthen the results. To evaluate the improved rate of PSS, we selected only Time1 and Time2, ruling out the missing data set. Further study is thus required in order to examine more precise rates of change in PSS, including more time points; and additionally, carefully considering the missing cases.

Third, considering that the dependent variable in this study, ESS is a self-reported variable that asks how individuals assess the degree to which they agree or disagree on items that relate to ESS. Our research findings could be further supported by incorporating other objective outcomes (i.e., employment status and income). Last but not least, the improved rate of PSS is going to be completely different given the pandemic related poverty and joblessness circumstances.

Despite the limitations mentioned above, the current study certainly contributes to the existing literature in various ways and provides practical implications for policymakers and service providers. As the importance of PSS in the path to achieving ESS has been supported, policymakers are suggested to consider PSS when evaluating workforce development programs. In other words, more attention can be added to participants’ psychological preparation to achieve economic performance. For service providers, a practical intervention must be developed to increase participants’ PSS status (i.e., Transforming Impossible to Possible (TIP) training program) (Hong, 2013b, 2016). Thus, these findings highlight the importance for policymakers
and service providers to invest more time and resources in the ‘process’ element of self-sufficiency. Especially in light of the pandemic induced poverty that has affected wider strata of our society with increased number of joblessness and new poverty levels, understanding the process of self-sufficiency will be important.
CHAPTER FIVE

STUDY 2—A PROPENSITY SCORE ANALYSIS OF PSYCHOLOGICAL SELF-SUFFICIENCY (PSS) GROUPS

Study 2 Background Literature

Psychological self-sufficiency (PSS) has been studied as an important factor in improving economic well-being among low-income individuals participating in government-sponsored employment and training programs (Hong et al., 2018a; Hong et al., 2020c; P.Y.P. Hong et al., 2019; Hong et al., 2009). It is defined as a psychological mechanism that represents the process of moving from perceived employment barriers to employment hope, which leads to positive financial outcomes (Hong, 2013b, 2016). Prior studies have investigated the direct and indirect effect of employment hope, perceived employment barriers, and PSS on financial outcomes (Hong et al., 2020b; Hong et al., 2014c; Hong et al., 2016b). Also, the complex associations of PSS and its components on economic self-sufficiency (i.e., mediation effect of employment hope in a relationship between perceived employment barriers and economic self-sufficiency) were tested using structural equation modeling (Hong et al., 2014a; Hong et al., 2016b).

Although prior studies have investigated associations between PSS and economic well-being, no research has yet tested the effectiveness of PSS in a randomization research design and its effect in a longitudinal context. As the very first to test the longitudinal impact of PSS, a study discussed in Chapter Four of this dissertation found that the improved rate of PSS significantly impacted participants’ progress toward economic self-sufficiency. Yet, since this analysis

64
reported in Chapter Four used observed data[^3], the result will be different from a robust, and pure, experimental research design method with randomized controlled trial (RCT).

It is noted that in many social science fields, there are many practical realities—ethical, financial, and/or sometimes legal—that limit the use of RCT design, which helps control for selection bias (i.e., self-selection, researcher selection, administrative selection, geographic selection, and/or instrument selection) (Barth, Guo, & McCrae, 2008; Guo & Fraser, 2015). For example, selection bias may arise because social intervention services are more likely to be distributed with priority to clients identified as needing services, such as those experiencing hardship than the lesser priority clients who may be considered safe to be assigned to a control group (Barth et al., 2008).

Also, conducting a robust and pure RCT design is difficult in the field of social science as the study population (such as most vulnerable individuals and their family members) are easily confounded by many other factors, which researchers cannot control for while the experiment is in progress (Guo & Fraser, 2015; Guo, Fraser, & Chen, 2020; Leite, 2016; Olmos & Govindasamy, 2015). As a result, in many social science studies, treatment group’s characteristics are systematically different from control group even at the baseline (Austin, 2011). Therefore, selection bias is expected in program evaluation studies when researchers divide the study population into treatment and control groups. Given the expected selection bias, the outcomes of the program evaluation studies are also expected to result in biased conclusions or implications, which is unlikely in a randomized experiment (i.e., randomly balanced group of

[^3]: The term observed data (also referred as quasi-experimental and nonexperimental) is different from experimental data in that random assignment is not conducted to evaluate treatment effect (Leite, 2016).
treatment and control groups experiment). If the result of evaluation studies was free of selection bias, then it would mean stronger evidence for concluding effectiveness of intervention or treatment leading to the program outcomes.

Evaluating the effect of PSS using a propensity score model (PSM) that statistically simulates the RCT assumptions helps to approximate pure treatment effect on the program outcomes. There are several reasons why the PSM method is simpler and preferred over the conventional analysis (such as regression-based model methods) in assessing the effect of PSS. The biggest criticism over regression analysis (i.e., investigating the effect of PSS on program outcomes) is assuming causal effect between the variables when the researchers use regression model, which at best is a statistical testing of cor relational effects (Austin, 2011; Guo & Fraser, 2015). Conducting a regression model could not fully control for additional variable(s) or spurious relationship(s) that influence participants’ behaviors and program outcomes (Austin, 2011; Keller & Tipton, 2016; Olmos & Govindasamy, 2015). For example, to achieve economic self-sufficiency in a workforce development program, there may be several factors that are not related to the interventions but may affect the achievement of financial outcomes. Therefore, artificially creating balance in data through PSM, which is statistical randomization, becomes important because it allows increased confidence in inferring that the observed economic changes with the experimental group may be due to PSS.

It is also important to assess the effects of long-term improvement of PSS in the employment and training program evaluation studies. The program participants who lost their jobs within a year after exiting the program (Andersson et al., 2004; Cancian et al., 2002; Long, 2001), or were entirely unable to get a decent job (Hong & Wernet, 2007; Rank, 2020), were
seen as not being able to develop a career ladder in the long-term perspective (Rank, 2020; Royce, 2018). In this context, investigating the effect of PSS longitudinally from a long-term perspective is important. If the PSS effect on improving economic self-sufficiency is short-lived, this may imply that the PSS process (transforming perceived employment barriers to employment hope) is insufficient in sustaining a person’s financial goals. On the other hand, success in long-lasting effect of PSS would imply that improved PSS helps program participants maintain economic self-sufficiency. Thus, examining the participants in employment and training programs, and separating who had an increased rate of PSS versus those who did not, can provide preliminary insight into improving participants’ program outcomes.

This dissertation study examined the increased rate of PSS on financial outcomes among participants in a healthcare-sector career pathway program, called the Health Profession Opportunity Grants (HPOG), with little foreknowledge of the long term effects of PSS in an evaluation study with a rigorous experimental research design. To evaluate the PSS rate changes in the survey—whether an increase, decrease, or no-change over different time points—the sample studied for this chapter was limited to participants who had at least two survey time points. To account for the selection bias, propensity score matching (PSM; Rosenbaum & Rubin, 1983), a statistical approach of randomization for dividing program participants into balanced groups, was used. Participants who had an increased rate of PSS score were assigned to a treatment group, and participants with decreased, or no-change, rates of PSS score were assigned to a control group. It was hypothesized that the treatment group of program participants with an increased PSS rate would report more positive financial outcomes when compared to the control group.
Study 2 Methods

Sample and Data Collection Procedures

The research question for this dissertation study was “how do divided groups of PSS affect financial outcomes?”. That is, did the participants with an increased rate of PSS score have more financial outcomes than did their counterparts who did not have a changed rate of PSS score. This dissertation study used survey data from a government-sponsored health sector career pathway training program, specifically the HPOG program. Data is a longitudinal survey of participants registered in the Midwest-based HPOG program from 2011 to 2016. Participants were surveyed at four time points—the initial orientation (Time One, T1), during two midpoints (in the middle of the program (Time Two, T2), when the participants exit the program (Time Three, T3), and a follow-up survey six-months post-exit (Time Four, T4). As it is important to evaluate each participant’s financial goal at the completion stage, this study included only up to Time-3 survey point.

To examine the PSS rate changes, several valid and reliable instruments were used. A combination of two survey points was used in the research model. There were four possible combination cases for the participants who responded to the surveys at least two times. Therefore, data for participants who answered the survey at two time points (e.g., T1&T2, T1&T3, T2&T3) was used, and the first time points (whether it is the T1 or T2) was recoded as T1. If a participant responded to the survey three times (e.g., T1&T2&T3), only the first and last time points were used for analysis. Data for participants who answered the survey only at one time point were excluded.
The study sample for this dissertation study consisted of 1,938 surveys for all four time points. After data cleaning, only 585 paired surveys (1170 total) were assigned for analysis, and the other 768 surveys were excluded. The excluded surveys included participants who responded to the survey only once, could not match the surveys by a participant ID. In addition, personal demographic information variables used were retrieved from the second time point, except when baseline information such as employment hope and perceived employment barriers were required. Since the data set contained missing values, this study used multiple imputation methods (Little & Rubin, 2002; Su, Gelman, Hill, & Yajima, 2011) to accommodate missing information before conducting the analysis. Multiple imputation method statistically imputes the observed data to fill in for the missing data through statistical approximations. This statistical method is further elaborated under the data analysis section.

Measures

The components of PSS—EHS (Hong et al., 2014a) and PEBS (Hong et al., 2014c)—were used to measure program participants’ PSS rate. The PSS variable was created using the difference in scores between EHS and PEBS. Then, the treatment and control groups were divided based on the mean value of PSS differences between the first, or initial, survey response and the second, or latter survey response. Participants with higher than the mean of PSS differences, otherwise seen as having increased rate of PSS, were assigned into a treatment group. Participants with PSS scores equal or lower than the mean of PSS differences, or seen as having decreased rate of PSS, were assigned into a control group. Baseline information of EHS and PEBS were also used as control variables in this study.
To measure financial outcomes, this dissertation study used economic self-sufficiency, which was measured by women’s empowerment network (WEN; Gowdy & Pearlmutter, 1993). This inventory is a 15-item self-report with a Likert scale ranging from one (not at all) to five (all of the time). The higher economic self-sufficiency score indicated having more economic self-sufficiency.

This dissertation study controlled the variables using the same method as the model reported in Chapter Four: Study one. Age, marital status, earners in the household, employed status, level of education, gender, and race were used as the control variables. However, the ‘Days of participation’ variable was excluded in this study due to significant number of missing values (63.7%). Age and earners in the household were used as continuous variables. The other variables that were categorical variables—marital status (married = 0, spouse absent = 1, and never married = 2), level of education (high school = 0, college and above = 1), gender (Female = 1, Male = 0), employed status (Yes = 1, No = 0), and race (African American = 1 or others = 0)—were used as dummy variables, creating a reference group. All these covariates used in this chapter were taken from the second, or latter, time point.

Data Analysis

Missing Data Analysis. Dealing with missing data is very important before conducting propensity score matching estimation. It is one of the essential data cleaning procedures because missing values may provide biased results and could be a potential threat to the validity of the findings (Guo & Fraser, 2015). The definition of missing data is, “unobserved values that would be meaningful for analysis if observed; in other words, a missing value hides a meaningful value (Little & Rubin, 2019, p.4).” In most of the data collecting procedures, especially in social
science fields studying human subjects, missing data inevitably occur in more than one variable for numerous reasons (i.e., a participant accidentally forget to answer, or does not like to answer, researcher forgets to print a specific questionnaire page, etc.). There are three common patterns of missing data: missing completely at random (MCAR), missing at random (MAR), and missing not at random (MNAR; Little & Rubin, 2019; Robertson & Kaptein, 2016).

Missing completely at random (MCAR) refers to the assumption that the probability of being missing is the same for all variables, which means the missing values are independent of any other observed variables in the data set. The MAR refers to the assumption that the probability of being missing is conditionally the same on some observed variables. Under the MAR pattern, missing values are related to some values in the observed variables. Therefore, MAR has a broader definition than MCAR. MNAR refers to the assumption that the probability of being missing depends on the unobserved values. An example of MNAR pattern is when an individual with a criminal history is likely not to answer criminal history question in a questionnaire. The MNAR pattern is the hardest condition to address (Leite, 2016).

Each missing data pattern requires a unique approach to handling the missing data. For example, given MCAR, which is rarely achievable condition in social science research fields, listwise deletion method is enough to yield unbiased results. However, with MAR or MNAR, the listwise deletion method is not an appropriate method for dealing with missing data to achieve unbiased results. Multiple imputation is a good alternative in those missing data patterns (Guo & Fraser, 2015; Leite, 2016; Little & Rubin, 2019). Therefore, multiple imputation approach was conducted assuming MAR missing data pattern, which is known to differentiate MNAR and MAR condition based on the substantive knowledge of the data and fields. Multiple imputation
was analyzed using the R package (*mice package*) (van Buuren & Oudshoorn, 2011). The R is a free and powerful statistical programming language for data science researchers, and it updates the latest packages developed by statisticians on a community webpage. A large number of statisticians create their own packages, so there are multiple packages for a single statistical method. Several packages in the R program are available to perform multiple imputation, including *Amelia* (Honaker, King, & Blackwell, 2011), *mi* (Gelman et al., 2015), and *mice* (van Buuren & Oudshoorn, 2010). With *mice* method, twenty imputed datasets were generated for further analysis. Table 3 shows sample size, missing data information, and mean and standard error of each variable before and after multiple imputation. The age variable had the highest missing rate (5.99%), and other variables had a missing rate of less than 5%. Similarly pattern of mean and percentage was found after multiple imputation for all variables.

Table 3. Missingness of Study Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>Before Multiple Imputation</th>
<th>After Multiple Imputation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td># missing</td>
</tr>
<tr>
<td><strong>Dependent Variables (T2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economic self-sufficiency</td>
<td>567</td>
<td>17</td>
</tr>
<tr>
<td><strong>Independent Variable (T2-T1)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychological Self-Sufficiency</td>
<td>583</td>
<td>1</td>
</tr>
<tr>
<td><strong>Covariates</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EHS (T1)</td>
<td>568</td>
<td>16</td>
</tr>
<tr>
<td>PEBS (T1)</td>
<td>550</td>
<td>34</td>
</tr>
<tr>
<td>Age</td>
<td>549</td>
<td>35</td>
</tr>
<tr>
<td>Earners</td>
<td>561</td>
<td>23</td>
</tr>
<tr>
<td>Race (1=African American)</td>
<td>572</td>
<td>12</td>
</tr>
<tr>
<td>Gender (1=Female)</td>
<td>576</td>
<td>8</td>
</tr>
<tr>
<td>Marital Status (ref. Married)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never married</td>
<td>572</td>
<td>12</td>
</tr>
<tr>
<td>Married, spouse absent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment status (1= Yes)</td>
<td>559</td>
<td>25</td>
</tr>
<tr>
<td>Education Level (1=More than high school)</td>
<td>576</td>
<td>8</td>
</tr>
</tbody>
</table>

Note. Based on the aggregation of 20 imputed datasets (N: 581): M (Mean) and SE (standard error).
**Propensity Score Matching (PSM).** Randomization is an essential procedure for reducing selection bias when assigning participants into groups: treatment (participants with increased rate of PSS score) and control (participants with decreased rate of PSS score). Although randomization is nearly impossible to attain in social science fields for several practical, ethical, legal, and theoretical reasons, PSM is a great alternative (Guo & Fraser, 2015; Guo et al., 2020; Leite, 2016). Propensity score matching enables approximate randomization through a series of statistical techniques to estimate the effectiveness of treatments, interventions, or exposures (Austin, 2011; Barth et al., 2008). The definition of propensity score “is a conditional probability of a study participants receiving treatment given observed covariates; hence, not only treated participants but also control participants may have nonzero propensity scores” (Guo & Fraser, 2015). Therefore, PSM is simply a procedure of finding pairs of treatment and control participants sharing similar propensity scores, which represents all the covariates included in the model (Austin, 2011).

Historically, PSM has been developed considerably by two groups of scholars—statisticians (e.g., Rosenbaum & Rubin, 1983) and economists (e.g., Heckman, 1978 as referred Heckman’s two-step model) (Barth et al., 2008; Guo & Fraser, 2015). Propensity score matching is widely used in observational studies, including education, medicine, psychology, social work, and sociology, and helps reduce selection bias by using statistical randomization (Guo & Fraser, 2015). Specifically, PSM reduces dimension problems in data balancing (Guo & Fraser, 2015; Guo et al., 2020; Leite, 2016), which is a great advantage when using PSM over other statistical methods. That is, PSM is a simple and efficient method that uses a propensity score instead of
multiple covariates. Using the propensity score reduces the multidimensionality problem with an one-dimensional score when matching treated individuals to untreated individuals (Barth et al., 2008; Guo et al., 2020).

Propensity score analysis requires a multi-step process and multiple choice decisions (Leite, 2016), even with multiple imputation methods. Therefore, each combination yields similar but slightly different results. Also, there is no perfect combination that can be applied to all data situations. Each combination of approaches is based on the researcher’s research question and interest. For this study, three-step PSM analysis approach from Guo and Fraser (2015) and Leite (2016) was followed.

Step 1: selecting covariates and conducting logistic regression to estimate propensity scores

The choice of covariates has an essential role in estimating the propensity score (Barth et al., 2008; Guo & Fraser, 2015). A true covariate, which is a variable that directly affects PSS and financial outcomes, reduces bias and allows the causal effect to be assessed (Leite, 2016). A total of 7 covariates were included in the propensity score model, which was based on a previous review of welfare-to-work literature, as discussed in Chapter Four. Then, to estimate the propensity score, logistic regression was conducted using the group variables, in which participants were divided into treatment and control groups based on the mean value of PSS score, the dependent variable. Logistic regression is the most popular method for estimating the propensity scores compared to other methods (i.e., probit regression, discriminant function analysis, random forests, and generalized boosted regression) (Guo & Fraser, 2015; Leite, 2016). The propensity score, estimated through logistic regression based on the covariates, is the
probability that each participant would belong to the treatment or the control group (Guo & Fraser, 2015)

Step 2: Propensity score matching procedure

Based on the propensity score that was estimated in step 1, participants who share similar propensity scores are found next (Guo & Fraser, 2015; Guo et al., 2020; Keller & Tipton, 2016; Olmos & Govindasamy, 2015). That is, selecting untreated individuals that were similar to the participants in the treated group with respect to propensity score. The propensity score matching approach is differentiated by a set of choices such as statistical software, types of propensity score estimation methods, and matching methods (Keller & Tipton, 2016; Leite, 2016).

First, several well-known statistical software, such as STATA, SAS, and R, are available for estimating propensity score matching. This study’s matching procedures follow the R program (RStudio Team, 2020). The R program is different from other statistical software programs in that it is continuously developed by researchers. The R program allows researchers to apply it through an updated R program package. The PSM in R has been developed recently into several packages—MatchIt (Ho, Imai, King, & Stuart, 2007; Ho et al., 2011), Matching (Sekhon, 2008), optmatch (Hanse, 2007), and twang (Ridgeway, McCaffrey, Morral, Burgette, & Griffin, 2013)—for estimating the propensity score. Each R package has different features, therefore, researchers should use a package depending on their expertise in R and preferences for desired estimation and application techniques (Keller & Tipton, 2016). Therefore, this study uses MatchIt R packages for PSM.

Second, there are three representative types of propensity score estimation (Figure 3): average treatment effect (ATE), the average treatment effect on the treated (ATT), and average
treatment effect on the untreated or control (ATC) (Guo & Fraser, 2015; Keller & Tipton, 2016; Leite, 2016). The average treatment effect (ATE) is a comprehensive estimation type that includes ATT and ATC. Under randomization conditions, such as an experimental design, the ATE is the same as ATT and ATC; the same result may be calculated no matter which value is studied (Harder, Stuart, & Anthony, 2010; Leite, 2016). However, each result using ATE, ATT, and ATC in observational study conditions or in nonexperimental designs can vary significantly (Leite, 2016). There is no right decision, whether to use ATE, ATT, or ATC, so it depends on the research question (or interest), context, and previous literature that the researchers are interested in (Austin, 2011). ATT is more commonly used than ATE in propensity score matching applications (Leite, 2016). However, a large number of papers analyze and report results using both ATT and ATE.

Figure 3. Potential Outcomes under Treatment and Control Group Conditions (revised from Leite, 2016 p.3)

The definition of ATE is, the “difference between the expected values of the potential outcomes of all individuals in the treated and untreated conditions” or $E[Y_1(1) – Y_1(0)]$. The
average treatment effect on the treated (ATT) is defined as “the difference between the expected values of the potential outcomes of treated individuals” or $E[Y_i(1) - Y_i(0) | Z_i = 1]$. The average treatment effect of untreated (or control) is defined as “the difference between the expected values of the potential outcomes of the untreated individuals” or $E[Y_i(1) - Y_i(0) | Z_i = 0]$ (Leite, 2016). For instance, the ATE in this study is the difference between the expected values of financial outcomes in the treated (increased rate of PSS group) and untreated (equal or decreased rate of PSS group). The ATT is the difference in expected values of financial outcomes on individuals in the treated group (increased rate of PSS group).

In addition, there are several types of propensity score matching methods. Each researcher may use slightly different typology on propensity score matching methods. However, most common methods are categorized into “nearest matching”, “optimal matching”, “subclassification”, and “inverse probability of treatment weights” (Austin, 2011; Guo & Fraser, 2015; Guo et al., 2020; Harder et al., 2010; Leite, 2016). The implementation of matching methods also include several options: ratio of matching based on the propensity score (each treated observation to the untreated individual (i.e., one-to-one, one-to-k, one-to-many), allowable propensity score distance to find the untreated observation of each treated individual (caliper, radius, or Mahalanobis distance), and whether to use replacement or without replacement in a matching method procedure (Austin, 2011; Guo & Fraser, 2015; Guo et al., 2020; Leite, 2016).

This study considering the ATT PSM method, the nearest neighbor with caliper matching, one to one, without replacement option was used. As a comparison of PSM results, optimal matching will also be conducted and reported. The nearest neighbor with caliper
matching starts with randomly sorting the treatment and control group participants. The first participant in the treatment group is matched by finding a subject in the control group based on the propensity score and the determining criteria of a predetermined caliper distance (.25 is suggested by Rosenbaum and Rubin, 1984). This process was repeated until all treatment group participants find the matching counterparts in the control group (Barth et al., 2008; Guo & Fraser, 2015; Guo et al., 2020). The main difference between nearest neighbor matching and optimal matching is that if a participant finds a match in the control group, this case will be removed from the future matching selection. However, in optimal matching, the previous participant will be called again to find better matching.

Step 3: Post-matching analyses

As the last step in the propensity score matching procedure, an ordinary least squares regression analysis was performed using the matched sample to compare the effect of PSS on economic self-sufficiency among workforce development program participants. In this step, graphical and other conventional statistical analyses are also available, such as survival analysis, structural equation modeling, and hierarchical linear modeling, with the matched samples (Barth et al., 2008).

To compare the difference effects of PSS on economic self-sufficiency across datasets, ordinary least squares regression results were reported using four different datasets: (a) the original dataset with no imputation and no PSM, (b) the imputed dataset without PSM, (c) the imputed dataset with propensity score nearest matching using caliper distance, and (d) the imputed dataset with propensity score optimal matching. Again, there is no perfect answer for choosing a combination of propensity score matching procedures, and each statistical package
(especially R program) offers different matching features. Different combinations of propensity score matching produce different matched samples. Therefore, each researcher must establish appropriate propensity matching procedures according to the research design, data, and study population.

Study 2 Results

Demographic Characteristics by PSS groups: Treatment and Control

Table 4 displays the aggregated descriptive statistics for all variables of 20 imputed datasets by PSS groups: treatment (increased rate of PSS) and control (equal or decreased rate of PSS).

Table 4. Demographic Characteristics by PSS groups

<table>
<thead>
<tr>
<th>Dependent Variables (T2)</th>
<th>Increased Rate of PSS group (Treatment)</th>
<th>Equal or Decreased Rate of PSS group (Control)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M / %</td>
<td>95% CI</td>
</tr>
<tr>
<td>Economic self-sufficiency</td>
<td>2.88</td>
<td>[1.21, 4.57]</td>
</tr>
<tr>
<td>Age</td>
<td>32.87</td>
<td>[20.0, 54.0]</td>
</tr>
<tr>
<td>Earners</td>
<td>1.32</td>
<td>[1.30, 1.34]</td>
</tr>
<tr>
<td>Race (1=African American)</td>
<td>50.9%</td>
<td>[49.6, 52.2]</td>
</tr>
<tr>
<td>Gender (1=Female)</td>
<td>93.2%</td>
<td>[92.5, 93.8]</td>
</tr>
<tr>
<td>Marital Status (ref. Married)</td>
<td>17.4%</td>
<td>[16.4, 18.3]</td>
</tr>
<tr>
<td>Never married</td>
<td>61.2%</td>
<td>[59.9, 62.4]</td>
</tr>
<tr>
<td>Married, spouse absent</td>
<td>21.5%</td>
<td>[20.4, 22.6]</td>
</tr>
<tr>
<td>Employed Status (1=Yes)</td>
<td>62.1%</td>
<td>[60.8, 63.3]</td>
</tr>
<tr>
<td>Education Level (1=More than high school)</td>
<td>80.0%</td>
<td>[78.9, 81.0]</td>
</tr>
</tbody>
</table>

Note. Based on the aggregation of 20 imputed datasets: M (Mean) for continuous variables or % (Percentage) for categorical variables and 95% CI (95% confidence interval)

On average, participants in the treatment group had a slightly lower level of economic self-sufficiency (2.88) than the control group (2.90). The result showed participants in treatment tended to be older (32.87 vs 31.24), have less earners in household (1.32 vs 1.38), have
completed high school level of education (80.0 vs 78.0), and unemployed (62.1 vs 68.9).

However, treatment and control group share similar demographic characteristics.

Descriptive Statistics for PSS groups: Treatment and Control

In addition, detailed information of PSS difference rates and scores at each time point are displayed in Table 5. Overall, program participants in the treatment group came from higher self-reported employment barriers group (PEBS at T1: 2.09) and lower employment hope group (EHS at T1: 8.88) compared to control group (PEBS at T1: 1.66 and EHS at T1: 9.56).

Therefore, at PSS rate at baseline time point, participants in control group had higher level of PSS difference rate (calculated by the difference score between EHS and PEBS at T1: 7.90) than participants in treatment group (PSS at T1 6.79). However, the treatment group consisted of participants who made increased progress in PSS at T2 (8.05 at T2 from 6.79 at T1), while control group of participants made equal or decreased rate of PSS at T2 (7.16 at T2 from 7.90 at T1). As a result, treatment group showed a positive PSS difference rate, while the control group showed a negative difference rate.

Table 5. Descriptive Statistics for PSS groups

<table>
<thead>
<tr>
<th>Psychological Self-Sufficiency (T2 – T1)</th>
<th>Increased Rate of PSS group (Treatment)</th>
<th>Equal or Decreased Rate of PSS group (Control)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Self-Sufficiency (T2)</td>
<td>M: 1.26 [0.29, 3.42]</td>
<td>M: -0.74 [-3.27, 0.16]</td>
</tr>
<tr>
<td>PSS (EHS – PEBS at T2)</td>
<td>8.05 [6.25, 9.00]</td>
<td>7.16 [4.16, 9.00]</td>
</tr>
<tr>
<td>EHS (T2)</td>
<td>9.55 [8.14, 10.0]</td>
<td>9.11 [7.00, 10.0]</td>
</tr>
<tr>
<td>PEBS (T2)</td>
<td>1.51 [1.00, 2.85]</td>
<td>1.96 [1.00, 4.45]</td>
</tr>
<tr>
<td>Psychological Self-Sufficiency (T1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSS (EHS – PEBS at T1)</td>
<td>6.79 [3.89, 8.56]</td>
<td>7.90 [5.65, 9.00]</td>
</tr>
<tr>
<td>EHS (T1)</td>
<td>8.88 [6.64, 10.0]</td>
<td>9.56 [8.21, 10.0]</td>
</tr>
<tr>
<td>PEBS (T1)</td>
<td>2.09 [1.15, 4.10]</td>
<td>1.66 [1.00, 3.55]</td>
</tr>
</tbody>
</table>

Note: Based on the aggregation of 20 imputed datasets: M (Mean) and 95% CI (95% confidence interval)
The Effect of Psychological Self-Sufficiency on Economic Self-Sufficiency

This study used four different approaches to examine the relationship between the increased or decreased rate of PSS group on economic self-sufficiency: (a) using the original dataset without imputation, (b) using the imputed dataset, (c) using the imputed dataset with propensity score nearest matching, and (d) using the imputed dataset with propensity score optimal matching. The first column (a) in Table 6 showed regression results from original dataset using list-wise method in missing information (n = 485, no imputation method was used, and 99 cases were deleted due to missing values). This result showed that a group of participants with increased rate of PSS difference had a significantly higher economic self-sufficiency score [0.216, \( p < .05 \)] than decreased rate of PSS group, controlling for the covariate variables. Baseline information of EHS [0.120, \( p < .01 \)] and PEBS [-0.214, \( p < .001 \)] scores was also statistically significant on economic self-sufficiency. Among the covariate variables, married participants had significantly higher economic self-sufficiency score than participants who had never married [-0.366, \( p < .01 \)]. Participants with extra earners in their household reported more economic self-sufficiency [0.139, \( p < .05 \)], and participants with any type of a job (including part-time, full-time, healthcare-related, etc.) had a positive effect on economic self-sufficiency [0.222, \( p < .05 \)].

Similar regression coefficients patterns were obtained using imputation datasets in column (b) Table 6 (number of iterated datasets = 20; and each dataset with sample size n = 584). Multiple regression result showed that the increased rate of PSS group compared to its reference group (Equal or decreased rate of PSS group) had a significantly higher economic self-sufficiency score [0.191, \( p < .05 \)]. Participants with low perceived employment barriers [-0.187, \( p < .05 \)]...
p < .001] and high employment hope [0.143, p < .001] at baseline time point still had a statistical effect on economic self-sufficiency.

Using imputed datasets with nearest propensity score matching (Table 6 column c) and optimal matching (column d) resulted in increased rate of PSS group (treatment group) being associated with higher economic self-sufficiency, compared to decreased rate of PSS group (non-treatment group) [0.194, p < .05 and 0.195, p < .05]. Same as other previous regression models, high level of EHS [0.139, p < .001 and 0.139, p < .001] and low level of PEBS [-0.186, p < .001 and -0.185, p < .001] were essential factors that appeared to influence economic self-sufficiency.

Given the regression results, this study concluded that the participants who have an increased rate of PSS are more likely to achieve economic self-sufficiency compared to the participants who had an equal or lower than the mean value of PSS difference, or lower rate of PSS, when controlling for covariates.
Table 6. Regression Results Using Different Datasets

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>(a) Original Sample w/o Imputation</th>
<th>(b) Sample with Imputation</th>
<th>(c) Sample with Imputation using nearest matching</th>
<th>(d) Sample with Imputation using optimal matching</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>SE</td>
<td>Coef.</td>
<td>SE</td>
</tr>
<tr>
<td><strong>PSS group</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Increased PSS group (1) VS</td>
<td>0.216*</td>
<td>0.090</td>
<td>0.191*</td>
<td>0.085</td>
</tr>
<tr>
<td>Decreased PSS group (0)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Covariates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EHS (T1)</td>
<td>0.120**</td>
<td>0.040</td>
<td>0.143***</td>
<td>0.039</td>
</tr>
<tr>
<td>PEBS (T1)</td>
<td>-0.214***</td>
<td>0.050</td>
<td>-0.187***</td>
<td>0.002</td>
</tr>
<tr>
<td>Age</td>
<td>-0.001</td>
<td>0.005</td>
<td>-0.003</td>
<td>0.005</td>
</tr>
<tr>
<td>Race (1=African American)</td>
<td>-0.144</td>
<td>0.089</td>
<td>-0.116</td>
<td>0.086</td>
</tr>
<tr>
<td>Gender (1=Female)</td>
<td>-0.160</td>
<td>0.163</td>
<td>-0.193</td>
<td>0.148</td>
</tr>
<tr>
<td>Marital Status (ref. Married)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never married</td>
<td>-0.366**</td>
<td>0.119</td>
<td>-0.378**</td>
<td>0.115</td>
</tr>
<tr>
<td>Married, spouse absent</td>
<td>-0.243+</td>
<td>0.144</td>
<td>-0.227+</td>
<td>0.136</td>
</tr>
<tr>
<td>Earners</td>
<td>0.139*</td>
<td>0.057</td>
<td>0.163**</td>
<td>0.056</td>
</tr>
<tr>
<td>Employed Status (1=Yes)</td>
<td>0.222*</td>
<td>0.096</td>
<td>0.181+</td>
<td>0.092</td>
</tr>
<tr>
<td>Education Level (1=More than high school)</td>
<td>-0.095</td>
<td>0.106</td>
<td>-0.170+</td>
<td>0.098</td>
</tr>
<tr>
<td>Constant</td>
<td>2.289***</td>
<td>0.497</td>
<td>2.210***</td>
<td>0.473</td>
</tr>
</tbody>
</table>

F=7.06*** / R²(adj).121  F=8.29*** / R²(adj).121  F=7.60*** / R²(adj).114  F=7.63*** / R²(adj).115

Note. + P <.10, * P < .05; ** P < .01; *** P < .001. Dependent variable: Economic Self-Sufficiency (ESS) at T2

**Study 2 Conclusion**

The primary purpose of this study was to examine a research question regarding the causal effect of an increased rate of psychological self-sufficiency (PSS) on economic self-sufficiency among the HPOG program participants. On the basis of the research question, the PSS variable was derived by calculating the difference between the scores of EHS and PEBS.
Then, to examine the increased or decreased rate of PSS, the PSS score difference between the initial and the latter survey time point was used. The HPOG program participants were classified into two groups: treatment (higher than the mean value of PSS difference, simply called an increased PSS group) and control (equal or lower than the mean value of PSS difference, simply called a decreased PSS group). Specifically, the mean value of PSS difference was employed as a cutoff to divide the two groups in each imputed dataset, and the newly created group variable was used to estimate propensity scores for the sample participants.

After obtaining estimated propensity scores, the matching procedure, especially “nearest matching with caliper” and “optimal matching”, was applied. With a total of 584 imputed and matched datasets, multiple regression results suggest that program participants in the treatment group had significantly higher economic self-sufficiency than participants in the control group. For example, participants who are in the treatment group had an average economic self-sufficiency rate of 0.194 in nearest-matching (or 0.195 in optimal matching) compared to the control group participants, while holding other factors as constant. Consistent with Study 1, EHS at the initial time point had a positive (0.139 in nearest matching and optimal matching), and PEB had a negative (-0.186 in nearest matching and -0.185 in optimal matching) association with economic self-sufficiency, which was measured at latter survey time point. Although prior evidence in Study 1 reported the effect of education on economic self-sufficiency, the propensity score matching dataset showed only a marginal effect of level of education on economic self-sufficiency. This study also observed a marginally significant effect of employment status, indicating employed participants are more likely to achieve higher economic self-sufficiency than unemployed participants, which was not found as statistically significant in Study 1.
Study 2 Limitations

This study has several limitations that must be considered. First, the implementation of the propensity score matching method is complicated and involves a set of decisions, which may affect the result of eliminating selection bias. For example, any control variables that were not included in this study model and unobserved variables (such as neighborhood and regional characteristics) could influence generating biased estimates of the PSS group. In addition, each set of decisions from implementing multiple imputations (i.e., the maximum number of imputed sample datasets, variable selection, and statistical software/package) to propensity score matching (matching methods, ratio of treatment and control group matching, distance, ATT or ATE, with or without replacement, and statistical software/package), may yield different datasets and, therefore, different results (Guo & Fraser, 2015).

This study excluded the participants who discontinued the HPOG program because their increased or decreased rate of PSS could not be captured. However, their discontinuation of the program may have happened in a systematic way. For example, some participants may have discontinued the program because they cannot maintain their participation because they do not have public transportation service in their community to get to the program site, or because they could not find accessible and affordable childcare services while they are in the program. Since these participants struggled relatively more than others, final analysis without this group of participants may have produced biased results (i.e., the observed increased or decreased rate of PSS is underestimated or overestimated relative to its actual PSS differences).

Finally, the results based on the PSM cannot be generalized to other study populations or samples. The purpose of the PSM is to be a backup strategy to help effectively and statistically
evaluate social work programs where RCT research designs are not available for practical, ethical, and any other reasons (Barth et al., 2008; Guo & Fraser, 2015). Therefore, the results based on PSM cannot be easily generalizable to other study populations and should be interpreted with caution.
CHAPTER SIX
STUDY 3—A LATENT CLASS PATTERN OF PERCEIVED EMPLOYMENT BARRIERS

Study 3 Background Literature

It is challenging to overcome poverty for low-income job seekers simply through employment. The myriad of employment barriers that the low-income job seekers may face before and after entering the job market prevents improving their economic status (Lee & Vinokur, 2007; Povich et al., 2014; Rank, 2020). These barriers to employment can also be categorized into individual and structural barriers that keep them from improving life course events to achieve economic self-sufficiency (Hong et al., 2021a; Hong & Wernet, 2007). Prior studies found that these vulnerable populations in poverty typically have individual and structural barriers to employment such as unstable housing, limited access to childcare, transportation costs, generational poverty, physical and mental health issues, criminal history, language barriers, low levels of education, substance use, lack of social support, domestic violence, and systematic discrimination (Ace & Loprest, 2007; Danziger et al., 2000b, Dworsky & Courtney, 2007; Hahn et al., 2018; Holzer et al., 2004; Hong et al., 2014a; Hong & Wernet, 2007; Nam, 2005). Hong and colleagues (2014) categorized the perceived employment barriers into five latent factors—health and mental health, human capital, childcare, labor market exclusion, and personal balance or soft skills—validating the PEBS scale.

They also found that these barriers had a direct and indirect significant negative impact
on the low-income jobseekers' lives (Hong et al., 2014; Hong et al., 2020; Rank, 2020; Royce, 2018). However, these studies tended to highlight the importance of one or two main variables' impact on the outcome variables, while controlling for other variables.

Individuals living in poverty are more likely to experience complicated life circumstances and employment barriers (Holzer, 2002; Rank, 2020). Many prior studies examined multi-layered co-occurring employment barriers that vulnerable populations may face (Bloom et al., 2011; Danziger et al., 2000a; Dworsky & Courtney, 2007; Hahn et al., 2018; Hong et al., 2021a; Nam, 2005). Depending on the vulnerable populations' life circumstances, a person in poverty may face a different set of obstacle patterns as barriers to employment. When the employment barriers occur simultaneously and are highly connected, it is hard to distinguish one single variable's effect size and its significance (Danziger et al., 2000a; Hahn et al., 2018).

Although many programs pursue economic self-sufficiency for the vulnerable populations, services are often provided without understanding the employment barriers of their clients by providing the resources that the programs can provide rather than what the clients need. As a social worker, it is important to effect responsive social welfare service deliveries through a multilevel of micro, mezzo, and macro services to clients, based on accurate identification of individual's employment barriers patterns. By examining the patterns of barriers to employment, this study sought ways to more precisely ascertain the low-income job seekers' perceived needs. These findings may help researchers and practitioners improve more effective interventions based on a client-centered assessment of employment barriers.

Despite the importance of identifying and understanding the patterns of employment barriers, there have been no studies on potential co-occurring patterns of employment barriers.
among workforce development program participants. Only recently a study was conducted to investigate the patterns of perceived employment barriers among the participants in community-based workforce development programs by separating individual and structural employment barriers (Hong et al., 2021a). In Hong's study, to investigate the patterns of employment barriers, the average mean value of five sub-factors of PEBS was used. More specifically, this study examined the overall co-occurring patterns of 27 items of employment barriers that were not limited to the five sub-factors of PEBS. To account for characterizing the patterns of employment barriers, latent class analysis (LCA) was used.

**Study 3 Methods**

*Sample and Data Collection Procedures*

To answer the research question, “What are the unique and meaningful patterns of employment barriers among welfare-to-work program participants”, HPOG program participants were studied (n = 372). Among a total of 1248 HPOG program participant surveys, only the data for these 372 participants completed the initial orientation (T1) and program exit survey (T3). This study filtered out participants who only answered the initial orientation survey and only answered the program exit survey.

*Measures*

To identify unique patterns of employment barriers, PEBS (Hong et al., 2014c) was used. PEBS is a Likert scale ranging from 1 to 5 on 27 items, asking “how each item affects you (program participants) securing a job.” A high PEBS score indicates that the perceived employment barrier is high, and a low score means that the employment barrier is low. Five sub-factors—(1) physical & mental health, (2) labor market exclusion, (3) child care, (4) human
capital, and (5) personal balance or soft skills—were used to assess employment barriers, as well as six individual items—(6) language barrier (mean value of ‘speak English well’ item and ‘read or write well’ item), (7) lack of transportation, (8) racial discrimination, (9) lack of stable housing, (10) fear of rejection, (11) past criminal record—which were not loaded on a sub-factor in a scale validation study. For the LCA, a total of 11 items were recoded into dichotomous variables—“not a barrier (1)” and “barrier (2-5)” with each 11 categorical item indicating either presence or absence of an employment barrier. Table 7 shows the descriptive statistics for the study variables. About three-quarters of participants recognized labor market exclusion (2.26 and 75.88%) and human capital (2.16 and 78.23%) are barriers to employment. However, the lack of transportation variable had average value higher than 2, but only 43% of participants considered it was a barrier to employment. Meaning this barrier acted strongly for a few participants, while not to others. On the other hand, physical and mental health (1.46 and 6.47%), language barrier (1.44 and 18.70%), and criminal history (1.43 and 13.82%) variables were not found to be perceived as barriers to employment.

Table 7. Descriptive Statistics for Study Variables

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB1 Physical &amp; mental health</td>
<td>1.46</td>
<td>1.12</td>
<td>24</td>
<td>6.47</td>
</tr>
<tr>
<td>EB2 Labor market exclusion</td>
<td>2.26</td>
<td>1.12</td>
<td>280</td>
<td>75.88</td>
</tr>
<tr>
<td>EB3 Child care</td>
<td>1.98</td>
<td>1.20</td>
<td>204</td>
<td>54.99</td>
</tr>
<tr>
<td>EB4 Human capital</td>
<td>2.16</td>
<td>1.15</td>
<td>291</td>
<td>78.23</td>
</tr>
<tr>
<td>EB5 Soft skills</td>
<td>1.64</td>
<td>0.98</td>
<td>212</td>
<td>57.45</td>
</tr>
<tr>
<td>EB6 Language barrier</td>
<td>1.44</td>
<td>1.08</td>
<td>69</td>
<td>18.70</td>
</tr>
<tr>
<td>EB7 Lack of transportation</td>
<td>2.12</td>
<td>1.50</td>
<td>162</td>
<td>43.67</td>
</tr>
<tr>
<td>EB8 Racial discrimination</td>
<td>1.70</td>
<td>1.21</td>
<td>113</td>
<td>30.54</td>
</tr>
<tr>
<td>EB9 Lack of stable housing</td>
<td>1.72</td>
<td>1.30</td>
<td>103</td>
<td>27.91</td>
</tr>
<tr>
<td>EB10 Fear of rejection</td>
<td>1.81</td>
<td>1.22</td>
<td>148</td>
<td>40.00</td>
</tr>
<tr>
<td>EB11 Past criminal record</td>
<td>1.43</td>
<td>1.14</td>
<td>51</td>
<td>13.82</td>
</tr>
</tbody>
</table>

Note. Frequency and percentage were based on the presence of barriers (response range between 2 and 5)
Data Analysis

A latent class analysis (LCA) was used to identify meaningful patterns of 11 dichotomous employment barriers indicators. LCA belongs to a larger family of latent variable techniques called finite mixture models. It has been widely used in various fields of research—such as psychiatry, education, social work, or marketing—and especially in research domains of studying distinct risk patterns of substance abuse and suicide, and subgroups of child development and parent involvement (Chung & Martin, 2001; Nylund, Asparouhov, & Muthén, 2007; Schwartz, Wetzler, Swanson, & Sung, 2010).

The value of LCA is that, as a person-centered approach, it focuses on identifying individual subgroups characterized by specific combinations of given factors (Collins & Lanza, 2010). Therefore, it confirms and supplements the variable-centered approaches (i.e., multiple regression, factor analysis, etc.) that only focus on the associations between variables (Asparouhov & Muthén, 2019; Nylund & Choi, 2018). In addition, there are latent profile analysis (LPA) and latent transition analysis (LTA) that are similar to LCA. However, LCA differs from LPA, which uses quantitative variables, and LTA, which uses time-series data, in that it uses dichotomous data as an analysis variable (Collins & Lanza, 2010).

There also is no absolute criterion for choosing the best-fitting model in LCA. A combination of measurement information is used in identifying the optimal number of patterns/latent classes (Collins & Lanza, 2010; Wang & Wang, 2019). Details of LCA modeling features (i.e., latent class, assumptions, mutually exclusive and exhaustive, etc.), model fit indices (i.e., absolute and relative model fit index), and estimation methods (i.e., FIML) are described below. There are several important terms and characteristics that researchers have to
be familiar with before understanding LCA modeling. There is a difference in terminology between the observed variable (also referred to as measured, manifest, or indicator variable) and the unobservable latent variable (also referred to as construct or factor). Observed variable means the actual observed information. However, the unobservable latent variables cannot be measured directly, but can only be calculated through the observed variables. For example, in Figure 4, the square represents the “observed” variables that the actual participants’ responses to each item (i.e., physical & mental health, labor market exclusion, etc.), while the conceptual variable within a circle above the observed variables is the “latent” variable that can be indirectly inferred from the observed variables.

Figure 4. Latent Class Model of the Proposed Study
The LCA's assumptions are that each indicator is dichotomous to indicate the absence or presence of each barrier, and their joint distribution is multinomial (Collins & Lanza, 2010). Therefore, no normality assumption is required. As data changes or updates, the optimal number of latent classes change accordingly. Also, the latent classes are mutually exclusive and exhaustive. It means that each individual is a member of only one latent class. There is no chance that an individual entering one latent class will enter another (heterogeneous) (Collins & Lanza, 2010). Still, individuals within each latent class share a common trait (homogeneity) (Lanza et al., 2013).

Item-response probability is the probability of reporting a specific response for each indicator variable, conditional on membership in a potential class. For example, it means the probability that an individual in poverty who belongs to a “high employment barrier group” will answer "yes" to a specific barrier indicator (i.e., the health problem item). In addition, an entropy value is calculated, which measures how clearly classes can be distinguished based on each individual's expected class probability. In general, values closer to 1, out of value range from 0 to 1, are considered "good" classification. (Nylund & Choi, 2018)

The optimal number of latent classes for the employment barriers was determined by absolute and relative model indices (Collins & Lanza, 2010; Wang & Wang, 2019). An absolute model index included the likelihood-ratio chi-square statistic, which reflects how well a latent class model fits observed data (Collins & Lanza, 2010; Nylund & Choi, 2018). An absolute model fit shows whether data is well represented without competing models (Collins & Lanza, 2010). As with the chi-square test, the higher the value of the likelihood-ratio statistic, the more
evidence is against the null hypothesis (estimated model = population model) (Collins & Lanza, 2010).

As an alternative of absolute model indices, pointing out the problem of the likelihood-ratio chi-square test, the bootstrap likelihood ratio test (BLRT; McLachlan & Peel, 2000) and the Lo-Mendell-Rubin likelihood ratio test (LMRT or LMR LR; Lo, Mendell, & Rubin, 2001) are often used (Asparouhov & Muthén, 2012; Nylund et al., 2007). An absolute model index (LMRT) provides p-value information, comparing neighboring class models (i.e., the k-1 vs. the k class model, where k indicates the number of latent classes). A significant p-value (i.e., p < .05) means that a significant improvement was found when comparing the k-class model and the k-1 class model (Lo et al., 2001). If the LMRT is statistically insignificant (p > .05), it indicates no more significant improvement in the model fit by including an additional class into the model. Thus, LMRT supports the k-1 class model (Nylund et al., 2007), and the BLRT p-value is interpreted the same way as that of LMRT (Nylund & Choi, 2018).

The relative model fit indices are also used to determine the optimal LCA model when selecting the number of latent classes: Akaike Information Criterion (AIC) (Akaike, 1987), Consistent AIC (CAIC, Bozdogan, 1987), Bayesian Information Criterion (BIC) (Schwarz, 1978), and Adjusted BIC (Sclove, 1987). Low AIC and BIC indices are preferred, which means they are close to the truth model. Relative model fit indices mean comparing two or more models that represent the best balance for a particular data set and achieving parsimony (i.e., model simplicity) (Collins & Lanza, 2010). Parsimony means that simpler models (estimating fewer parameters) are preferred over more complex models when all other conditions are equal (Lanza et al., 2013; Masyn, 2013).
Like exploratory factor analysis (EFA), the LCA model is also a measurement model. When extracting latent factors from EFA, it is important to meaningfully interpret the latent factor, which is just as important as explaining the AIC and BIC results. Likewise, in the LCA model researchers need to define and label each latent class, taking into account the AIC and BIC, as the ultimate goal of LCA is to account for unobserved heterogeneity in the target population.

All LCA estimations were conducted with Mplus (Mplus version 8.4, Muthén & Muthén, 2012-2019). Mplus analysis is implemented with full information maximum likelihood (FIML). FIML is a modern method of handling missing data that outperforms traditional missing data approaches such as LISTWISE deletion. However, the assumption of missing data requires either missing completely at random (MCAR) or missing at random (MAR) (Wang & Wang, 2019, p.15).

**Study 3 Results**

Participants in workforce development programs may face various multi-layered barriers to employment before and after the job market. Therefore, this study focused on finding a distinct group that shares similar patterns of employment barriers through LCA. LCA analysis was analyzed according to the following steps. First, different optimal number of latent class models were ran from two-latent-class to five-latent-class models. Second, compared the models based on model fit indices. Third, defined and labeled the optimal latent class model (Nylund & Choi, 2018; Wang & Wang, 2019). Fit information for various latent class models is presented in Table 8. Although the p-value of the LMRT became non-significant at a four-class model, the BIC indicated that a three-model fit the data best. According to the Entropy, a three-class model
(.817) is closer to the 1 (considered a high entropy) than a four-model (.807). However, a four-model has a lower a-BIC (3901) than a three-class (3918). Since there is no gold standard for which fit statistic outperforms than others, four-class and three-class models were selected and compared.

Table 8. Fit Indices for Latent Class Analysis

<table>
<thead>
<tr>
<th>Number of classes</th>
<th>AIC</th>
<th>BIC</th>
<th>a-BIC</th>
<th>Entropy</th>
<th>LMRT</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>4067</td>
<td>4157</td>
<td>4084</td>
<td>.931</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>3892</td>
<td>4029</td>
<td>3918</td>
<td>.817</td>
<td>195***</td>
</tr>
<tr>
<td>4</td>
<td>3866</td>
<td>4050</td>
<td>3901</td>
<td>.807</td>
<td>49.009</td>
</tr>
<tr>
<td>5</td>
<td>3869</td>
<td>4100</td>
<td>3913</td>
<td>.796</td>
<td>21.290</td>
</tr>
</tbody>
</table>

Note. * Ρ < .05; ** Ρ < .01; *** Ρ < .001 AIC = Akaike information criterion; BIC = Bayesian information criterions; a-BIC = adjusted Bayesian information criterion; LMRT = Lo-Mendell-Rubin likelihood-ratio test.

For the three-class model, the item-response probability profiles are presented in Table 9. Respondents in Class 1 had a higher probability on all indicators of employment barriers. Class 1 (12%) was labeled a “all high barriers” group. Class 2 had high employment barriers probability for labor market exclusion (.905), human capital (.929), and soft skills (.736). There were relatively moderate rates for childcare (.583), lack of transportation (.522), and fear of rejection (.551). Class 2 (52%) was labeled a “work-related + community-related” group. Class 3 showed a low to moderate probability for labor market exclusion, childcare, and human capital. Class 3 (36%) was labeled a “work-related” group. The item-responsibility probability profile of the three-class model is also depicted in Figures 5 & 6.
### Table 9. Item-Response Probabilities for a Three-Class Model

<table>
<thead>
<tr>
<th>Latent class indicator</th>
<th>Class 1 (12% (N = 43))</th>
<th>Class 2 (52% (N = 195))</th>
<th>Class 3 (36% (N = 133))</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB1 Physical &amp; mental health</td>
<td>1</td>
<td>.149</td>
<td>.038</td>
</tr>
<tr>
<td>EB2 Labor market exclusion</td>
<td>1</td>
<td>.905</td>
<td>.481</td>
</tr>
<tr>
<td>EB3 Child care</td>
<td>1</td>
<td>.583</td>
<td>.370</td>
</tr>
<tr>
<td>EB4 Human capital</td>
<td>1</td>
<td>.929</td>
<td>.526</td>
</tr>
<tr>
<td>EB5 Soft skills</td>
<td>1</td>
<td>.736</td>
<td>.223</td>
</tr>
<tr>
<td>EB6 Language barrier</td>
<td>1</td>
<td>.097</td>
<td>.058</td>
</tr>
<tr>
<td>EB7 Lack of transportation</td>
<td>1</td>
<td>.522</td>
<td>.152</td>
</tr>
<tr>
<td>EB8 Racial discrimination</td>
<td>.884</td>
<td>.338</td>
<td>.084</td>
</tr>
<tr>
<td>EB9 Lack of stable housing</td>
<td>.937</td>
<td>.331</td>
<td>.000</td>
</tr>
<tr>
<td>EB10 Fear of rejection</td>
<td>.884</td>
<td>.551</td>
<td>.050</td>
</tr>
<tr>
<td>EB11 Past criminal record</td>
<td>.912</td>
<td>.031</td>
<td>.045</td>
</tr>
</tbody>
</table>

![Figure 5. Item-Response Probability Profiles for a Three-Class Model (1)](image-url)
For the four-class model, the item-response probability profiles are presented in Table 10. Respondents in Class 1 had higher employment barriers probability for all indicators of employment barriers. Class 1 (12%) was labeled a “all high barriers” group. Class 2 had moderate to high employment barriers probability for labor market exclusion (.910), human capital (.881), childcare (.543), and soft skills (.659). Class 2 (48%) was labeled a “work-related” group. Class 3 had a high employment barrier probability for labor market exclusion (.840), human capital (1), soft skills (.860), and lack of stable housing (.884). Class 3 (11%) was labeled a “work-related + community-related” group. Class 4 had low to moderate employment barriers probability for labor market exclusion (.380), childcare (.345), and human capital (.468) Class 4 (28%) was labeled “low barriers” group. The item-responsibility probability profile of the four-class model is also depicted in Figures 7 & 8.
Table 10. Item-Response Probabilities for a Four-Class Model

<table>
<thead>
<tr>
<th>Latent class indicator</th>
<th>Class 1 (12% N = 43)</th>
<th>Class 2 (48% N = 181)</th>
<th>Class 3 (11% N = 40)</th>
<th>Class 4 (28% N = 107)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB1 Physical &amp; mental health</td>
<td>1</td>
<td>.089</td>
<td>.330</td>
<td>.039</td>
</tr>
<tr>
<td>EB2 Labor market exclusion</td>
<td>1</td>
<td>.910</td>
<td>.840</td>
<td>.380</td>
</tr>
<tr>
<td>EB3 Child care</td>
<td>1</td>
<td>.543</td>
<td>.669</td>
<td>.345</td>
</tr>
<tr>
<td>EB4 Human capital</td>
<td>1</td>
<td>.881</td>
<td>1</td>
<td>.468</td>
</tr>
<tr>
<td>EB5 Soft skills</td>
<td>1</td>
<td>.659</td>
<td>.860</td>
<td>.161</td>
</tr>
<tr>
<td>EB6 Language barrier</td>
<td>1</td>
<td>.114</td>
<td>.020</td>
<td>.045</td>
</tr>
<tr>
<td>EB7 Lack of transportation</td>
<td>1</td>
<td>.362</td>
<td>1</td>
<td>.138</td>
</tr>
<tr>
<td>EB8 Racial discrimination</td>
<td>.883</td>
<td>.271</td>
<td>.515</td>
<td>.060</td>
</tr>
<tr>
<td>EB9 Lack of stable housing</td>
<td>.932</td>
<td>.153</td>
<td>.884</td>
<td>.000</td>
</tr>
<tr>
<td>EB10 Fear of rejection</td>
<td>.883</td>
<td>.448</td>
<td>.689</td>
<td>.029</td>
</tr>
<tr>
<td>EB11 Past criminal record</td>
<td>.909</td>
<td>.013</td>
<td>.099</td>
<td>.053</td>
</tr>
</tbody>
</table>

Figure 7. Item-Response Probability Profiles for a Four-Class Model (1)
Figure 8. Item-Response Probability Profiles for a Four-Class Model (2)

**Study 3 Conclusion**

In this study, distinct patterns of perceived employment barriers among workforce development program participants were identified using LCA. As the participants’ employment barrier classes were diversified from two to five, a pattern of community-related barriers was found in four-class model.

The results of this study through the LCA are presented in both three- and four-class model. In the three-class model, each distinct group was labeled (1) all high barriers, (2) work-related + community-related, and (3) work-related. In the four-class model, each distinct group was labeled (1) all high barriers, (2) work-related + community-related, (3) work-related, and (4) low barriers. In both models, “work-related barriers” included labor market exclusion, childcare, and human capital. The biggest difference between the three-class model and the four-class
model was the distinction between work-related (such as high probability on labor market exclusion and human capital) and community-related (such as high probability on lack of transportation and housing) barriers.

**Study 3 Limitations**

This study results should be interpreted within the context of several limitations. First, this study failed to capture the characteristics of dropout program participants who may have extremely complicated employment barriers and realities. In future research, participants who responded to the survey only once should also be incorporated in finding employment barrier patterns. In addition, the employment barriers were limited to 11 indicators. Participants may experience more diverse employment barriers that this survey may have not considered and captured. Future research will require more meticulous questionnaire or scale to find a unique pattern of employment barriers among low-income job seekers. Finally, it is important to examine how these employment barrier patterns change and affect individuals’ economic outcomes.

Findings of this study showed that each group of participants may have differing priority needs and/or issues before and after entering the job market. In addition, LCA can offer a more nuanced understanding of workforce development program participants’ barriers and enable social work practitioners to be more informed about participant needs when providing employment services. By examining possible distinct patterns of employment barriers, the results may help policymakers and practitioners to provide more specific and targeted interventions designed to meet the program participants’ individual needs and circumstances.
CHAPTER SEVEN
DISCUSSION AND CONCLUSION

The overarching goal of this dissertation was to examine the social determinants of economic self-sufficiency (ESS) among low-income jobseekers in a federally sponsored healthcare career pathways program (called Health Profession Opportunity Grants, HPOG). Particularly this dissertation emphasized the fact that self-sufficiency should be understood as multidimensional, and provide an alternate way of understanding program effectiveness by using psychological self-sufficiency (PSS) theory (Hong, 2013). The PSS theory is comprised of two main conceptual components of perceived employment barriers (PEB) and employment hope (EH) (Hong, 2013) (Chapter 1).

In Chapter 2, this dissertation provided a comprehensive review of workforce development programs that have been employed to low-income individuals and families in the United States. It began by reporting the number of Americans who live in poverty and how the issue of poverty is severe in the United States. A brief history of the workforce development programs and the development of sector-specific and career pathway programs were discussed. It reviewed three critics of the U.S. anti-poverty policies and programs: a lack of understanding of the features of modern poverty structures, a lack of investment, and a lack of rigorous evaluation and measurement systems. Lastly, it reviewed how these programs were evaluated, and which measurements were commonly used in the program evaluation. In Chapter 3, as an alternative measurement and evaluation methods, the process-oriented PSS theory and its measurements
were introduced and how this theory supported and was related to other exiting theories. Lastly, empirical studies that used the PSS theory were reviewed.

To achieve this dissertation goal, three studies were conducted. Chapters 4-6 reviewed these three studies and provided empirical evidence supporting PSS theory when evaluating workforce development programs. Given limited studies on the longitudinal effect of PSS, Chapter 4 (Study 1) described the effect of PSS changes over time on the economic success of participants in employment and training programs. Chapter 5 (Study 2) reviewed the effect of the divided groups of PSS (increased and decreased) on ESS among welfare-to-work program participants. Given limited attention to the potential patterns of employment barriers, Chapter 6 (Study 3) described the classification of welfare-to-work program participants according to their perceived employment barriers. The findings presented in Chapters 4 through 6 can be summarized as follows:

1. It was found that the positive changes in PSS had a positive statistical effect on ESS. In addition, initial levels of EH and PEB were found to have a significant effect on ESS, when controlling for other demographic variables.

2. Group with an increased PSS level (treatment group) was associated with advancing successful ESS outcomes compared to group with an average or decreased PSS level (control group).

3. Program participants could be divided into three subgroups (all high barriers, work-related, and work-related + community-related) or four subgroups (all high barriers, work-related, work-related + community-related, and low barriers) depending on the perceived employment barriers they experienced.
Overall limitations should be considered when interpreting these results. This study had limitations of generalizability, inability to describe specific health care occupations, failure to account for dropout participants, and inability to account for all employment barriers.

First, this dissertation cannot generalize the results to all job-seeking program participants in other regions or other employment and training programs because it used a geographically limited convenience sampling in Midwest United States metropolitan area. Depending on the region where the program participants enrolled from, they may face different employment barriers. Also, the regional differences in PSS process of switching from barriers to hope to achieve economic independence will be very different. Therefore, this dissertation's results should be interpreted on the basis of only Chicago and Illinois based HPOG program participants.

Second, this dissertation did not consider various health care occupational training courses within HPOG. Program participants may opt for occupational training, ranging from a vocational course that requires only six weeks of training (i.e., certified nursing assistant) to a two-year required education course (i.e., registered nurse). Employment barriers that they experience and the PSS processes for those involved in each program will be very different. In this study, types of health care occupations were not classified but analyzed as one group. In future, detailed group analysis will be needed in HPOG according to the vocational training courses.

Third, participants who withdrew from the program were not considered in this dissertation. A large number of program participants left their program courses for various reasons. Because information about the dropout participants was not available, it was considered
missing in many previous studies and was excluded from the final data analysis. It is crucial to study dropout participants because the employment and training programs are given to all the participants but only some portion of the participants complete the program and build their careers. In contrast, dropout participants disappear from the program and return to their former life of poverty. A comparative study between the dropout participants and the program graduates at the initial time point in longitudinal studies is needed in future studies.

Lastly, as a measure, PEBS do not include all perceived employment barriers that HPOG program participants experience. PEBS sought to investigate a limited variety of employment barriers such as physical and mental health; labor market exclusion; childcare; human capital; soft skills; transportation and stable housing; language barriers; racial discrimination; fear of rejection; and past criminal history. In addition to these employment barriers, there are other challenges depending on their life circumstances that low-income individuals and families may face before and after entering the job market. Therefore, the employment barriers in this study are limited to only those items measured by PEBS. Future studies should use a more comprehensive measure to identify the details of program participants’ perceived employment barriers and challenges in their life.

Despite the limitations mentioned above, these study findings contribute in many ways to the existing literature and provide important implications for social work practitioners, policymakers, and social work researchers.

**Implication for Social Work Practice**

There are two ways this study contributes to social work practice. One way is that social work practitioners and service providers may gain knowledge and understanding about the
importance of PSS in the people in poverty. Employability was a top priority over the last few decades in the evaluation of workforce development programs. However, as the findings from the three studies mentioned above indicate, it was found that balancing PSS components—EH and PEB—had a promising effect on the participants’ overall ESS outcome. These results were not limited to cross-sectional data, but it was found in a longitudinal research design (Chapter 4: Study 1). Specifically, Chapter 5 (Study 2) covered PSS’s efficacy in improving ESS in a statistically designed randomized controlled trial (RCT) experiment. In addition, it was confirmed in Chapter 6 (Study 3) that the perceived employment barriers among HPOG program participants were multidimensional. Therefore, social workers and service providers must understand and appropriately respond to the diverse and complex employment barriers that the program participants face. If necessary, in-depth interviews should be conducted to understand the complex employment barriers faced by the participants. A qualitative study should also be included in the research design as part of a mixed method approach so as to include and amplify the participants’ voices.

Additionally, social work practitioners and service providers should also consider implementing Transforming Impossible into Possible (TIP, Hong 2016), an innovative evidence-based intervention program developed by Hong (2016) and conducted by researchers at the Center for Research on Self-Sufficiency (CROSS), as part of their workforce development program. The TIP program promotes workforce development program participants to improve PSS process and make them move toward ESS outcomes.

As a social work practice model that enhances the program participants’ PSS, the TIP program provides multi-system levels of practice in social work and human services. (Hong,
The application of the TIP program is not limited to individual assessment as it develops a customized version of TIP considering individual’s unique circumstances, but it could also be applied to group design for participants who share similar life circumstances (Hong, 2016).

The goal of the TIP program is to improve clients’ PSS process—transforming from perceived employment barriers to employment hope. The initial framework of the PSS and TIP program was developed from a study in response to the local community’s request, asking the definition of self-sufficiency from low-income individual’s definition (Hong, 2016). The study was conducted by a series of focus groups and discovered two main conceptual aspects of self-sufficiency—EH and PEB. The CROSS conducted a series of evaluation of PSS studies among low-income jobseekers and collected more than 6000 longitudinal surveys. Subsequently, an empowerment-based intervention called TIP program was developed to intentionally strengthen the PSS process (Hong, 2016). The TIP program was rated one of the top five workforce development programs enhancing self-sufficiency for low-income individuals and families by Mathematica Policy Research in a U.S. Department of Health and Human Services report (Anderson et al., 2013).

The TIP program curricular consists of 15-session sessions with eight themes, including the source of core strength (perceived employment barriers and employment hope), goal orientation, unresolved triggers of stress, forgiveness, gratitude, identity & purpose, and social support and compassion (Hong, 2016). Psychological capital is emphasized in the TIP program as it promotes program participants in sustaining their financial success (Hong, 2016). For example, when a participant faces multiple obstacles before and after entering the job market, it will be challenging to overcome these obstacles without a positive outlook.
Implication for Social Work Policy

This dissertation was conducted with the participants in a sector-specific employment and training program called HPOG. There are important implications for social welfare policies for low-income individuals and families in the United States. First, to encourage program participants to engage in promising employment career, social work policy must focus more on the job quality that the program participants may achieve (Holzer, 2008; King & Hong, 2019). Low level of job quality (i.e., unstable, low wages, not providing retirement plans and health benefits) is one of the important issues in the workforce development policies (Brown & Barbosa, 2001; Lee & Vinokur, 2007; Povich et al., 2014; Rank, 2020). Currently, there is a tendency to focus on occupations with relatively short training courses, such as a certified nursing assistant program. The evaluation of the social work policy using employment rates may show effectiveness of the program in the short term, but short-term effectiveness does not help low-income individuals to achieve long-term economic self-sufficiency. Additional systems are needed from a long-term perspective to encourage participants to engage in more promising career pathways, such as a registered nurse program. Stable and career-specific employments that can provide a steppingstone into the middle class could be a critical factor in expanding workforce development in the future.

Second, it is suggested that the perception of poverty should be modified. Modern poverty is not simply an individual’s fault but rather is instead a complex product of the psychological, social, cultural, and ecological factors. Anyone living in this modern society can experience poverty (Rank, 2020; Royce, 2018). Especially in this current COVID-19 pandemic, people lose their jobs not because of individual’s wrong choices but because of environmental
and social circumstances. In Chapter 6, it was found that there are multidimensional barriers among HPOG program participants categorizing into all high, low, work-related, and community-related classes. This study found that there were a group of HPOG participants simultaneously experiencing individual (work-related) and structural (community-related) levels of employment barriers. Therefore, it is necessary to be aware of the broader perspectives of problems facing the vulnerable population, especially structural and personal employment problems. Then, interventions must be provided to address individual, or co-existing employment barriers, according to their employment barrier patterns.

Lastly, in evaluating workforce development programs, it is necessary to examine the processes rather than simply the outcomes. From a short-term perspective, it is important whether an individual participant has a job or not. From a long-term perspective, it is more important to assess what processes and transformations the program participants experienced before and after entering the job market. For example, it was found that the participants who were anchored with psychological transformation were able to maintain their employment long-term (Hong, 2016). The length of time an individual participant holds a job is very important in workforce development research because the longer an individual holds a job, the more likely that individual can achieve financial self-sufficiency. Therefore, a little more attention to assessing low-income jobseekers’ psychological transformation over the course of the programs is needed in the program evaluation stage.

**Implication for Social Work Research**

A frequent criticism of government-funded workforce development programs is that they only recruit program participants who are more likely to be succeed in achieving economic self-
sufficiency, and assign them as treatment group (Austin, 2011), otherwise known as “creaming” (Barth et al., 2008). To assess the precise effect of PSS on economic self-sufficiency, Chapter 5 conducted a study using propensity score matching (PSM), which is a statistically conducted, balancing baseline information between the treatment and the control groups. To validate this PSM study, a program intervention study using a rigorous RCT design should be conducted. In addition, future research should also examine the difference of PSS between government-sponsored and non-government-supported programs. This RCT and PSM studies can investigate more exact impact of PSS on economic self-sufficiency, and will help explain the differences between government and private programs in the impact of PSS.

In addition to the research methodology used in this study, PSS should be studied with various other research methodologies both quantitatively and qualitatively. This suggestion requires a more structured longitudinal study design to reinforce this dissertation’s findings. In this dissertation study, only two survey time points T1 & T2 (Chapter 4), initial and later time point (Chapter 5), and T1 & T3 (Chapter 6), were selected to evaluate the effectiveness of the HPOG program. Therefore, further research is needed to investigate more accurate research designs, including more time points, and also carefully considering the missing cases. Through more rigorous studies, the findings related to PSS can be further strengthened through validations and findings that may contribute to expansion of knowledge. Again, the PSS studies should be supported using the qualitative research method. For example, through in-depth personal interviews, the transformations, or regressions, of individual's unique employment barriers and the strengths to overcome them may be better assessed. The results of this qualitative study will
play an important role in developing a program intervention because the program intervention should eventually be based on the participants’ perceived needs and not on expert opinions only.

In addition, latent class analysis (LCA) can be further developed. Using more specific employment barrier groups and controlling for other external conditions, the LCA model can be analyzed with a covariate (called LCA with covariates) to examine the effect of employment barrier groups on economic self-sufficiency (called LCA with a distal outcome). Furthermore, latent transition analysis can be used to examine how the LCA model changes over various time points, and how these changes relates to economic self-sufficiency. As mentioned earlier in Chapter 6, the employment barriers experienced by participants are limited to those measured by PEBS. Participants will experience several important employment barriers beyond those measured by PEBS. Therefore, for future research, a qualitative study including the participants’ diverse voices is needed to capture more specific and wholistic employment barrier circumstances.
APPENDIX A

SURVEY RECRUITMENT FLYER
Research Study: Empowerment Pathways to Self-Sufficiency

Principal Investigator: Dr. Philip Hong, Professor

What is the Research Study about?
The purpose of this study is to examine the extent to which psychological transformation affects one’s employment placement and long-term self-sufficiency outcomes. This study is being conducted by the Principal Investigator, Dr. Philip Hong at Loyola University Chicago.

Who participates?
Anyone who participates in job training or job readiness programs provided by the partnering agencies with the research project. If you are interested in participating in the study, please speak with the employment specialist at your program for more information.

What is the procedures involved?
1) Survey: You will be asked to fill out a form of a self-administered questionnaire on four different time points. The survey questionnaire includes questions on demographic information, employment and educational history, and how you feel about yourself and your employment. All information will be kept strictly confidential.
2) Compensation: If you choose to participate, you will receive the $30.00 gift cards upon completion of your 2nd and 4th survey.
3) Time and location: The survey will take approximately 30 minutes and will take place at the agency where you are enrolled in a job training program.

Questions about the research study?
Please contact Dr. Philip Hong, Principal Investigator, at (312) 915-7447 or phong@luc.edu or Center for Research on Self-Sufficiency (CROSS), at (312) 915-7337 / CROSSCenter@luc.edu.
APPENDIX B

PSYCHOLOGICAL SELF-SUFFICIENCY SURVEY INSTRUMENT
Psychological Self-Sufficiency Survey

EB. After reading some statements about employment, please rank the following by circling a number on a scale of 1 to 5 according to how each item affects you securing a job. 1=Not a barrier and 5=Strong barrier.

<table>
<thead>
<tr>
<th></th>
<th>Not a barrier</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Having less than high school education</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Work limiting health conditions (illness / injury)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Lack of adequate job skills</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Lack of job experience</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Transportation</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Child care</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Racial discrimination</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Lack of information about jobs</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Lack of stable housing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Drug / alcohol addiction</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Domestic violence</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Physical disabilities</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Mental illness</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Fear of rejection</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
EB. Please rank the following by circling a number on a scale of 1 to 5 according to how each item affects you securing a job.

<table>
<thead>
<tr>
<th></th>
<th>Not a barrier</th>
<th></th>
<th></th>
<th></th>
<th>Strong barrier</th>
</tr>
</thead>
<tbody>
<tr>
<td>15.</td>
<td>Lack of work clothing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16.</td>
<td>No jobs in the community</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17.</td>
<td>No jobs that match my skills / training</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18.</td>
<td>Being a single parent</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19.</td>
<td>Need to take care of young children</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20.</td>
<td>Cannot speak English very well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21.</td>
<td>Cannot read or write very well</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22.</td>
<td>Problems with getting to job on time</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23.</td>
<td>Lack of confidence</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24.</td>
<td>Lack of support system</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25.</td>
<td>Lack of coping skills for daily struggles</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26.</td>
<td>Anger management</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27.</td>
<td>Past criminal record</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
### EII. After reading some statements about employment, please rank the following by circling a number on a scale of 0 to 10, where 0 indicates strong disagreement to the statement, 10 indicates strong agreement, and 5 indicates neutral.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Strongly agree</th>
</tr>
</thead>
</table>

1. Thinking about working, I feel confident about myself.
   0 1 2 3 4 5 6 7 8 9 10

2. I feel that I am good enough for any jobs out there.
   0 1 2 3 4 5 6 7 8 9 10

3. When working or looking for a job, I am respectful towards who I am.
   0 1 2 3 4 5 6 7 8 9 10

4. I am worthy of working in a good job.
   0 1 2 3 4 5 6 7 8 9 10

5. I am capable of working in a good job.
   0 1 2 3 4 5 6 7 8 9 10

6. I have the strength to overcome any obstacles when it comes to working.
   0 1 2 3 4 5 6 7 8 9 10

7. I can work in any job I want.
   0 1 2 3 4 5 6 7 8 9 10

8. I am good at doing anything in the job if I set my mind to it.
   0 1 2 3 4 5 6 7 8 9 10

9. I feel positive about how I will do in my future job situation.
   0 1 2 3 4 5 6 7 8 9 10

10. I don’t worry about falling behind bills in my future job.
    0 1 2 3 4 5 6 7 8 9 10

11. I am going to be working in a career job.
    0 1 2 3 4 5 6 7 8 9 10

12. I will be in a better position in my future job than where I am now.
    0 1 2 3 4 5 6 7 8 9 10

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<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Strongly agree</th>
</tr>
</thead>
</table>
13. I am able to tell myself to take steps toward reaching career goals.  
   0 1 2 3 4 5 6 7 8 9 10
14. I am committed to reaching my career goals.  
   0 1 2 3 4 5 6 7 8 9 10
15. I feel energized when I think about future achievement with my job.  
   0 1 2 3 4 5 6 7 8 9 10
16. I am willing to give my best effort to reach my career goals.  
   0 1 2 3 4 5 6 7 8 9 10
17. I am aware of what my skills are to be employed in a good job.  
   0 1 2 3 4 5 6 7 8 9 10
18. I am aware of what my resources are to be employed in a good job.  
   0 1 2 3 4 5 6 7 8 9 10
19. I am able to utilize my skills to move toward career goals.  
   0 1 2 3 4 5 6 7 8 9 10
20. I am able to utilize my resources to move toward career goals.  
   0 1 2 3 4 5 6 7 8 9 10
21. I am on the road toward my career goals.  
   0 1 2 3 4 5 6 7 8 9 10
22. I am in the process of moving forward toward reaching my goals.  
   0 1 2 3 4 5 6 7 8 9 10
23. Even if I am not able to achieve my financial goals right away, I will find a way to get there.  
   0 1 2 3 4 5 6 7 8 9 10
24. My current path will take me to where I need to be in my career.  
   0 1 2 3 4 5 6 7 8 9 10
SS. Think about your personal economic situation over the *past 3 months*. For each of the following items, circle the number that most clearly indicates where you rate yourself, using the scale:

<table>
<thead>
<tr>
<th>My financial situation allows me to</th>
<th>No, not at all</th>
<th>Occasionally</th>
<th>Sometimes</th>
<th>Most of the time</th>
<th>Yes, all of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Meet my obligations</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Do what I want to do, when I want to do it</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Be free from government programs like AFDC, Food Stamps, general assistance, etc.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Pay my own way without borrowing from family or friends</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Afford to have a reliable car</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Afford to have decent housing</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Buy the kind and amount of food I like</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8. Afford to take trips</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9. Buy &quot;extras&quot; for my family and myself</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10. Pursue my own interests and goals</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11. Get health care for myself and my family when needed</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12. Put money in a savings account</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>13. Stay on a budget</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14. Make payments on my debts</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15. Afford decent child care (leave blank if you don’t have children)</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
R. Please rate how you felt over the past month. 0=Not True At All  1=Rarely True  2=Sometimes True  3=Often True  4=True Nearly All of the Time

<table>
<thead>
<tr>
<th>Not true at all</th>
<th></th>
<th></th>
<th></th>
<th>True nearly all the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Able to adapt to change</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2. Tend to bounce back after illness or hardship</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

SEF. Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle 5. If you agree with the statement, circle 4. If you disagree, circle 2. If you strongly disagree, circle 1. If you neither agree or disagree, circle neutral.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I will be able to achieve most of the goals that I have set for myself.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2. When facing difficult tasks, I am certain that I will accomplish them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3. In general, I think that I can obtain outcomes that are important to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4. I believe I can succeed at most any endeavor to which I set my mind.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5. I will be able to successfully overcome many challenges.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6. I am confident that I can perform effectively on many different tasks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. Compared to other people, I can do most tasks very well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. Even when things are tough, I can perform quite well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
GR. Please respond to the following 8 items. Be honest – there are no right or wrong answers!

<table>
<thead>
<tr>
<th></th>
<th>Not like me at all</th>
<th>Not much like me</th>
<th>Somewhat like me</th>
<th>Mostly like me</th>
<th>Very much like me</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. New ideas and projects sometimes distract me from previous ones.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Setbacks (delays and obstacles) don't discourage me. I bounce back from disappointments faster than most people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. I have been obsessed with a certain idea or project for a short time but later lost interest.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. I am a hard worker.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. I often set a goal but later choose to pursue (follow) a different one. I have difficulty maintaining (keeping) my focus on projects that take more than a few months to complete.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. I finish whatever I begin.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. I am diligent (hard working and careful).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

SPR. As was the case with one of the above questions, the following six questions use a 0 to 10 response key in which 0 corresponding to an absence or zero amount of the attribute, while 10 corresponds to the maximum amount of the attribute. Please circle the number along the continuum that best reflects your initial feeling. Spirituality refers as your relationship to God.

1. In terms of the questions I have about life, my spirituality answers

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Absolutely all my questions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Growing spiritually is

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>More important than anything else in my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Of no importance to me</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. When I am faced with an important decision, my spirituality

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plays absolutely no role</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Is always the overriding consideration</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Page 7 of 16
4. Spirituality is

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>The master motive of my life.</td>
<td>directing every other aspect of my life</td>
<td>Not part of my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5. When I think of the things that help me to grow and mature as a person, my spirituality

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has no effect on my personal growth</td>
<td>Absolutely the most important factor in my personal growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. My spiritual beliefs affect

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absolutely every aspect of my life</td>
<td>No aspect of my life</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SSP. This scale is made up of a list of statements each of which may or may not be true about you. For each statement circle "definitely true" if you are sure it is true about you and "probably true" if you think it is true but are not absolutely certain. Similarly, you should circle "definitely false" if you are sure the statement is false and "probably false" if you think it is false but are not absolutely certain.

<table>
<thead>
<tr>
<th>Definitely false</th>
<th>Probably false</th>
<th>Probably true</th>
<th>Definitely true</th>
</tr>
</thead>
</table>

1. If I wanted to go on a trip for a day (for example, to the country or mountains), I would have a hard time finding someone to go with me.

2. I feel that there is no one I can share my most private worries and fears with.

3. If I were sick, I could easily find someone to help me with my daily chores.

4. There is someone I can turn to for advice about handling problems with my family.

5. If I decide one afternoon that I would like to go to a movie that evening, I could easily find someone to go with me. When I need suggestions on how to deal with a personal problem, I know someone I can turn to.

6. I don't often get invited to do things with others.

Revised on 9/01/2013
If I had to go out of town for a few weeks, it would be difficult to find someone who would look after my house or apartment (the plants, pets, garden, etc.).

If I wanted to have lunch with someone, I could easily find someone to join me.

If I was stranded 10 miles from home, there is someone I could call who could come and get me.

If a family crisis arose, it would be difficult to find someone who could give me good advice about how to handle it.

If I needed some help in moving to a new house or apartment, I would have a hard time finding someone to help me.

F. In the course of our lives negative things may occur because of our own actions, the actions of others, or circumstances beyond our control. For some time after these events, we may have negative thoughts or feelings about ourselves, others, or the situation. Think about how you typically respond to such negative events. Next to each of the following items write the number (from the 7-point scale below) that best describes how you typically respond to the type of negative situation described. There are no right or wrong answers. Please be as open as possible in your answers.

<table>
<thead>
<tr>
<th>Almost always false of me</th>
<th>More often false of me</th>
<th>More often true of me</th>
<th>Almost always true of me</th>
</tr>
</thead>
</table>

1. Although I feel bad at first when I mess up, over time I can give myself some slack.

2. I hold grudges against myself for negative things I’ve done.

3. Learning from bad things that I’ve done helps me get over them.

4. It is really hard for me to accept myself once I’ve messed up.

5. With time I am understanding of myself for mistakes I’ve made.

Revised on 9/01/2013
<table>
<thead>
<tr>
<th></th>
<th>Almost always false of me</th>
<th>More often false of me</th>
<th>More often true of me</th>
<th>Almost always true of me</th>
</tr>
</thead>
<tbody>
<tr>
<td>6. I don’t stop criticizing myself for negative things I’ve felt, thought, said, or done.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7. I continue to punish a person who has done something that I think is wrong.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8. With time I am understanding of others for the mistakes they’ve made.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9. I continue to be hard on others who have hurt me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10. Although others have hurt me in the past, I have eventually been able to see them as good people.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11. If others mistreat me, I continue to think badly of them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12. When someone disappoints me, I can eventually move past it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13. When things go wrong for reasons that can’t be controlled, I get stuck in negative thoughts about it.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14. With time I can be understanding of bad circumstances in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15. If I am disappointed by uncontrollable circumstances in my life, I continue to think negatively about them.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16. I eventually make peace with bad situations in my life.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. It’s really hard for me to accept negative situations that aren’t anybody’s fault.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. Eventually I let go of negative thoughts about bad circumstances that are beyond anyone’s control.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Question</td>
<td>Answer 1</td>
<td>Answer 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Are you employed?</td>
<td>No 0</td>
<td>Yes 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(If no, skip to Question 2)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(If yes, continue answering the following)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-1. How long have you been employed in this job?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>years: _________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>months: _________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>days: _________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2. What is your hourly wage from this job?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per hour: _________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3. Does your employer provide health insurance in this job?</td>
<td>No 0</td>
<td>Yes 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-4. Does your employer provide pension in this job?</td>
<td>No 0</td>
<td>Yes 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are you able to pay all your bills with your income?</td>
<td>No 0</td>
<td>Yes 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. How many <em>children under 18</em> do you live with?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>children: _________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. How many <em>adults</em> live in your household (including you)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>adults: _________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. How many <em>earners</em> are there in your household?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>earners: _________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Roughly speaking, what was your total household income in the past year?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>per year: _________</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Are you currently receiving welfare benefits (TANF/ SNAP/ WIC/ LINK/ Medicaid)?</td>
<td>No 0</td>
<td>Yes 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. What is your marital status?</td>
<td>Married, spouse present 0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Married, spouse absent 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Never Married 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Separated 3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Revised on 9/01/2013
Divorced 4
Widowed 5

9. Type of housing:
   Rental 0
   Own home / condo 1
   No home 2
   Assisted housing 3
   Other (specify) ____________________________________ 4
   Living with family or friend 5

10. Do you consider yourself hopeful for the future?
    No 0
    Yes 1

11. Do you think your life will be better, worse, the same, or don’t know in:

    |          | Worse (0) | Same (1) | Better (2) | Don’t know (3) |
    |----------|-----------|----------|------------|---------------|
    | 11-1     | 1 month   | 0        | 1          | 2             | 3             |
    | 11-2     | 6 month   | 0        | 1          | 2             | 3             |
    | 11-3     | 1 year    | 0        | 1          | 2             | 3             |
    | 11-4     | 5 years   | 0        | 1          | 2             | 3             |

12. What is your age?
   12-1. I was born in year

13. What is your gender?
    Male 0
    Female 1

14. What is your race / ethnicity?
    Native American or Alaska Native 0
    Asian or Pacific Islander 1
    Black or African American 2
    White or European American 3
    Non-White Hispanic 4
    Bi- / multi-racial 5
    Other (specify): ____________________ 6

Revised on 9/01/2013
15. How many years of education have you received? Years ____
   (12th grade=12 years)

16. What level of education did you complete? Less than High School 0
   High-School / GED 1
   Some College but no degree 2
   Diploma or certificate from vocational, technical or trade school 3
   Associates Degree 4
   Bachelors Degree 5
   Masters Degree 6
   Professional School Degree 7
   Doctorate 8

17. How many years of professional job training have you had? Years ________

18. Thinking about your religious faith, would you describe yourself as:
   Protestant 0
   Catholic 1
   Jewish 2
   No faith at all 3
   Some other type of faith (please list) ____________________________ 4

19. How often do you attend religious services? Never 0
   Once or twice a year 1
   Monthly 2
   Weekly 3
   A few times a week 4
   Daily 5

Revised on 9/01/2013
1. In general, would you say your health is:

<table>
<thead>
<tr>
<th>Excellent</th>
<th>Very good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

2. Compared to one year ago, how would you rate your health in general now?

<table>
<thead>
<tr>
<th>Much better now</th>
<th>Somewhat better</th>
<th>About the same</th>
<th>Somewhat worse</th>
<th>Much worse now</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

**RD1.** The following items are about activities you might do during a typical day. Does your health now limit you in these activities? If so, how much?

<table>
<thead>
<tr>
<th>Vigorous activities, such as running, lifting heavy objects, participating in strenuous sports</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate activities, such as moving a table, pushing a vacuum cleaner, bowling, or playing golf</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Lifting or carrying groceries</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Climbing several flights of stairs</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Climbing one flight of stairs</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Bending, kneeling, or stooping</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Walking more than a mile</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Walking several blocks</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Walking one block</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Bathing or dressing yourself</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

**RD2.** During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of your physical health?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

13. Cut down the amount of time you spent on work or other activities

14. Accomplished less than you would like

15. Were limited in the kind of work or other activities

16. Had difficulty performing the work or other activities (for example, it took extra effort)
RD3. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Cut down the amount of time you spent on work or other activities</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>18. Accomplished less than you would like</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>19. Didn’t do work or other activities as carefully as usual</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

RD4. During the past 4 weeks, have you had any of the following problems with your work or other regular daily activities as a result of any emotional problems (such as feeling depressed or anxious)?

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Slightly</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>20. During the past 4 weeks, to what extent has your physical health or emotional problems interfered with your normal social activities with family, friends, neighbors, or groups?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Very mild</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. How much bodily pain have you had during the past 4 weeks?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>A little bit</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>22. During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

RD5. These questions are about how you feel and how things have been with you during the past 4 weeks. For each question, please give the one answer that comes closest to the way you have been feeling.

How much of the time during the past 4 weeks...

<table>
<thead>
<tr>
<th></th>
<th>All of the time</th>
<th>Most of the time</th>
<th>A good bit of the time</th>
<th>Some of the time</th>
<th>A little of the time</th>
<th>None of the time</th>
</tr>
</thead>
<tbody>
<tr>
<td>23. Did you feel full of pep?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>24. Have you been a very nervous person?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>25. Have you felt so down in the dumps that nothing could cheer you up?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>26. Have you felt calm and peaceful?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>27. Did you have a lot of energy?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>
28. Have you felt downhearted and blue?  
29. Did you feel worn out?  
30. Have you been a happy person?  
31. Did you feel tired?  

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Have you felt downhearted and blue?</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Did you feel worn out?</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Have you been a happy person?</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Did you feel tired?</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

32. During the past 4 weeks, how much of the time has your physical health or emotional problems interfered with your social activities (like visiting with friends, relatives, etc.)?  

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>During the past 4 weeks, how much of the time has your physical health</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>or emotional problems interfered with your social activities (like</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>visiting with friends, relatives, etc.)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RD6. How TRUE or FALSE is each of the following statements for you.  

<table>
<thead>
<tr>
<th>Statement</th>
<th>Scale</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. I seem to get sick a little easier than other people</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>34. I am as healthy as anybody I know</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>35. I expect my health to get worse</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>36. My health is excellent</td>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Thank you very much!
APPENDIX C

CONSENT TO PARTICIPATE IN RESEARCH
Loyola University in Chicago
820 N. Michigan Ave. Lewis Towers 1200. Chicago, IL 60611
(Tel): 312-915-7447 / (Fax): 312-915-7645

INFORMED CONSENT FORM

Project Title: Evaluation of Empowerment Pathways to Self-Sufficiency in Health Professions Career Development for Low-Income Individuals

Principal Investigator: Dr. Philip Hong, Associate Professor, School of Social Work
(312)915-7447; phong@luc.edu

Co-Investigator(s): Dr. Terri Pigott, Professor, School of Education
Dr. Timothy O’Brien, Department of Mathematics and Statistics

Sponsor: U.S. Department of Health and Human Services / ACF / OPRE

INTRODUCTION
You are invited to participate in a longitudinal research study evaluating psychological transformation and self-sufficiency in workforce development. You were selected as a possible participant in this research because you have enrolled in job training programs.

Research studies are designed to learn new things. This information may help the agency you are working with improving their job training programs. Research studies involve benefits and risks. Details of this study are discussed below. Please take your time reading carefully the information below before making your decision on whether or not to participate. Please feel free to ask any questions to the study researcher or the study staff if there are any concerns or words that you do not clearly understand. If you decide to participate, you will be asked to sign this form and will receive a copy of the form.

PURPOSE OF THE STUDY
The purpose of this study is to examine the extent to which psychological transformation affects one’s employment placement and long-term self-sufficiency outcomes. This study is being conducted by the Principal Investigator, Dr. Philip Hong,
Associate Professor, School of Social Work at Loyola University in Chicago. Approximately 2,000 people are expected to participate in this research.

PROCEDURE
If you decide to participate, you will be asked to complete a survey on four different time points (start of program, end of program, employment, and 6 months after employment). The survey questionnaire includes questions on demographic information, employment and educational history, and how you feel about yourself and your employment. It will take approximately 30-45 minutes to complete a survey on each time point. The research team will work closely with the job training program to contact you at the appropriate survey time.

DISCOMFORTS AND RISKS
There are no foreseeable risks involved in participating in this survey beyond those experienced in everyday life. You may find that some of the questions are difficult to answer. Please keep in mind that there are no right or wrong answers. We are interested in your own thoughts and feelings. If any of the questions make you feel uncomfortable, you do not have to answer, and you may stay in the study even if you skip some of the questions. You may withdraw from the study at any time. Withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

BENEFITS
There will be no direct benefit to you for by participating in this study, but your answers would help us in understanding the effects of psychological transformation on one's employment placement and self-sufficiency outcome. In the long run, information collected in this survey may help shape future employment strategies to help the community.

COMPENSATION:
If you participate, you will receive the $30 gift cards upon completion of your 2nd and 4th surveys. In total, you may earn up to $60 if you are fully participate in our longitudinal...
study. You will receive this payment even if you withdraw from the study or choose not to answer all of the questions posed to you.

**COST OF PARTICIPATING:**
Your participation in this study will involve no cost to you.

**CONFIDENTIALITY:**
If you agree to participate in the study, we will keep all information private and confidential to the extent allowed by law. We will protect your confidentiality by using an ID number instead of your name to identify your interview information. Also we will keep all the collected data in a locked file cabinet and on a password-protected computer in Principle Investigator’s office located at Loyola University Chicago Water Tower Campus. Only authorized project team members will be allowed to access the collected data. In any written reports or publications, no one will be identified or identifiable and only group data will be presented. At the end of the study, all original reports and identifying information will be destroyed.

**VOLUNTARY NATURE OF THE STUDY:**
Your decision to participate or answer questions is completely voluntary and will have no effect on the benefits or services you are currently receiving from the job training program. At any time, you may decide to withdraw from the study. If you withdraw, no more information will be collected from you. If you indicate you wish to withdraw, the interviewer will ask you if the materials already collected in the study can be used.

**NEW INFORMATION:**
If during course of this research study we learn about new findings that might influence your willingness to continue participating in the study, we will inform you of these findings. Information from the study will be shared with the job training programs at various points throughout the study.
CONTACTS AND QUESTIONS:
If you have any questions, please feel free to contact the primary investigator of the study, Dr. Philip Hong, at (312) 915-7645 or email phong@luc.edu or the project coordinator, Whitney Key, at (312) 915-7337 or email wkey@luc.edu.

If you have other questions or concerns regarding the study and would like to talk to someone other than the researcher(s), you may also contact The Office of Research Services at Loyola University in Chicago at 773-508.2471 or send e-mail to ors@luc.edu.

You may keep a copy of this form for your records.

STATEMENT OF CONSENT:
I have read this form and the research study has been explained to me. I have been given the opportunity to ask questions and my questions have been answered. If I have additional questions, I have been told whom to contact. By signing this form, I agree to participate in the data collection of the study. I will receive a copy of this consent form after I sign it.

Participant’s Name (printed) and Signature            Date

Name (printed) and Signature of Data Collector            Date

Loyola University Chicago Lakeside Campuses
Institutional Review Board for The Protection of Human Subjects
Date of Approval: 09/16/2013
Approval Expires: 07/31/2014
APPENDIX D

LETTERS OF COOPERATION
July 27, 2011

University Partnership Research Grants for HPOG Program
c/o ICF International
9300 Lee Highway
Fairfax, VA 22031

Dear Review Committee,

The Gateway Technical College District would like to collaborate with Drs. Philip Hong (PI), Terri Pigott (co-PI), and Tim O’Brien (co-PI) at Loyola University Chicago in our joint effort to evaluate a successful pathway to economic self-sufficiency among TANF recipients and other eligible low-income individuals. We will support collection of data at four time intervals, consistent with HPOG PPR data collection, and monitor changes in our clients over the course of the program and as they strive to find well-paying jobs in the health profession and maintain employment for at least 6 months.

The Gateway Technical College District is one of the HPOG grantees from ACF Region V. We work with communities in Kenosha, Racine, and Walworth counties in Wisconsin to ensure economic growth and viability by providing education, training, leadership, and technological resources to meet the changing needs of students, employers, and communities. Gateway offers instructional programs from its campuses and through distance learning opportunities, such as online courses, to approximately 29,000 students annually. Approximately 5,000 full time equivalent students are registered in over 65 career training programs.

Our evidence from many years of interactions with students indicates that there is a significant level of psychological transformation that occurs during their educational work at Gateway that ultimately contributes to their long-term success. Dr. Hong and his team propose to evaluate this transformational process among our HPOG students using some intermediate psychological self-sufficiency metrics as key milestones (i.e., perceived employment barriers, employment hope, self-assessed economic self-sufficiency, etc.) on their way to reaching their academic and employment success outcomes. We are excited to work with Dr. Hong and the team at Loyola University to empirically validate this empowerment pathway to economic self-sufficiency.

We will collect relevant data from each of our 60 enrolled HPOG funded students in health profession track per year for four years, a total of 240 students. Each student will be evaluated at four time points (intake, program, graduation, and 6-month follow up) along with the PPR data. This data will be kept at Gateway and Dr. Hong will conduct secondary data analyses of this data along with information from the PPR, with no identifying personal information. We hope that the results from these
analyses will provide a strong evidence-based model to help individuals and families break out of intergenerational poverty.

We are truly enthusiastic about this project and look forward to a long-term collaboration with Dr. Hong and his team of researchers at Loyola University Chicago.

Sincerely,

[Bryan's signature]

Bryan D. Albrecht
President
July 27, 2011

University Partnership Research Grants for HPOG Program  
c/o ICF International  
9300 Lee Highway  
Fairfax, VA 22031  

Dear Review Committee,

The Southland Health Care Forum, a Grantee of the HPOG program from Region V would like to express support for Dr. Philip Hong’s University Partnership Research Grant for HPOG application. As a collaborating institution, we are excited to partner with Dr. Hong and his research team at Loyola University Chicago on evaluating our program success. We understand the importance of investigating the psychological strengths and student transformation as they build careers in the health professions. His prior work in workforce development among low-income individuals and families will help highlight the aspect of our program that often does not get accounted in the overall success of our students.

The Forum was incorporated in 2003 as a 501 (C)(3) not for profit organization to assist area hospitals, clinics, laboratories, physician offices, nursing homes, and other healthcare providers to address the many faceted medical issues facing the Southland region. A group of ten area hospitals became the catalyst for the work the Southland Health Care Forum continues to do today. The Southland region, like most, has a variety of needs that must be met to achieve growth and financial stability. During its formation, the Forum leaders learned of a need for healthcare workers to fill the many openings available within the region. Seeing this as a perfect match, the Forum began offering occupational healthcare training to fill this void.

Our aim to help students overcome employment barriers and achieve economic self-sufficiency and financial stability in the health profession is consistent with the main purpose of Dr. Hong’s study. Dr. Hong proposes to generate data to inform best practices in promoting empowerment pathways to economic self-sufficiency for low-income individuals and families. His team will collaborate with us to complement the PPR data by adding additional survey questions on psychological self-sufficiency. The scales measuring perceived employment barriers and employment hope have recently been validated by his recent research and these metrics will be incorporated into the survey, which will follow the data collection schedule of PPR. We are committed to jointly examining the ways in which these psychological strength traits contribute to program completion, employment, and various measures of economic self-sufficiency.
In support of the study, we will assist in collecting data from students by having them participate in the survey at four stages of the PPR data collection—intake, program, termination, and 6 month follow up. Expected outcome is monitoring the transformational process that helps our students achieve economic self-sufficiency. We hope that our findings will assist other programs to begin looking at the effectiveness of their staffs’ tireless effort to coach their students beyond their skills training and education. Our past evaluations have not been able to take into account the great work of staff that is integral to strengthening the mindset of our students, particularly improving their self-esteem, self-efficacy, future orientation, goal setting, etc. Dr. Hong and his research team at Loyola University Chicago will help us conduct a strength-based evaluation of our program.

We are very excited about this collaborative evaluation project and look forward to a long-term relationship with Dr. Hong. It is my hope that funding will be allocated to this collaborative effort to support his research.

Sincerely,

Maria Benitez-Crews, MA
Chief Operations Officer
Southland Health Care Forum
708-756-1000, Ext. 3443
708-756-9986, Fax
APPENDIX E

APPROVAL FOR DATA USE FOR DISSERTATION
Data Use Agreement

Center for Research on Self-Sufficiency (the “CROSS” or “Data Provider”) agrees to provide Mr. Jang Ho Park (the “Student” or “Data User”) with the following data:

1) Psychological self-sufficiency (PSS) survey data from the Health Profession Opportunity Grant (HPOG) 1.0. CROSS allows Student to use the PSS survey instrument as part of his dissertation work. All de-identified individual-level PSS survey data collected on study participants will be shared with Student for a secondary data analysis and reporting of subsequent findings on his dissertation.

These data will be used for the dissertation entitled “Social Determinants of Economic Self-Sufficiency (ESS) in Health Profession Opportunity Grants (HPOG): Focusing on the Process of Health Care Career Pathways” at Loyola University Chicago (the “Study”).

The project is a secondary analysis of CROSS PSS data that includes information on the PSS instrument (employment hope and perceived employment barriers), self-efficacy, and self-esteem, and other demographic data.

Data under 1) above will be analyzed to determine the effect of PSS on economic self-sufficiency (ESS) and employment outcomes.

Both parties (CROSS and Student) will analyze the data as part of the Study to determine the impact of client PSS on ESS and employment outcome.

CROSS • Data Provider

By:

Philip Hong, Ph.D.
(Typed Name)
Director, CROSS
(Title)
July 8, 2019
(Date)

Student • Data User

By:

Jang Ho Park, MSW
(Typed Name)
Doctoral Student
(Title)
July 11, 2019
(Date)
APPENDIX F

THE HPOG UNIVERSITY PARTNERSHIP RESEARCH GRANTS CROSS PROJECT

BRIEF
The HPOG University Partnership Research Grants

Introduction
The Health Profession Opportunity Grants (HPOG) Program, established by the Patient Protection and Affordable Care Act of 2010 (ACA), funds training in high-demand healthcare professions targeted to Temporary Assistance for Needy Families (TANF) recipients and other low-income individuals. In 2010, the Administration for Children and Families (ACF) of the U.S. Department of Health and Human Services awarded grants for five-year project periods to 32 HPOG grantees in 23 states.

ACF's Office of Planning, Research and Evaluation (OPRE) is using a multi-pronged research and evaluation strategy to assess the success of the HPOG Program. The research and evaluation activities examine program implementation, systems change resulting from HPOG programs, and outcomes and impacts for participants. The HPOG University Partnership Research Grants (HPOGUP) are one component of OPRE's strategy. HPOGUP funds studies conducted by university researchers that have partnered with one or more HPOG grantees to answer specific questions about how to improve HPOG services within local contexts. This brief presents an overview of each HPOGUP grant and discusses the contributions these studies are making to the body of knowledge regarding the education and training, employment, and advancement of low-income job-seekers.

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<tr>
<th>Grantee Partnership Information</th>
<th>Program Partner Context</th>
<th>HPOGUP Research Study</th>
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<td><strong>State</strong></td>
<td><strong>Program Partner</strong></td>
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<td>Florida University</td>
<td>New Hampton's Health and Human Services Agency</td>
<td>Qualitative in-depth interviews with healthcare employers, job development staff, and former HPOG grantees</td>
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<td>TANF recipients, low-income individuals</td>
<td>100 interviews</td>
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<td>Nursing Assistants, Registered Nurses, Licensed and Vocational Nurses</td>
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<td><strong>Program Size</strong></td>
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<td><strong>Primary Focus</strong></td>
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<td>New Hampton's Health and Human Services Agency</td>
<td>Qualitative in-depth interviews with healthcare employers, job development staff, and former HPOG grantees</td>
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<td>Medical Assistants, Licensed Practical Nurses</td>
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<td>Nursing Assistants, Registered Nurses</td>
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<td>North Dakota State University</td>
<td>Community Outreach Program</td>
<td>Qualitative in-depth interviews with healthcare employers, job development staff, and former HPOG grantees</td>
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<td><strong>Research Sample Size</strong></td>
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*Healthcare training offered displays the top three healthcare training Standard Occupational Classification (SOC) codes for which the largest number of participants began training. Data comes from the HPOG Performance Reporting System (PRS), a participant-tracking and management system used by all HPOG grantees, and was as of September 2018. Participants who began training between the first and second years of grant operations were included in this table. Program size is the number of new enrollees each year. Research sample size is based on the number of interviews conducted by the research team. The PRS was implemented at the beginning of Year 2 of the program; an additional 211 participants were reported as enrolled Year 1 across all HPOG grantees, before the PRS started, but were never entered into the PRS. They are not included in this table.*
Brandeis University and its HPOG program partner, the New Hampshire Office of Minority Health and Refugee Affairs (OMHRA), identified the need for a different kind of collaboration with employers in order to support the training, hiring, retention and advancement of racial, ethnic, and linguistic minorities entering or seeking to advance in healthcare professions through the New Hampshire Health Profession Opportunity Project (HPOG). The U.S. workforce is increasingly diverse, and this trend is true for New Hampshire as well. Yet, many diverse populations face institutionally-based challenges in hiring, retention, or advancement in their careers despite their own efforts and motivation. This study focuses on the complementary processes of organizational change in the workplace and workforce development, as well as the role of key community stakeholders in supporting a diverse workforce. The dual purpose are to reduce health disparities and to increase employment career pathways to ensure a diverse and stable workforce.

Brandeis conducted 100 in-depth, qualitative interviews of NH healthcare employers, job developers, and incumbent healthcare workers to identify and understand barriers and opportunities for developing a diverse workforce and related career mobility pipeline. Through a series of discussions with industry associations and project partners about these findings, IASP engaged key stakeholders to shape new and existing training programs, support employer staff diversity efforts, and leverage new funding opportunities for research and sustainability of this work. Project reports, issue briefs, and forthcoming case studies draw from the analysis of the qualitative data and national research to provide guidance for employers, workforce development educators, community leaders, and healthcare associations, with particular applicability for the NH context.

Overall findings emerging through this work can inform practical and actionable recommendations. First, today’s health career paths are non-linear, and are shaped by personal and professional networks. In many situations and contexts, diverse health professionals have to work harder to access and leverage these networks. Training and education alone cannot overcome these structural issues. Second, the development of a diversity-focused workforce requires all staff positions and levels in healthcare to have explicit and intentional collaboration, communication, and sharing of resources between employers, educators, community leaders, and the public sector.

The North Dakota State University School of Nursing partnered with the Cankdeska Cikana Community College HPOG program, “Next Steps,” to engage in research projects with the intent of 1) identifying best practices for supporting the recruitment and retention of American Indian students into professional nursing programs in North Dakota, and 2) exploring how to encourage interest in health careers among American Indian youth.

State nursing educators and employers were convened through annual conferences to generate ideas and strategies for improving the recruitment, retention, and employment of American Indian students in the nursing profession. Thirty-five multi-disciplinary professionals generated 184 items that were reduced to 32 strategies and six themes; a conceptual model was created based on this data and has been used as the foundation for ongoing research in this area. Video interviews were conducted with Next Steps student nurses and mentors to identify promising practices used by Next Steps to support student success; excerpts have been used to develop multiple Recruitment and Retention of American Indians into Nursing videos. An oral history project, Voices of American Indians in Nursing, was also completed with 13 nurses representing multiple generations and career choices. Videos from the interviews is being used to produce a documentary, which can be used as a recruitment tool.

To encourage American Indian students’ interest in health careers, a series of educational opportunities were initiated and evaluated. For example, Health Careers For You was geared for 11-14 year olds and taught by medical students, residents, and faculty from the Ichan School of Medicine at Mount Sinai and the Mailman School of Public Health at Columbia University. Project post-tests, course evaluations, and focus groups were used to assess curriculum content and student engagement. Findings underscore the need for better data about youth perceptions of education and employment. To that end, 12 high schools located on or near North Dakota Indian Reservations were surveyed using a combined Education and Employment Hope survey. Over 500 students completed the survey. The data will be of value to local schools and tribal nations, and will provide a comprehensive look at American Indian students as a whole in terms of their aspirations and perceived self-sufficiency.
Loyola University of Chicago (LUC) partnered with three HPOG grantees from ACF Region V—(1) Gateway Technical College in Kenosha, WI; (2) Southland Health Care Forum in Chicago Heights, IL; and (3) Instituto del Progreso Latino in Chicago, IL—to evaluate empowerment-based workforce development models (the extent to which one’s psychological self-sufficiency (PSS) affects one’s economic self-sufficiency (ESS), employment placement, and retention outcomes in health professions).

Program participants were asked to participate in surveys at four different time points (start of program, middle of program, end of program, and follow-up). The surveys collected basic demographic information and measured employment-related intrapersonal and non-cognitive skills and perceived barriers to employment. A series of rigorous statistical analyses were conducted to develop the PSS metric and to test the extent to which PSS contributes to economic outcomes. The PSS metric is comprised of employment hope, measured by the Short Employment Hope Scale, and perceived employment barriers, measured by the Perceived Employment Barrier Scale. ESS was measured by the WEN Economic Self-Sufficiency Scale. As of April 2015, 833 students (62% of total participating HPOG students at the partner sites) had completed the first survey, 577 (69%) the second survey, and 326 (58%) the third survey. Over the four survey points, about 70% reported having increased their employment hope and 57% reported having decreased their perceived employment barriers. As hypothesized, results indicated that PSS significantly contributes to ESS—specifically, increases in PSS lead to growth in ESS outcomes. This suggests that workforce development practitioners should focus on clients’ PSS when working with them to achieve ESS outcomes.

LUC also conducted seven focus groups of staff, employers, alumni, and current students from two HPOG program partner sites to supplement the quantitative data. The study used this qualitative data to further examine the extent to which HPOG program participation affected PSS and to explore what key programmatic components of HPOG significantly influence economic success. Participants reported that the HPOG program has helped them overcome fear and build confidence and a sense of achievement in their pursuit of a healthcare career. They felt the HPOG program was a “once in a lifetime” opportunity that has made a lasting impact on their lives. They underscored holistic staff support—characterized by accessibility, accountability, and encouragement—as a critical program component. From the qualitative data, it appears that PSS at the individual student level is nurtured and sustained through the support the HPOG program provides, namely instructors, tutors, program staff, and peer groups.

Building Capacities/Making Connections (BC/MC) is a collaborative effort between the Temple University, School of Social Work and its Center for Social Policy and Community Development (CSPCD) in order to study the Center’s HPOG training program—“Health Information Professions Career Pathways Initiative (HIP).” This research examines issues pertaining to: (1) training participants’ increased workforce capacities and access to labor market opportunities; (2) participants’ pre-existing and enhanced networks, positive and negative in nature, that impact career development success; (3) whether participant engagement in the HIP project is helped and/or hindered by these networks; (4) how these networks may be positively affected by virtue of participation in HIP; and (5) how participants’ community contexts facilitate challenges and opportunities for employment performance and network enhancement.

This mixed method study collected community and individual level training participant data. BC/MC conducted in-depth interviews with 161 out of 202 HIP program participants across 10 cohorts at the start of their training. Follow-up interviews are conducted at time of exit and at six-month intervals in order to document changes in employment, networks, and engagement. The interview protocol, designed specifically for this research, combines the Arizona Social Support Inventory with items from several social capital/engagement surveys, and focuses on participant social support networks, community involvement, and trust in various social institutions. Those data are augmented by information from six participant alumni focus groups and individual interviews with HIP training staff. Finally, GIS mapping was done in order to generate community profiles for the 161 participants.

The overall findings indicate that participants are caught in “urban silos” (sparsely populated neighborhoods and networks) that significantly curtail access to opportunities, including the labor market. Specifically, they have small networks that do not connect them with needed resources for employment success and reside in economically depleted communities with few avenues into viable labor markets. Moreover, participants tended not to recognize the potential to develop or enhance networks through training program contacts. These findings suggest that in addition to the development of individual skills (human capital), training programs need to understand the social networks of participants and proactively develop specific labor market networking opportunities (social capital) rather than assume that participants will be able to build such bridges on their own.
Educational disadvantage sets both parents and children up for increased economic hardship and limited the opportunities over time. Two-generation programs are designed to address this dual disadvantage by serving the educational (and by association income) needs of parents and children at the same time. CAP Tulsa is an anti-poverty agency in Tulsa, Oklahoma that embraces a two-generation approach for families, offering Head Start services for young children and stackable career training for their parents. Known as CareerAdvance® Healthcare, the program prepares parents for high-demand careers in nursing, healthcare technologies, and medical assisting, among others, and supports them with intensive and high quality social and financial supports. These include: career coaching, family support, small peer cohorts, tuition coverage for college coursework, and incentives for school attendance and performance. The CAP Family Life Study is a quasi-experimental, mixed-methods study of the implementation and effectiveness of CAP Tulsa's CareerAdvance® Healthcare program, led by Northwestern University's Institute for Policy Research with the University of Texas at Austin's Ray Marshall Center and in collaboration with researchers from New York University and Columbia University.

The full research sample includes 338 parents: 160 CareerAdvance® Healthcare participants and 178 in a matched comparison group who have equivalent levels of motivation for healthcare training and similar demographic characteristics. Research team members used a broad array of data sources in this effort, including parent surveys, child and parent assessments, teacher questionnaires, focus groups, in-depth parent interviews, regular CAP Tulsa and partner agency interviews, and agency administrative data. The study participants come from diverse racial and ethnic backgrounds and have relatively low levels of education and employment rates at baseline. The main evaluation of CareerAdvance® Healthcare is on-going; however, preliminary analyses find evidence that persistence in the CareerAdvance® Healthcare program is high compared to other job training programs. After 18 months of participation, 78 percent of parents achieved at least one career training certificate in the healthcare field and nearly 30 percent received more than one certificate (Sabol, et al., under review).
CONSIDERATIONS FOR POLICY & PRACTICE

Though each of the HPOUP studies employs unique, mixed-methods approaches to answer different research questions, collectively the studies contribute to the body of knowledge on factors that affect the education and training, employment, and advancement of low-income individuals seeking jobs in the health sector. Based on the preliminary findings, the studies’ investigators collaborated to develop several recommendations for local education and training programs, and state and federal agencies to consider in order to apply this knowledge.

Enhance Individual and Social Supports in Workforce Training Programs

- Implement a combination of individual coaching, mentoring, and peer groups to expand participants’ social networks and supports, which can help participants enhance their psychological self-sufficiency and progress toward education and employment goals, and economic self-sufficiency.
- Assemble a team of program staff with collective expertise in education, training, employment, and supportive services, and have them deliver their support to participants through an intensive and well-coordinated client-centered service delivery model.
- Teach networking skills and facilitate opportunities for participants to apply these skills and expand their networks to include positive ties that can provide pathways into labor markets.
- Support job retention and advancement by providing post-training support through, for example, alumni groups, networking opportunities, and the provision of career guidance.

Engage Employers as Partners

- Facilitate communication and collaboration between employers and education and training providers to identify and provide training for skills critical to employment, including “soft skills” or “work readiness skills.”
- Work with hiring managers and Human Resources departments to establish effective methods for screening and interviewing candidates to identify desired skills and reduce potential bias when hiring low-income and/or diverse professionals.
- Provide tools to assist employers in becoming culturally competent organizations with an appreciation of the benefits of workforce diversity and knowledge of employment strategies that can maximize these benefits to improve the workplace environment and quality of care.
- Work with employers to support career advancement in the workplace through continued professional development, education, and training for staff; articulated career pathways; and organizational policies designed to ensure equity of opportunity at all levels.

Create and Apply Knowledge through Research-Program Partnerships

- Recognize the mutually beneficial nature of research-program partnerships and support them at an early stage.
- Encourage research partners to maintain an ongoing presence at program sites to provide technical assistance in preserving the integrity of the research, and to foster a culture of data understanding and use.
- Establish continuous feedback loops for research partners to share key insights and findings with program partners and other stakeholders to support continuous program improvement, and for program partners to provide contextual information to assist research partners with interpreting and understanding findings.

Improve Data Collection and Utilization to Support Research and Practice

- To help ensure the collection of consistent and reliable data, coordinate data collection activities with concurrent program outreach and activities schedules. Instructor awareness of and buy-in for the research can also facilitate the collection of high-quality follow-up data.
- Fully engage employer sites in collaborative research partnerships to enhance post-placement data collection, which can, in turn, help to more effectively demonstrate the impact of education and training programs.
- Support the collection and analysis of workforce diversity data at the organizational, sector, and state levels as a first step towards equity of opportunity in health professions.
- Set clear expectations with program partners about the timing of impact results, emphasizing the need to prevent program or research bias from premature results sharing, while also attending to a program’s need to use impact results to sustain or expand funding.
Federal Project Officers:  
Hilary Forster  
Mary Muoggenborg  

Office of Planning, Research and Evaluation  
Administration for Children and Families  
U.S. Department of Health and Human Services  

Contract number: HHSP23320095636WC  

Project Staff:  
Melissa Canu  
Anamita Gall  
Yvette Lamb  

ICF International  

The views expressed in this publication do not necessarily reflect the views or policies of the Office of Planning, Research and Evaluation, the Administration for Children and Families, or the U.S. Department of Health and Human Services.
REFERENCE LIST


VITA

Jang Ho Park earned his Bachelor of Arts in Theology from Methodist Theological University in South Korea in 2010. Upon graduation, he completed his Master of Social Work (MSW) degree from Yonsei University in South Korea in 2012. He came to the U.S. to pursue his graduate studies at Loyola University Chicago. He obtained a Master of Science (MS) in Applied Statistics from Loyola University Chicago in 2018.

While completing his doctoral degree, he has been working as a doctoral research fellow of the Center for Research on Self-Sufficiency (CROSS) at Loyola University Chicago. He has been active in disseminating his work via publications, book chapters, and also presentations at social work conferences and local community agencies. As a research assistant/data analyst, he utilized advanced statistical techniques to advocate for marginalized populations based on their reported needs and opinions. He was part of the core CROSS research team to unpack the intricacies of the Psychological Self-Sufficiency (PSS) process, using diverse approaches—e.g., an advanced statistical method and a neuroscientific, clinical, and organizational framework. This research center received federal grants twice consecutively (2010-2016 and 2016-present) from the Administration for Children and Families (ACF), Office of Program, Research, and Evaluation (OPRE), U.S. Department of Health and Human Services (HHS).

His academic interest is in the intersectionality of poverty and workforce development. Specifically, the issues of poverty and inequality as ‘social injustice’ with no restrictions on any particular population or context. He has published three peer-reviewed articles and one book.
chapter while working at CROSS. One of the writing articles was published in Social Work Research, one of the most prestigious and popular journals in the field of social work. One of his biggest successes as a doctoral researcher was to help write a chapter in King & Hong’s book. The book on evaluates health-related workforce development programs. He helped write one of the chapters describing the effects of psychological self-sufficiency on program outcomes based on the quantitative results that the CROSS research team found in local community agencies. He also submitted three articles in peer-reviewed journals addressing the effects of PSS among economically marginalized populations.