

# Employment and Occupational Productivity Among Women Living With HIV: A Conceptual Framework

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## Abstract

Women living with HIV (WLWH) have lower employment rates and more difficulty finding and keeping employment compared with their counterparts without HIV. These disparities affect physical, psychological, and socioeconomic outcomes, and they may compound the disadvantages associated with living with HIV. Although historical literature has emphasized the impact of clinical factors on employment, current evidence suggests that socioeconomic and psychosocial factors associated with HIV should be included for a more comprehensive view. Based on this broader inclusion, a conceptual framework is presented describing how socioeconomic and psychosocial characteristics influence employment acquisition and maintenance among WLWH. The framework posits that there is a reciprocal relationship between employment acquisition and occupational productivity, and psychological health, physical health, social support, and empowerment. Implications for future research and interventions include (a) an extended conceptualization of vocational rehabilitation and (b) the use of peer support groups to increase social capital, empowerment, knowledge, and resources among WLWH.

**Key words:** conceptual framework, employment, HIV, productivity, women

Employment is recognized as a social determinant of health, influencing economic stability, access to health care, and both physical and psychological health (Hergenrather et al., 2015a, 2015b). For people living with HIV (PLWH), employment is predictive of an improved ability to manage their own HIV care and may counter the negative socioeconomic consequences associated with living with HIV (Gómez et al., 2016; Hergenrather et al., 2016; Mamboleo et al., 2017). Yet, in spite of the benefits of employment, an estimated 60% of PLWH are not employed (Annequin et al., 2016; Hergenrather et al., 2016; Wagener et al., 2018), creating disparities related to the many benefits associated with

employment and affecting approximately 368,000 of the working-age PLWH in the United States, their families, and communities (Centers for Disease Control and Prevention, 2020; National Institute of Occupational Safety and Health, 2016; Organisation for Economic Co-operation and Development, 2018).

When the HIV epidemic debuted in the United States in 1981, the absence of effective medicines to control viral replication made unemployment and disability a natural course postdiagnosis. As the availability of effective antiretrovirals improved throughout the late 1990s and early 2000s, HIV-related morbidities began to decline dramatically, and the management of HIV as a chronic disease became a reality (Henry J. Kaiser Family Foundation, 2018). Today, the ability to manage HIV as a chronic disease suggests that an increasing number of PLWH now have an improved capacity to work and ability to participate in society through venues such as employment (Hergenrather et al., 2016). The extended lifespan of PLWH indicates an increasing need for the economic benefits associated with work, as well as the work-related benefits associated with aging (i.e., improved cognition, health, and quality of life; Kordovski et al., 2017; Vance et al., 2016). Yet, in spite of the increased capacity and need for work, PLWH continue to have lower employment rates, and more difficulty finding and keeping employment compared with their counterparts without HIV (Annequin et al., 2016; Wagener et al., 2018).

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For PLWH, occupational disparities may exist, in part, due to disparities in the socioeconomic environment (i.e., power, resources, and money); misunderstanding regarding HIV-infection; and employers' fears of occupational productivity losses, stemming from long-term lapses in employment and long-term disability enrollment among PLWH (Kordovski et al., 2017; Verbooy et al., 2018). Although the literature has traditionally pivoted on health-related factors associated with living with HIV, more recent evidence suggests that socioeconomic and psychosocial factors associated with HIV should be included for a more comprehensive view of the factors influencing occupational disparities among this population (Annequin et al., 2016; Garrow, 2016; Hergenrather et al., 2016; Verbooy et al., 2018).

Women living with HIV (WLWH) are especially vulnerable to both occupational and socioeconomic disparities, making the relationship between the socioeconomic environment and occupational disparities of particular concern (Annequin et al., 2016; Bruck-Segal et al., 2020; Hergenrather et al., 2016). Specifically, gender-based differences in socioeconomic and psychosocial contexts may influence hirability, occupational productivity, and job maintenance among WLWH (Annequin et al., 2016; Bokma et al., 2017; Hergenrather et al., 2016; Macinga et al., 2015; McGregor et al., 2016; Rose Helen & Helenides, 2018; Rzesutek, 2018; Wagener et al., 2018). Yet, there remain notable gaps in the literature highlighting the mechanisms for employment and occupational productivity among WLWH.

Understanding the socioeconomic and psychosocial contexts influencing employment and productivity is critical to the development of future interventions and policies to improve occupational outcomes, clinical outcomes, and quality of life among WLWH. Moreover, with more than one-quarter million WLWH in the United States, understanding these links is likely to demonstrate substantial social and economic benefit to our communities (Centers for Disease Control and Prevention, 2020). Therefore, the purpose of this article is to provide a synthesis of the current literature on the socioeconomic, psychosocial, and health-related contexts influencing employment and occupational productivity among WLWH. Using the literature and existing theory, a conceptual framework will be presented to explain the influence and interplay of the multidimensional contexts influencing employment and occupational productivity among WLWH.

## A Review of the Literature

Socioeconomic disparities are common among PLWH, including inadequate access to income, stable housing,

education, and health care (De Jesus & Williams, 2018). Economic inequalities are frequently compounded by intersectional stigma and discrimination related to gender, race, and HIV, creating power imbalances within the socioeconomic environment (Bruck-Segal et al., 2020; De Jesus & Williams, 2018; Turan et al., 2017). For WLWH, culturally placed stigma and discrimination may exacerbate socioeconomic disadvantage, making it more difficult to navigate the environment and draw upon the resources necessary to adapt to life's challenges (Bruck-Segal et al., 2020; De Jesus & Williams, 2018; Pellowski et al., 2018).

Environmental contexts influence not only the opportunities available to WLWH but also their perceptions of opportunities and their ability to leverage them. According to the Transactional Theory of Stress and Coping (Lazarus & Folkman, 1984), psychosocial and socioeconomic context affect how people view their environments, including their ability to manage difficult situations. When people navigate or effectively manage their environment, through either problem solving or emotional coping, stress is minimized. Alternatively, when there is a perceived or actual inability to manage the environment, excessive stress occurs. As a result, physical, psychological, and behavioral changes affect all areas of life, including employment (Lazarus & Folkman, 1984). In the next section, the literature helps frame the mechanisms by which socioeconomic, psychosocial, and health contexts influence employment outcomes among WLWH. The Transactional Model of Stress and Coping (Lazarus & Folkman, 1984) is used as a framework to illustrate the impact of socioeconomic and psychosocial contexts on occupational outcomes among WLWH.

## Factors Associated with Employment and Occupational Productivity Among Women Living With HIV

The complex interaction of social structures and economic systems within the socioeconomic environment influence how resources, money, and power are distributed across populations (Collaborative on Health and the Environment, 2019b). The availability of these resources, or lack thereof, influence our physical health, psychological health, social support, and empowerment (i.e., the ability to leverage resources within the environment; Collaborative on Health and the Environment, 2019a, 2019b; De Jesus & Williams, 2018; Pellowski et al., 2018). Notably, the distribution of socioeconomic resources also influences the ability to access employment, an independent determinant of health (Collaborative on Health and the Environment,

2019b; De Jesus & Williams, 2018). This is important because employment predicts improved physical health, predicts emotional well-being, and provides the added benefit of improving income and social status (Hergenrather et al., 2015a, 2015b). Through this perspective, employment can be viewed as a useful tool in improving socioeconomic status, health, and quality of life among WLWH.

The ability to gain access to and maintain employment is not only influenced by the trickle down effects of socioeconomic status but also the perceived and actual ability for WLWH to be productive at work (Leonardi & Scaratti, 2018). This is known as occupational productivity, and it reflects the amount or quality of work accomplished while on the job. Occupational productivity is influenced by capacity and efficiency at task completion, including the ability to avoid distractions while at work (Rainbow et al., 2019; Rose Helen & Helenides, 2018). As physical health, psychological well-being, social support, and empowerment all influence capacity and efficiency for work, impairments in any of these areas threaten occupational productivity, and thus, the ability to get and keep a job. The next section will describe the mechanisms by which physical health, psychological health, social support, and empowerment influence employment outcomes among WLWH.

### **Physical Health**

Physical health exists on a spectrum reflecting the body's ability to recover from physical and mental stressors and remain free of disease and pain. People in good physical health typically have higher physical function and greater capacity to complete activities of daily living, including employment (Hergenrather et al., 2015b). Several things can affect the body's ability to remain resilient to life's stressors, including the availability of quality housing, nutritious foods, safe places to exercise, an adequate social support system, and access to quality health care (Bruck-Segal et al., 2020; Rose Helen & Helenides, 2018; Skaer & Kwong, 2017). High exposure to stress (intensity or duration) can also negatively impact physical health (Rose Helen & Helenides, 2018). For many WLWH, socioeconomic disparities and social vulnerability stemming from inequities in power, privilege, and control can negatively affect physical and psychological resilience, and physical health (Bruck-Segal et al., 2020; Turan et al., 2016). Whether impairments to physical health are acute or chronic in nature, they may affect the ability to engage with others and complete the physical and cognitive demands (i.e., attention, concentration, executive function) associated with

employment (Hergenrather et al., 2015a, 2015b; Rose Helen & Helenides, 2018).

Symptom burden from chronic health impairments (i.e., fatigue, pain, and weakness) and side effects from medication may negatively impact occupational productivity by increasing the physical and cognitive effort necessary for task completion (Hergenrather et al., 2016). The socioeconomic contexts among WLWH influence employment and occupational productivity through their impact on physical health and the functional capacity to complete tasks and avoid distractions at work. Moreover, the effects of impaired physical health exert influence over psychological health (and cognitive health) when they interfere with the ability to engage with others, fulfill role expectations, and derive purpose from life (Rose Helen & Helenides, 2018; Vance et al., 2015). Although functional capacity impairments directly limit the ability to perform certain tasks, psychological impairments influence attitudes, perception, and reaction to the environment, affecting employment and productivity through changes in motivation and behavior.

### **Psychological Health**

Psychological health is more than the absence of mental illness, but the ability to recognize one's own potential, cope with life's stressors, and remain resilient in the face of psychological demands (Stange et al., 2017; World Health Organization, 2020). Impairments in physical health and inequities in the socioeconomic environment negatively affect psychological health when demands exceed the personal resources available to effectively cope with challenges (Bruck-Segal et al., 2020; Dulin et al., 2018). The effective use of emotional coping and problem-solving techniques encourages personal growth and helps internalize the skill sets necessary to manage life's challenges in the future (Rzeszutek et al., 2017). Ineffective coping, however, promotes chronic stress and depression, making it more difficult to manage psychological challenges over time (Bielecky et al., 2015; Janson & Rohleder, 2017; Nahlén Bose et al., 2016). Notably, social support plays an important role in psychological health, as it improves the ability to effectively problem solve and cope with stress (Jennifer et al., 2017; Rose Helen & Helenides, 2018; Zeligman et al., 2016).

Inequities in income, power, and resources (including social support) negatively affect psychological health among WLWH, with stress and depression rates four to five times higher compared with the general population (Bruck-Segal et al., 2020; Monteiro et al., 2017; Saadat et al., 2015). Importantly, impairments in psychological

health can negatively impact employment and productivity while at work (Bielecky et al., 2015). Prolonged or severe stress can impact motivation, concentration, and executive function, influencing the ability to gain employment and maintain a high level of productivity at work (National Center for Injury Prevention and Control, 2018; National Institute of Mental Health, 2018; Rose Helen & Helenides, 2018). Likewise, depression can negatively impact job acquisition and occupational productivity through its influence on fatigue and motivation, thereby influencing the ability of people living with depression to set and achieve work-related goals (National Institute of Mental Health, 2018). Although impairments in psychological health may negatively impact employment outcomes among WLWH, the reverse can be said for the impact of employment on psychological health. For instance, employment has been associated with greater satisfaction and quality of life, secondary to its impact on economic status, self-determination, and derived purpose from life (Leonardi & Scaratti, 2018; Unanue et al., 2017; Vance et al., 2015). Collectively, the evidence supports that the relationship between psychological health and employment is reciprocal, where socioeconomic and health contexts influence psychological health, employment, and occupational productivity among WLWH.

## **Empowerment**

Empowerment reflects the ability of an individual to leverage social, functional, and structural resources to promote self-determined interest (Barringer et al., 2017). This ability relies on personal knowledge and skill sets (i.e., self-advocacy, social intelligence, and emotional intelligence) as well as the ability to leverage interpersonal and institutional relationships to gain advantage in the social and work environments (Barringer et al., 2017; Collaborative on Health and the Environment, 2019a; Shahab et al., 2018). Greater skill sets in self-advocacy, emotional coping, and social problem solving influence the ability to navigate the social and working environments, form cohesive relationships, and manage conflict and stress (Collaborative on Health and the Environment, 2019a). In turn, enhanced navigation can improve access to employment, occupational productivity, and job maintenance (Davis-Street et al., 2016; Macsinga et al., 2015).

Disparities in the socioeconomic environment also influence the ability to access and leverage influential social networks and important social structures, influencing access to employment and job maintenance (De Jesus & Williams, 2018; Ransome et al., 2018). Social

support encourages empowerment through an expansion of resources (i.e., emotional, informational, and functional) that are available to leverage (Barringer et al., 2017; Turan et al., 2016; Zeligman et al., 2016). Socioeconomic status also influences access to higher education, an important social structure that facilitates the development of knowledge, skill sets, and influential social networks, which can promote access to high-quality jobs (De Jesus & Williams, 2018; Vance et al., 2015). Importantly, higher-quality jobs have been associated with greater empowerment, engagement, and autonomy in the workplace, which can improve occupational productivity and job maintenance (Chang et al., 2015).

For many WLWH, the cumulative impact of lower social status, power, and resources can limit access to employment and the ability to maintain high productivity at work (De Jesus & Williams, 2018; Ransome et al., 2018). Yet, employment can increase social status, financial autonomy, and the ability to act on one's self-determined interest (Mamboleo et al., 2017; Unanue et al., 2017). In this light, empowerment has a reciprocal relationship with employment and occupational productivity, and socioeconomic and psychosocial contexts influence empowerment among WLWH.

## **Social Support**

Social support describes the perceived adequacy of a social network to provide emotional, informational, and functional assistance (Barringer et al., 2017; Sherbourne & Stewart, 1991). Although emotional support refers to the availability of someone to provide affection, companionship, and encouragement, informational support refers to the availability of someone to provide guidance, advice, and assist with problem solving (Sherbourne & Stewart, 1991). In contrast, functional support describes a more tangible form of support and refers to the availability of someone to help with life's functions, including things like childcare, housekeeping, and the provision of financial assistance (Sherbourne & Stewart, 1991). Through these mechanisms, social support fulfills the need for connectedness and alleviates stress in life by enhancing emotional coping, problem solving, and functional capacity (Barringer et al., 2017).

Importantly, the availability of these support mechanisms also influences employment and occupational productivity through their impact on emotional coping, problem solving, and the overall ability to navigate the environment, including employment (Barringer et al., 2017). For example, perceived adequacy of social support influences whether positive coping techniques

(i.e., positive reframing and active problem solving) or negative coping techniques (i.e., avoidance) are used in times of stress (Xiao et al., 2018). Women who perceive adequate social support are more likely to choose positive emotional coping and problem-solving strategies, which influence psychological health, thereby promoting improved employment and occupational productivity outcomes (Xiao et al., 2018). Social support also affects the collective pool of functional and informational resources, which influence the ability to obtain and maintain employment (Barringer et al., 2017; Garrow, 2016). Individuals with greater social resources may have influential social connections that help them attain employment, or someone to help out when work conflicts with other responsibilities, such as childcare (Chan, 2015).

For WLWH, inadequacies in social support, stemming from reduced social power and culturally placed stigma and discrimination (Bruck-Segal et al., 2020), may negatively impact employment and occupational productivity. However, social support not only impacts employment but also impacts physical health, psychological health, and empowerment through increased access to resources (Barringer et al., 2017; Jennifer et al., 2017; Wilson et al., 2018). The evidence continues to support the interactive influence of the socioeconomic environment on social support, health and well-being, and employment and occupational productivity among WLWH.

### Presenting a New Conceptual Framework

This review has presented the mechanisms by which socioeconomic and psychosocial contexts affect physical health, psychological health, empowerment, and social support among WLWH. These findings have been framed in the context of the Transactional Model of Stress and Coping (Lazarus & Folkman, 1984), which posits that an individual's socioeconomic and psychosocial contexts influence the ability to navigate, or effectively manage, the environment. When the environment is effectively managed (through problem solving, adaptation, and emotional coping), minimal stress occurs, and health and well-being are protected. However, when the environment cannot be effectively managed due to inadequate access to the internal and external resources necessary for survival, excessive stress occurs resulting in physical, psychological, and behavioral consequences that make navigation of the environment increasingly difficult. Although the Transactional Model of Stress and Coping is useful for framing the mechanisms by which socioeconomic and psychosocial contexts influence the ability to navigate

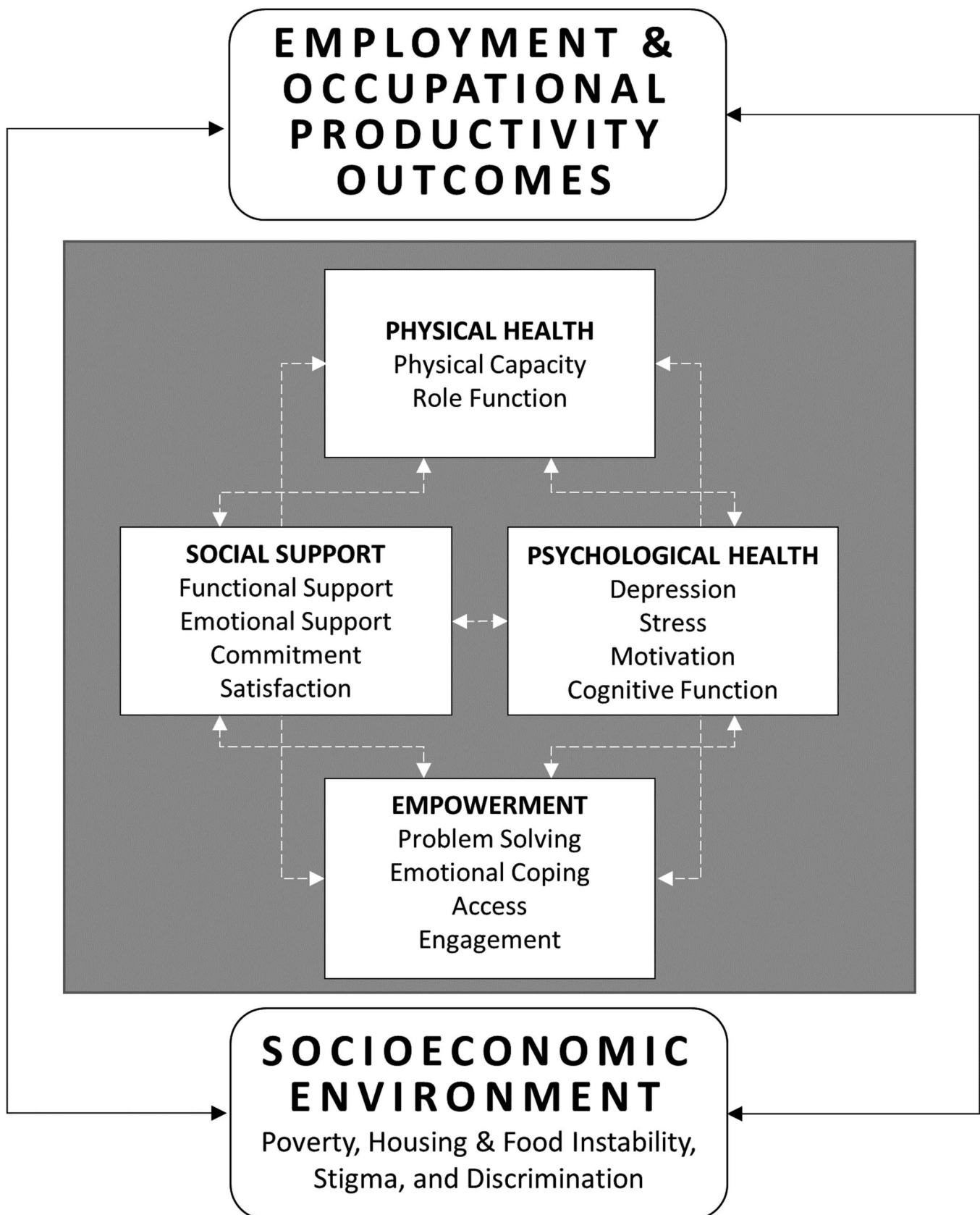
the environment, it was not intended to explain the contexts influencing access to employment and occupational productivity in WLWH, nor does it fully account for the unique socioeconomic and psychosocial contexts influencing life among WLWH.

Based on the literature, a new framework is presented to increase understanding of the socioeconomic and psychosocial contexts influencing employment among WLWH and to guide intervention development to reduce occupational disparities (Figure 1). The framework poses five main tenets that impact employment acquisition and occupational productivity among WLWH: (a) HIV infection is a socioeconomic disease; (b) socioeconomic contexts shape an individual's view of the environment and the availability of resources necessary to successfully navigate the environment; (c) navigation of the environment is influenced by the availability of the following resources: physical health, psychological health, social support, and empowerment; (d) inadequate navigation of the environment, or insufficient adaptation to stressors, leads to negative physiological, psychological, and behavioral changes that impair occupational productivity, job maintenance, and employment status; and (e) employment and occupational productivity are beneficial to health, whereas unemployment and impaired productivity are determinants of poor health.

The adequacy of these resources (physical health, psychological health, empowerment, and social support) promotes the ability of WLWH to navigate and adapt to the environment, promoting the acquisition of employment, occupational productivity, and employment maintenance. Whereas, inadequacy of these resources impairs the functional capacity of WLWH to work and limits their access to problem solving and coping techniques necessary to maintain resilience in the face of life's challenges, negatively influencing employment outcomes. Furthermore, WLWH who are employed benefit from improved physical health, psychological health, empowerment, and social support, resulting in an improvement in their overall quality of life and socioeconomic status. To enhance the application and utility of the newly proposed model, the following case is presented.

### Case Studies

Ms. S is a woman in her mid-40s living with HIV. She was diagnosed in 2002 and has received disability income for the majority of her adult life. For the past 10 years, she has been virally suppressed and is interested in working to provide greater independence for herself and her children. She never attended college, has no-work



**Figure 1.** Conceptual framework of employment and occupational productivity among women living with HIV. Copyright pending—Jenni M. Wise.

history, and has a limited social capital, which influenced her ability to find a job she values and market herself as hireable. Her chronic depression affects her confidence, motivation, and willingness to advocate for herself, which negatively influenced the behaviors needed to prepare, seek, and function productively in a job. Employment would benefit Ms. S, providing her increased financial independence, personal autonomy, and a greater support network, all leading to improved quality of life and personal empowerment. However, the barriers making it difficult for Ms. S. to acquire employment and be productive at work are difficult to overcome.

In the case of Ms. S. interventions to address the barriers to acquiring and maintaining employment are needed. However, the proposed model also implies that adequacy of these resources facilitates employment and quality of life among WLWH. To illustrate this possibility, another case is presented.

Ms. M is a 29-year-old woman living with HIV. She was diagnosed in 2010 through routine testing at her local health department. Although learning that she was living with HIV was quite stressful, her best friend and parents were immediately supportive. This support from her social network helped motivate Ms. M to stay on track. Ms. M never enrolled in disability income, was linked to care immediately, and remains adherent to her HIV medications. She enrolled at her local university at the age of 20 and graduated from college at the age of 24 with a bachelor's degree in early elementary education. While preparing academically, she met several influential teachers and mentors who would later help her secure her first professional job. Although she still struggles with what life might be like if she did not have HIV, her education, friends, and work give her a sense of purpose. Ms. M is more than aware that working has helped her psychological health and given her a full identity outside of living with HIV. She is appreciative of the experiences (i.e., education, mentorship, and supportive friendships) that have facilitated her ability to be productive and engaged at work and contribute to the greater community. Furthermore, working has given Ms. M the means to live the way she chooses, enhancing her autonomy and overall empowerment. In this scenario, the availability of structural, personal, and psychosocial resources has facilitated Ms. M's employment and productivity in a high-quality job. Her quality of life and health benefit because of her employment.

## Discussion

As employment is recognized as a social determinant of health, it is critical that a comprehensive understanding exists of the contexts impacting acquisition of

employment, occupational productivity, and job maintenance among WLWH (Hergenrather et al., 2016). Without a greater understanding of the personal and social contexts influencing employment outcomes among WLWH, socioeconomic disparities will continue to negatively impact individual and societal outcomes. Although the conceptual framework presented is limited by the fact that the current literature segregates socioeconomic and psychosocial factors prevalent among WLWH, and the impact of these factors on employment in the general population, it provides a useful tool to improve employment outcomes and, thus, health and well-being among WLWH. The evidence presented implies that future research must recognize and systematically assess the comprehensive personal and social contexts influencing employment outcomes among WLWH, rather than focusing on the clinical impact of HIV infection in isolation. Likewise, policies and interventions aimed to improve occupational outcomes should focus on a comprehensive framework of total worker health, recognizing the impact of both personal and occupational environments (National Institute of Occupational Safety and Health, 2016). In particular, the evidence suggests that future research, interventions, and policies should focus on the promotion of strategies that empower women and enable them to realize and access the internal and external resources necessary to navigate an environment abundant with hurdles (Barringer et al., 2017). Empowerment includes the ability to realize and leverage social, emotional, and physical resources to promote their overall health, well-being, and navigation of the environment (Barringer et al., 2017). The first strategy that may prove effective in addressing several of these key areas at once is a systematic social intervention in which peers of mixed empowerment levels develop relationships, and collectively share their resources (i.e., emotional coping, knowledge), that have facilitated their own success in life. Strategically including women with higher education status and more experience navigating the environment allows for women of lesser empowerment to develop peer-to-peer emotional support while expanding the collective pool of available knowledge and resources (Barringer et al., 2017). A second strategy is to expand the conceptualization of vocational rehabilitation programs to include the skill sets necessary to not only function in a job but also request accommodations, manage confrontation, and improve efficacy and confidence within the work place setting (Barringer et al., 2017; Gómez et al., 2016; Jennifer et al., 2017; Shahab et al., 2018).



## Conclusion

Women living with HIV are particularly vulnerable to poor employment outcomes, affecting their ability to realize beneficial outcomes and negate overall socioeconomic disparities (Gómez et al., 2016; Hergenrather et al., 2016). Evidence suggests that gender-based differences in socioeconomic and psychosocial contexts influence occupational outcomes among WLWH (Annequin et al., 2016; Bokma et al., 2017; Hergenrather et al., 2016; Macsinga et al., 2015; McGregor et al., 2016; Rose Helen & Helenides, 2018; Rzeszutek, 2018; Wagener et al., 2018). Yet, a substantial gap exists in the literature that cohesively explains the mechanisms by which socioeconomic and psychosocial contexts impact occupational outcomes within this population. This work contributes to the literature by proposing a new framework to explain the mechanisms through which the socioeconomic environment impacts occupational outcomes among WLWH, specifically calling for the inclusion of social support and empowerment, in addition to the traditional focus on health-related factors. The knowledge generated from this work will facilitate future interventions and policies to improve self-efficacy, quality of life, and occupational outcomes among WLWH, with substantial social and economic benefit in return.

## Disclosures

The authors report no real or perceived vested interests related to this article that could be construed as a conflict of interest.

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## Key Considerations

- The socioeconomic environment shapes employment outcomes, through its effect on physical health, psychological health, social support, and empowerment.
- Women living with HIV are vulnerable to disparities in the socioeconomic environment, which negatively impact employment and, thus, clinical outcomes.
- To improve occupational and clinical outcomes among women living with HIV, interventions to increase access to physical, structural, and psychosocial resources should be considered.
- In particular, interventions to improve social support and empowerment may reduce occupational and socioeconomic disparities by increasing the ability to leverage resources through gains in knowledge, social capital, and skill sets.

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