Work-Health Conflict: Scale Development For Workers Managing A Chronic Illness

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WORK-HEALTH CONFLICT: SCALE DEVELOPMENT FOR WORKERS MANAGING A CHRONIC ILLNESS

by

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THESIS

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DEDICATION

I would like to dedicate this Masters Thesis to my loving family who has always supported me. I would also like to dedicate this thesis to my partner, Ryan Schmidt, who has supported me through my entire journey through graduate school and has helped remind me that I need to take time to take care of myself. Their love and support has helped make this process that much better.
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# TABLE OF CONTENTS

Dedication................................................................................................................................. ii

Acknowledgements ....................................................................................................................... iii

List of Tables ................................................................................................................................ vi

List of Figures .............................................................................................................................. viii

Introduction .................................................................................................................................... 1

Hypotheses presented .....................................................................................................................18

Study 1: Qualitative Survey and Item Generation .........................................................................26

Participants ...................................................................................................................................26

Measures .......................................................................................................................................27

Analysis .......................................................................................................................................27

Results .........................................................................................................................................28

Study 2: Content Validity ...............................................................................................................32

Participants ...................................................................................................................................32

Analysis .......................................................................................................................................32

Study 3: Construct Validity - Scale Validation ...........................................................................34

Participants ...................................................................................................................................34

Measures .......................................................................................................................................34

Analysis .......................................................................................................................................34

Data Screening ............................................................................................................................36

Results .........................................................................................................................................37

Study 4: Criterion-Related Validity .............................................................................................44

Participants ...................................................................................................................................44

Measures .......................................................................................................................................44
Results..........................................................................................................................46
Discussion......................................................................................................................48
Key findings...................................................................................................................48
Limitations.....................................................................................................................51
Future Directions.........................................................................................................53
Appendix A: Demographics for study 1.................................................................79
Appendix B: Open-ended questions for study 1...................................................80
Appendix C: WHC items generated after study 1..................................................81
Appendix D: WHC items generated after Q-sort...................................................85
Appendix E: HWC items generated after Q-sort...................................................87
Appendix F: Consequences of Illness Scale............................................................89
Appendix G: Work-Family Conflict Scale..............................................................90
Appendix H: Family-Work Conflict Scale...............................................................91
Appendix I: Stress in General Scale.........................................................................92
Appendix J: Negative Affect.......................................................................................93
Appendix K: Work Flexibility Ability.......................................................................94
Appendix L: Final WHC Scale Items........................................................................95
Appendix M: Final HWC Scale Items.......................................................................96
Appendix N: Job Satisfaction......................................................................................97
Appendix O: Satisfaction with life scale.................................................................98
Appendix P: Withdrawal.............................................................................................99
Appendix Q: Copenhagen Burnout Inventory.......................................................100
References...............................................................................................................101
Abstract……………………………………………………………………………………………………109

Autobiographical Statement………………………………………………………………………110
**LIST OF TABLES**

Table 1a: Demographic variables for study 1.................................................................54
Table 1b: Demographic variables for study 1.................................................................55
Table 2: Examples of participant responses to survey......................................................57
Table 3a: Descriptive statistics of WIH time items..........................................................58
Table 3b: Descriptive statistics of WIH energy items.....................................................61
Table 3c: Descriptive statistics of WIH strain items......................................................62
Table 3d: Descriptive statistics of HIW time items..........................................................64
Table 3e: Descriptive statistics of HIW energy items.....................................................66
Table 3f: Descriptive statistics of HIW strain items......................................................67
Table 4a: Demographic variables for study 3 and 4.......................................................69
Table 4b: Demographic variables for study 3 and 4......................................................71
Table 5: Means and standard deviations for study 3 variables........................................72
Table 6: Correlation table for all study 3 variables........................................................73
Table 7: Alternative models tested...................................................................................74
Table 8: Multiple Regression results.............................................................................75
Table 9: Means and standard deviations for study 4 variables........................................76
Table 10: Correlation table for all study 4 variables.....................................................77
LIST OF FIGURES

Figure 1: WHC Model results
...........................................................................................................................................78
CHAPTER 1

Introduction

The characteristics of the U.S. workforce have changed drastically over the last several years (Fisher, Bulger, & Smith, 2009). For example, the workforce is aging (Fisher et al., 2009) and there is a rise in workers with chronic illnesses (Tu & Cohen, 2009) and disabilities (Brault, 2012). Despite the rise in chronic illness, there is a lack of research on this population of workers. This can be attributed to the assumption that workers who have a chronic illness will withdraw from the workforce (Beatty & Joffe, 2006). However, many workers managing a chronic illness are choosing to stay employed while treating their illness in order to retain medical insurance, among other reasons (Beatty & Joffe, 2006).

Today it is estimated that approximately 72 million working age adults have a chronic illness (Tu & Cohen, 2009) yet research on this population of workers is very sparse. The growing population of workers with chronic health conditions may be the impetus needed to investigate this population which has been underrepresented in the literature. While psychological and organizational researchers have investigated issues in this population related to: career management considering illness (Beatty, 2012), disclosure of illness at work (Chaudoir & Fisher, 2010; Ragins, 2008), workplace stigmatization and discrimination based on illness (e.g., McGonagle & Barnes-Farrell, 2013; McGonagle & Hamblin, 2013), and ways to improve work ability and decrease burnout in workers with chronic illness (McGonagle, Beatty, & Joffe, 2014), to date no researchers have examined role conflict that occurs when managing both work

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1 Although many chronic illnesses can be considered a disability, others are characterized by symptom flare-ups and remission periods. Some chronic illnesses are become more debilitating over time. Currently the U.S. disability model defines a disability as permanent, which excludes many chronic health conditions (McGonagle & Barnes-Farrell, 2011). Thus, the population of workers treating a chronic health condition should be considered a unique diversity group.
and illness simultaneously. The purpose of this study was to develop a scale that addresses this role conflict (termed “work-health conflict, or WHC\(^2\)) in workers with chronic health issues.

Chronic illness is a vague term used to describe any health condition that is long lasting (diabetes, cancer, etc.). It is appropriate to examine this population as a whole because there are many commonalities between different chronic health conditions and have implications for work (Beatty & Joffe, 2006). One commonality is that many chronic health conditions are unpredictable (Beatty & Joffe, 2006). In other words, progression of the disease is not typically foreseeable (Beatty & Joffe, 2006). A second theme is that many chronic health conditions are permanent and are characterized by symptom “flare-ups” and remission periods (Beatty & Joffe, 2006). Additionally, many chronic illnesses are invisible which distinguishes them from many disabilities (Beatty & Joffe, 2006). Due to these commonalities, chronic health conditions can be considered a unique workplace diversity category that comprises several different chronic illnesses (Beatty & Joffe, 2006).

Chronic illness research in the workplace began as an application of the stigmatized identity literature, and consequently much of the organizational research on chronic illness is related to identity management, disclosure, and stigmatization. An identity is considered stigmatized if it is devalued or viewed negatively or defective in a context, such as the workplace (Crocker, Major, & Steele, 1998). Since stigmas are defined by society’s standards, characteristics that are considered stigmatized change over time (Ragins, 2008). Organizational researchers first began to focus on workers who have stigmatized identities (for example: gay/lesbian sexual orientation) and the consequences they may face due to discrimination (Ragins, 2008). Some examples of stigmatized identities in the workplace are: HIV-positive.

\(^2\) Note that the term Work-Health Conflict (WHC) is used to denote overall levels of the construct. In addition, as explained later in the manuscript, it may be used to denote directionality (Work Conflicting/Interfering with Health or WIH).
status, drug abuse, AIDS, MS, epilepsy, and homosexuality. Since many stigmatized identities are also invisible, individuals with stigmatized identities have to decide if and who they should disclose their identity to. Due to the invisibility of many of these stigmatized identities, researchers have also focused on the disclosure process in different contexts, including the workplace (Chaudoir & Fisher, Clair, Beatty, & MacLean, 2005; 2010; Ragins, 2008). However, there has not been a lot of research that has investigated other potential stressors associated with living with a stigmatized identity. Although the disclosure process is important in understanding the stressor-strain relationship experienced by workers with concealable identities, research on other types of stressors for this population of workers is generally lacking. As mentioned, one important potential stressor that is unexamined is WHC. One study by Varekamp and van Dijk (2010) examined this issue, and the researchers found that a majority of workers with chronic illness report work-home interference as a major problem. However, this study failed to examine the relationship that work-home conflict has with workplace outcomes such as burnout. No research to date has looked at the competing demands of managing a chronic illness and work duties (WHC).

Parasuraman and Greenhaus (2002) call on researchers to address serious gaps in the work-family conflict (WFC) literature that stem from an overemphasis of the traditional family unit in research. In line with this review, I stress that an overemphasis of WFC, while ignoring other types of conflict, has misrepresented the importance of other life factors. This is further exacerbated by the changing look of the family over recent decades, the aging of the workforce, and the prevalence of individuals continuing to work while treating a chronic illness (Beatty & Joffe, 2006; Fisher et al., 2009). Role conflict for workers with chronic illness may be attributed
to other forces beyond family life. Therefore the goal of this study is to create and validate a comprehensive scale to look at the WHC experienced by this population.

I used conservation of resources theory (Hobfoll, 1989, 2001), along with WFC theory and research as frameworks to develop and validate a scale that measures the conflict that chronically ill workers face while attending to their health and work demands (WHC). Similar to studies of other forms of role conflict, we begin with an assumption that individuals have finite amount of resources (e.g., time, energy) to allocate to work and non-work life. I further posit that individuals who have a chronic illness have diminished resources (e.g. health, energy, etc.) compared with healthy workers. These workers also will tend to experience more resource loss (or threat of resource loss) at work which can lead to greater amounts of strain (Hobfoll, 1989, 2001). With a limited amount of resources, the competing demands of managing an illness (and related symptoms) and completing job duties is likely to create a conflict between work and health that is a stressor on its own and is unique from WFC.

The remainder of this Introduction is structured as follows. I begin with a discussion of the potential implications of WHC for workers and their employing organizations and a further rationale regarding the need for this scale. Second, I discuss the theoretical underpinnings of the conservation of resources theory Hobfoll (1989). Then, I outline the different types of resources that the theory highlights and how they are related to workers with chronic illness. Next, I draw upon the WFC literature and propose three components of work interfering with health (WIH) and health interfering with work (HIW) and the expected outcomes. Lastly, I describe how the scale items were developed and validated.
Potential Implications of WHC and the Need for a WHC Scale

Having a chronic illness or disability may be a source of stress for an individual. The combination of work and illness stressors may have consequences for both the individual and the organization. Chronic work stress has been associated with an increased cardiovascular risk, increased cholesterol levels, and high blood pressure (Cooper, Quick, Campbell, & Schabraq, 2009). For the individual, strain may lead to increase in symptoms, slow recovery, and compromise treatment of the illness. These physiological consequences can lead to more days off work (absenteeism) and higher medical costs. The consequences for the organization have also been enumerated. In a study workers with chronic illnesses completed the Stanford Presenteeism scale and self-report absenteeism, the results of the survey were combined with medical claims, payroll, job-type, demographics, and smoking status (Collins et al., 2005). The study found that workers with chronic illness compromise 10.7% of the total labor costs in this organization, when examining absenteeism, medical costs, and presenteeism (Collins et al., 2005). In addition the study found that for workers managing a chronic illness, presenteeism costs organizations more than both absenteeism and medical expenses combined (Collins et al. 2005). It is probable that for workers with chronic illness or disability, the pressure to treat their illness while remaining a productive worker may lead to conflict. If this conflict is not addressed, the strain on the individual worker may combine additively or multiplicatively, perhaps leading to performance deficits, absenteeism, withdrawal, etc.

There are several potential questions around managing a chronic illness while working. If a worker needs to attend a doctor’s appointment and has a project that is due at work, how does the worker resolve this conflict? If the worker chooses the assignment and misses the

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3 Presenteeism is defined as coming to work sick and is usually characterized by a decrease in work performance (Collins et al., 2005).
appointment this may impact both the organization and the individual in the long run if it results in further strain and long term leave or absence. Conversely, if the individual chooses the former and therefore completes the assignment later, the job performance of the worker is compromised.

There are no known scales that assess the conflict between work and health in these individuals. Although here are a variety of self-report scales that assess job stressors (Hurrel, Nelson, & Simmons, 1998), most of them have been constructed and validated several decades ago and are not meant to assess specific populations of workers (Hurrel et al., 1998). Not only has the working population changed drastically (i.e. the working population is aging), but jobs are more dynamic than when the past scales were created (Fisher et al., 2009; Hurrel et al., 1998).

Specific scales exist to measure a similar construct, WFC. Existing WFC measures have typically looked at either overall conflict or more specific types such as time, strain, and behavior-based conflict (Carlson, Kacmar, & Williams, 2000; Greenhaus & Beutell, 1985; Matthews, Barnes-Farrell, & Kath, 2010; Netemeyer, McMurrian, & Boles, 1996). Despite these measures being valid predictors of WFC, modifying these scales will not yield a comprehensive measure of all of the potential sources of conflicts due to Health interfering with Work (HIW) and Work interfering with Health (WIH). The conflict faced by workers managing a chronic illness is fundamentally different from WFC and this construct needs to be measured with content relevant to this specific population.

A scale developed by Fisher et al. (2009) examined work-life interference and is a broader scale that measures other types of interference with work. This scale looks at an individual’s roles beyond family and how they may interfere with work (i.e. community roles). This scale is more inclusive than pre-existing WFC scales. Although this scale has a broader
scope, it doesn’t address the specific role conflict issues that individuals with chronic health conditions face at work. With chronic illness growing it is important to create and validate a scale that addresses the conflicts unique to this population of workers. In other words broader based scales may not be able to measure WHC with precision and be able to explain incremental validity. Additionally, organizations that would like to plan a targeted intervention may be missing another potentially important stressor if WHC is not adequately measured. Therefore one of the goals of this study is to develop a parsimonious scale that is short and easy for organizations to administer.

**Conservation of Resources**

The conservation of resources (COR) theory developed by Hobfoll (1989) posits that individuals are motivated to obtain and protect resources (Hobfoll, 1989, 1998, 2001). COR further asserts that individuals have access to a limited/finite amount of resources and that loss or threat of loss of these resources results in stress and strain outcomes (Hobfoll, 1989, 1998, 2001). COR also predicts that stress will result from an insufficient gain in resources after an initial investment of resources to gain further resources. There are three important principles of COR theory (Hobfoll, 2001). The first principle of COR is that loss of resources is weighted more heavily than resource gain or total available resources (Hobfoll, 1989, 2001). Individuals tend to focus their attention on loss of resources and recall loss more readily than resource gain or total resources available. A study on inner city women who have a lower amount of resources “resource lack” (for example: lower education level) found that the total net of resources is not related to stress (Ennis, Hobfoll, & Shroeder, 2000). However, loss of material resources was related to depression (Ennis et al., 2000). So even though lack of resources may lead to loss cycles, resource loss is more salient to the prediction of stress (Ennis et al., 2000).
The second principle of COR is that, in order to prevent loss, recover from loss, and foster resource gain, an individual must invest his or her resources (Hobfoll, 1989, 2001). Therefore, COR theory would predict that individuals coping with a chronic illness must use their limited pool of resources to attend to both their health and work roles leaving them at a disadvantage compared to healthy workers. An important corollary related to the second principle is that individuals who have a larger surplus of resources are able to use their resources more readily in order to garner more resources (Hobfoll, 1989, 2001). Conversely, individuals with lower levels of resources have fewer resources to invest and thus are more vulnerable to loss and less able to gain more resources (Hobfoll, 1989, 2001). Therefore, given that workers with chronic illness typically have fewer resources, COR predicts that they may experience more stress.

The third principle of COR is that individuals’ resource investment and prevention of stress should be examined as an ongoing process and not an isolated incident. Therefore, when examining resource investment and stress, the focus should be on cycles of resource loss and gain. One consequence of this ongoing process is that individuals with a lower amount of resources (“resource lack”) will be more prone to lose resources in the future (Hobfoll, 1989, 2001). These are coined “loss spirals” and are characterized by loss of resources leading to more loss, which continues to lower the individuals total resource pool (Hobfoll, 1989, 2001). Another corollary is that individuals who have a larger amount of resources will continue to gain resources (“gain cycles;” Hobfoll, 1989, 2001). Overall, individuals who have a lower amount of resources are more prone to resource loss and less capable of resource gain. This theory also asserts that resource loss and gain cycles are more prevalent in chronically stressful situations or when individuals total resource pool is low (Hobfoll, 1989, 2001).
Although many individuals must use and invest their resources at work, it is important to note that work also does provide resources to an individual. Many workers with chronic health conditions deplete their resources at work, but resources are also gained through working for an organization. For example, organizations supply salaries and medical insurance to their employees which may reduce stress. Despite these resources facilitating illness management, individuals who are managing chronic health conditions have to allocate a greater percentage of their resources to illness management compared to healthy workers. For example, two employees who hold the same job and make the same amount of money are not necessarily equal in the amount of resource investment. If one individual has to invest more of their income to managing an illness, their total resource pool is lowered leaving them more vulnerable to stress. Examples of potential resources for workers managing a chronic illness are briefly discussed below in order to illustrate the resource demands of treating a chronic health condition.

Types of resources. Resources are typically divided into four categories: objective, condition, personal, and energy (Hobfoll, 1989, 2001). The first type of resource in COR is objective resources or tools and tangible items needed for the job (Hobfoll, 2001). A common example of an objective resource at work is salary. Other common objective resources are medical benefits, computers, and equipment. For the worker managing a chronic illness, objective resources may also be needed to treat their illness. For example, an individual who has diabetes needs to purchase a blood-sugar monitor, thus according to COR theory depleting more of an individual’s finite resources. Medical treatments are another example of an objective resource that individuals who suffer from a chronic illness have to utilize thus limiting their attention to and securement of other types of objective resources. Some individuals may even need to buy supplemental medical insurance if the company’s benefits do not meet their needs.
depleting more of their resources (i.e. money). Investment of these resources to treat an illness makes these workers more prone to loss cycles and resulting strain.

Condition resources include types of support, self-esteem, and socioeconomic status (SES). Support as a resource may be difficult to obtain for a worker who has an invisible chronic illness due to the fact that the individual needs to disclose to a supervisor or coworker about the illness in order to receive support for it (Chadoir & Fisher, 2010; Clair et al., 2005; Ragins, 2008). Several antecedents of disclosing a chronic illness or another stigmatized identity have been recognized, although one of the most commonly cited predictors receipt of support (Chaudoir & Fisher, 2010; Munir, Leka, & Griffiths, 2005; Ragins, Singh, & Cornwell, 2007). Interestingly, individuals who had a greater amount of fear about disclosing their identity also reported overall dissatisfaction with work and career attitudes, higher amounts of psycho-strain, and less compensation and promotion opportunities (Ragins et al., 2007). This evidence supports that managing and seeking support from employers beyond work tasks may be cognitively taxing to individuals who fear being stigmatized (Ragins et al., 2007). In addition to receiving support at work, it may be necessary for the individual to seek medical, family, or social support to reduce the strain of living with illness. Again, needing extra support utilizes more condition resources than healthy workers may need, lowering the resource pool of individuals with chronic illness.

The third type of resource is personal. Examples of personal resources are self-efficacy, mastery, self-esteem, and health (Hobfoll, 2001). A recent study of individuals with Rheumatoid Arthritis (RA) highlights the deficits experienced by individuals who suffer from chronic illness (Dirik & Karanci, 2010). This study found that RA individuals with lower levels of self-efficacy had greater amounts of depressive symptoms (Dirik & Karanci, 2010). Additionally, this study
found that individuals whose symptoms affect their self-efficacy reported greater amounts of strain. Another qualitative study of individuals with lupus revealed that many people experience depression due to overall decrements in a person’s functioning, lack of acceptance of diagnosis, and coping with the unpredictability of the illness (Beckerman, 2011). These studies support that self-efficacy issues among workers with chronic illness is related to strain outcomes. Another aspect of personal resources is an individual’s overall health which puts chronically ill individuals at a disadvantage especially during times of symptom “flare-ups”. Individuals working with a chronic illness usually have periods of compromised states of health. Therefore, they have a higher risk of personal resource loss and a reduced ability to gain resources when illness symptoms are severe.

The last type of COR resource is energy. Energy resources for workers with chronic illness are also likely to be lower. This may be due to focusing one’s attention on chronic illness treatment or devoting energy to learning about how to cope with, manage, and reduce symptoms. Energy also may be expended on concealment or hiding their illness at work. A recent study found that concealing a chronic pain condition from others is associated with an increase in self-report of pain (Uysal & Lu, 2011). Additionally, energy may be compromised because fatigue is a symptom of many chronic health conditions. There is some empirical evidence that fatigue is a common symptom of chronic illness. Two qualitative studies found that many individuals report fatigue as a symptom of their disease (Beatty, 2011; Beckerman, 2011). A quantitative study by Varekamp and van Dijk (2010) reported that 75% of their sample reported fatigue severe enough to qualify for sick leave from work or disability. The qualitative study by Beckerman (2011) reported that dealing with emotional and physical exhaustion was a salient feature of living with lupus. Therefore I postulate that individuals’ with chronic illness may have a lower level of
energy than healthy workers, especially during symptom “flare-ups”. According to COR, this lower amount of energy will lead to resource-loss cycles, resulting in strain (Hobfoll, 1989, 2001).

The effects of resource depletion have been indirectly empirically tested in the WFC literature (Adams, King, & King, 1996; Amstad, Meier, Fasel, Elfering, & Semmer, 2011; Carlson et al., 2000; Ford, Heinene, & Langkamer, 2007; Hammer, Bauer, & Grandey, 2003; Innstrand, Langballe, Espnes, Falkum, & Aasland, 2008; Kossek & Ozeki, 1998; Lambert, Hogan, & Altheimer, 2009; Matthews et al., 2010; Mesmer-Magnus & Viswesvaran, 2005; Netemeyer et al., 1996 Shockley & Singla, 2011). Research on WFC provides evidence that resource depletion is a stressor that leads to strain outcomes (Carlson et al., 2000; Greenhaus & Buetell, 1985; Matthews et al., 2010; Mesmer-Magnus & Viswevaran, 2005; Netemeyer et al., 1996). Next, I discuss the WFC construct and how it relates to the proposed WHC construct. Then, I discuss the dimensions of WFC scales and how they were utilized to propose dimensionality for the current scale development project.

**Work-Family Conflict**

As mentioned, the proposed WHC construct is based on WFC theory and research. WFC is based on interrole conflict theory or when pressure to perform one role impedes the performance of another (Carlson et al., 2000; Greenhaus & Buetell, 1985; Matthews et al., 2010 Netemeyer et al., 1996). In other words, interrole conflict is when a role an individual performs in one domain (i.e. home) interferes or conflicts with the another role (i.e. work) of the individual (Carlson et al., 2000; Greenhaus & Buetell, 1985; Matthews et al., 2010 Netemeyer et al., 1996). As WFC theory has progressed, the construct has shifted from a unidirectional scale to a bi-directional scale with multiple dimensions. I next briefly discuss the two factor model of WFC
and the sub-dimensions of WFC and how it may be relevant to the construct development of Work-Health Conflict.

**Bi-directionality of WFC.** Most WFC researchers recognize that WFC is bi-directional – that is, overall levels of WFC consist of work interfering with family (WIF) and family interfering with work (FIW) (Carlson et al., 2000; Cinamon & Rich, 2002; Matthews et al., 2010; Netemeyer et al., 1996). WIF and FIW are also referred to as work-to-family conflict (WFC) and family-to-work conflict (FWC). Researchers who argue for the two higher order factor model of WFC contend that the type of conflict determined by one role interfering with the other is distinctly different from the reverse scenario (Carlson et al., 2000; Cinamon & Rich, 2002; Greenhaus & Buetell, 1985; Gutek, Searle, & Klepa, 1991; Matthews et al., 2010; Mesmer-Magnus & Viswevaran, 2005; Netemeyer et al., 1996). For example family life interfering with work (e.g., child is sick so you have to leave work early) is a distinct conflict from work interfering with one’s home life (e.g., work assignment keeps an individual at work late and therefore they are unable to be home for their sick child).

I hypothesized that, similar to WFC, WHC is a higher order two-factor scale comprised of both work interfering with health (WIH) and health interfering with work (HIW). Illness management conflicting with a person’s job (i.e. absenteeism) is conceptually different than a person’s job conflicting with their ability to manage their illness (i.e. prevented from going to a doctor’s appointment). Although managing a chronic illness is typically not defined as a role, the presence of illness is a major part of an individual’s life. Consequently, the pressure to manage an illness may conflict with work roles. Kahn defined role conflict as the “simultaneous occurrence of two or more sets of pressures such that compliance with one would make more
difficult compliance with the other” (Kahn, 1964). The pressure to comply with one’s illness treatment plan may conflict with the ability to comply with work demands and vice versa.

**Dimensionality.** Using a review of the empirical data and role theory proposed by Kahn et al. (1964), Greenhaus and Buetell (1985) proposed three distinct dimensions of WFC. The first proposed dimension is time. Time spent attending to one role conflicts with a person’s ability to spend time in the other role (Greenhaus & Buetell, 1985). The objective amount of time spent in a role does not always lead to conflict because it depends on the demands of the two roles. For example a person who spends 80 hours per week at work who has no home time demands will not experience conflict (Greenhaus & Buetell, 1985). Another component of time-based conflict is the amount of time spent thinking about one role (i.e. family) while being present in the work role (Greenhaus & Buetell, 1985). An example of this is spending time worrying about childcare while trying to perform job tasks.

The second dimension proposed by Greenhaus and Buetell (1985) is strain; specifically, strain-based conflict exists when strain as a result of stressors in one role spills over into the individual’s other role, affecting his or her successful performance in that role (Greenhaus & Beutell, 1985). An example of strain-based FIW is when childcare issues result in strain, and this strain carries into a person’s work, preventing them from being able to effectively perform work duties. An example of strain-based WIF is when strain experienced from work interferes with an individual’s ability to perform their family role or obligations. For example a worker that has a large work load and is unable to unwind after work and be able to assist their family is experiencing strain-based WIF. Mesmer-Magnus and Viswesvaran (2005) conducted a meta-analysis looking at the unique variance of WIF and FIW. The meta-analysis supported WFC as bidirectional and the authors assert that each construct (WIF and FIW) should be analyzed
separately (Mesmer-Magnus & Viswesvaran, 2005). The third dimension proposed by Greenhaus and Beutell (1985) is behavior based conflict. Behavior based interrole conflict occurs when behavior demands or expectations in one role interfere with or are incompatible with behavior demands and expectations of the other role. For example, if an individual is an executive or manager, he or she may need to suppress his or her emotions. However, in many family roles, expressing emotion is considered important and essential to performing the “family role”. Sometimes these behavior demands and expectations can lead to conflict, especially in individuals who are unable to switch back and forth between the two different behavior demands (Greenhaus & Beutell, 1985).

Since Greenhaus and Beutell (1985) proposed the three dimensions of time, strain, and behavior, many scales have been developed and validated using these three dimensions (Carlson et al., 2000; Cinamon & Rich, 2002; Matthews et al., 2010; Netemeyer et al., 1996). In line with the aforementioned theory and research on WFC, I propose that WHC will include time-based and strain-based dimensions. Yet, because the behavior-based dimension has been difficult to operationalize, it does not have as much empirical support as the other two dimensions (Kelloway, Gottlieb, & Barham, 1999), and it does not fit with the construct definition of WHC, I excluded a behavior-based dimension of WHC from the current scale.

**The Proposed Dimensions of WIH and HIW**

I conducted a series of studies to develop and test the proposed WHC scale. I started with the construct definition of WHC, which is when managing a chronic illness and work duties interfere or are in conflict and make it difficult for the individual to attend to both roles. WIH is defined as when an individual’s job duties interfere with his/her ability to manage or treat a chronic illness. Health-Work Conflict, or health interfering with work (HIW), is defined as the
conflict that occurs when managing one’s chronic illness interferes with his/her ability to work or perform job duties.

I used the types of resources identified in COR along with theory and research on WFC to develop three sub-dimensions. The first sub-dimension is time-based HIW. An example of time-based HIW is when time spent attending doctor appointments and/or medical treatments prevent a person from spending time at work. Another component of time-based HIW is when a person spends time thinking about their chronic health condition while at work. An example of time-based WIH is when spending time at work interferes with a person’s ability to manage their illness or attend doctor appointments.

The second sub-dimension is strain-based and is similar to the strain-based dimension of WIF and FIW (Carlson et al., 2000; Greenhaus & Beutell, 1985; Matthews et al., 2010; Netemeyer et al., 1996). An example of strain-based HIW is when strain resulting from managing one’s illness affects a person’s work performance. Conversely, strain-based WIH is when work demands or strain resulting from work affects a person’s ability to manage their illness.

The third sub-dimension is energy or exerting energy in one area of life (work or health) depletes or lowers one’s ability to exert energy in the other domain. A qualitative study found that many individuals report fatigue and other symptoms of their disease as affecting their work (Beatty, 2011). Another study found that 75 percent of their sample of workers with chronic illness reported fatigue severe enough to qualify for sick leave from work or disability (Varekamp & van Dijk, 2010). Therefore, it is posited that energy is an important component for Health-Work Conflict. An example of energy-based HIW is when an individual’s illness or illness symptoms are affecting their ability to expend the energy required to perform their job
duties. An example of energy-based WIH is when an individual’s job depletes the energy needed for him or her to care or manage their illness. Together these three components were posited to contain the content needed to fully measure work conflicting with health and health conflicting with work.

**Scale Development and Validation**

I used the six steps outlined by Hinkin (1998) in order to develop and validate the proposed WHC scale. The first step outlined by Hinkin (1998) is item generation. In order to generate items for the scale, I administered an open-ended survey to workers with various chronic illnesses. The data was then coded and items for the scale were generated based on the responses. A review of similar WFC scales was conducted in order to generate additional items. After item generation (Study 1), the scale was assessed for content validity (Study 2), construct validity (Study 3), and criterion-related validity (Study 4), as recommended by Hinkin (1998).

**Content validity.** In Study 1, I used an open-ended survey to collect qualitative data for workers managing a chronic illness. One reason why an open-ended survey was used was to ensure that all dimensions of WHC were covered prior to item generation. Following Hinkin’s (1998) guidelines, the initial items were assessed by subject matter experts (SME) and rated on the relevancy of the items to the construct definition and the proposed dimensions. A Q-sort was conducted on the items generated from the first study and items that did not fit the construct dimensions were discarded.

**Construct validity.** The next phase of validation assessed the construct validity by inspecting the scale for discriminant and convergent validity (Hinkin, 1998). The study was conducted using an anonymous survey posted on M-Turk and two Internet blogs (workingwithchronicillness.com, and http://forums.spondylitis.org). Discriminant validity of
WFC and WHC was assessed via confirmatory factor analysis using Structural Equation Modeling (SEM). Although there was an expected correlation between the WHC scale and the WFC scale, I hypothesized that WHC is a unique construct. The factor structure of the WHC scale (as proposed above) was also analyzed using SEM.

**H1**: The Work-Health conflict scale will show evidence of discriminant validity from a Work-Family Conflict Scale.

**H2**: The factor structure of Work-Health Conflict will include two dimensions (WIH and HIW) with each dimension consisting of three components (time, strain, and energy).

One important predictor of WFC is the consequences of not complying with the role demands of work or family. If there are no consequences to neglecting one of the roles, then there is less likelihood of conflict when one of the roles interferes with the other role (Greenhaus & Beutell, 1985). If neglect to one of the roles has consequences; for example not finishing a project due to family demands leads to disciplinary actions at work, than conflict between the two roles will be more salient (Greenhaus & Buetell, 1985). Illness severity will likely impact whether or not an individual experiences health or strain-based consequences from neglecting their chronic health condition. For example, the more severe the illness, the more management will be needed. More illness management may lead to more time-based conflict. Illness severity may also drain more of the individual’s resources leading to more energy-based conflict. Also, illness severity will lead to more strain which will impact a person’s strain-based conflict. Therefore, I propose that severity of illness will relate to the amount of conflict an individual experiences between work and health.

The number of hours an individual works may also relate to a worker’s experience of WHC. Several studies have found a positive relationship between number of hours worked and
the amount of WFC experienced (Adkins & Premeaux, 2012; Byron et al., 2005). In line with this previous research, the amount of hours an employee works is proposed to relate to different levels of HIW and WIH, such that more hours is associated with greater levels of conflict. Work flexibility was also expected to be related to HIW and WIH. Boundary flexibility, or the ability of an individual to move in between the two roles in order to meet demands in the opposing role (Matthews & Barnes-Farrell, 2010) was hypothesized to be negatively related to WHC. Individuals who experience lower levels of boundary flexibility will, therefore, be likely to experience greater amounts of conflict between their work and health.

\[ H3a: \text{Illness severity will be positively related to Work-Health Conflict (work interfering with health and health interfering with work).} \]

\[ H3b: \text{Number of hours worked will be positively related to Work-Health Conflict (work interfering with health and health interfering with work).} \]

\[ H3c: \text{There will be a negative relationship between Boundary Flexibility and Work-Health Conflict.} \]

Based on COR theory, I proposed that individuals who are working with a chronic illness are likely to have lower levels of resources than their healthy coworkers and expend greater percentages of their total resources at work, leaving this population of workers more vulnerable to experiencing chronic stressors in the workplace and resulting strains (Hobfoll, 1989, 2001). This is due in part to resource loss by having the illness, resource loss due to allocating resources to treating the illness, and resource loss due to dealing with the competing demands of attending to their health condition and work role. I proposed that work conflicting with health is a job stressor (Hobfoll, 1989, 2001). To test this assumption and gather evidence of convergent validity, I measured job stress.
**H4: Work-Health Conflict will be positively correlated with overall job stress.**

**Criterion-Related Validity.** Lastly, the scale was tested for criterion-related validity by conducting a concurrent validation study that examined the relationship between the WHC scale and predicted job and personal strain outcomes (job satisfaction, life satisfaction, withdrawal, and burnout). There is an abundance of research that supports the connection between stressors and psychological and physiological strains such as burnout (Colligan & Higgins, 2005; Cooper, Quick, Campbell, & Schabraq, 2009; Day & Livingstone, 2001). Also, past research on WFC and work/non-work interference has empirically supported that conflict leads to lower amounts of job-satisfaction (Adams et al., 1996; Amstad et al., 2011; Carlson et al., 2000; Ford et al., 2007; Matthews et al., 2010; Mesmer-Magnus & Viswesvaran, 2005; Shockley & Singla, 2011). In line with the previous literature I proposed that the WHC scale will be related to strain outcomes.

Although WIF and FIW are hypothesized to be conceptually different from WIH and HIW, the constructs are hypothesized to have similar patterns with job and life satisfaction. Job satisfaction (how satisfied a person is with their work) and life satisfaction (how satisfied a person is with their life overall) have been examined by the WFC and work/nonwork interference literature. Several studies of WFC have found a negative relationship with job and life satisfaction (Adams et al., 1996; Amstad et al., 2011; Carlson et al., 2000; Ford et al., 2007; Matthews et al., 2010; Mesmer-Magnus & Viswesvaran, 2005; Shockley & Singla, 2011).

Additionally, WFC researchers have identified withdrawal behaviors such as absenteeism, tardiness to work, etc. as consequences of WFC. Withdrawal is usually defined as a group of behaviors used to avoid work (Hanisch & Hulin, 1990). Withdrawal techniques are usually used by workers that are not satisfied with work (Hanisch & Hulin, 1990). One popular
measure of withdrawal by Hanisch and Hulin (1990) merges traditional organizational withdrawal items (i.e. tardiness) with other withdrawal behaviors (i.e. generating excuses to avoid work). A study by Hammer et al. (2003) looked at both types of WFC (WIF and FIW) and withdrawal behaviors (family interruptions, lateness, and absenteeism) among dual-earning couples. The study did not find full support of the proposed hypotheses, however; WFC of the target individual was indicative of their withdrawal behaviors (Hammer et al., 2003). Also, a meta-analysis of WFC found a significant positive relationship among both WFC and FWC and withdrawal (Mesmer-Magnus & Viswesvaran, 2005). Other studies have found a positive relationship between WFC and intent to turnover (Amsted et al., 2011; Kossek & Ozeki, 1998; Netemeyer et al., 1996). Therefore, I proposed that WIH and HIW will have a significant positive relationship with organizational withdrawal behaviors.

Lastly, there has been a plethora of research and meta-analyses looking at WFC and burnout (Amstad et al., 2011; Innstrand et al., 2008; Kossek & Ozeki, 1998; Lambert et al., 2009). Burnout is a common strain which is characterized by emotional exhaustion, depersonalization, and a reduced sense of personal accomplishment (Maslach & Goldberg, 1998). Emotional exhaustion refers to when emotional resources are depleted. Depersonalization (emotional detachment to other people) is usually conceptualized as a response to emotional exhaustion. The last component is reduced personal accomplishment which refers to a person’s feeling of work efficacy. Burnout is in response to the presence of chronic work stressors (Maslach & Goldberg, 1998).

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4 Although WHC is expected to have a relationship with burnout, due to the fact that individuals working with a chronic illness may have symptoms that mirror the items in burnout scales, it may be confounded. One of the example items is “I often feel tired before arriving at work”. This item may be endorsed in individuals whose symptoms are more severe and may not capture burnout accurately in this population of workers. In order to address this confound, Illness severity will be controlled for when looking at the HWC/burnout relationship.
A study of correctional officers found that for WFC and FWC, both the strain and behavior dimensions were positively related to burnout (Lambert et al., 2009). This study, however; did not find a relationship between the time-based dimension and burnout (Lambert et al., 2009). A longitudinal study looked at the causal relationship between WFC and burnout for a variety of different jobs (Innstrand et al., 2008). This study looked at competing models of WFC and burnout: The causal model (WFC leading to burnout), the reversed causal relationship (burnout leading to WFC) and the reciprocal model (burnout and WFC mutually influencing each other) were all analyzed (Innstrand et al., 2008). The reciprocal model fit the data best, supporting the notion that there is a relationship between WFC and burnout. The results of this study support COR theory that both loss and gain spirals occur in WFC. Lastly, a meta-analysis found a significant positive relationship between WFC and burnout for both WIF and FIW (Amstad et al., 2011). Workers with chronic health conditions may be more susceptible to burnout due to the competing demands of work and health. Thus, the WHC stressor was hypothesized to be related to burnout. A recent scale, The Copenhagen Burnout Inventory, measures work-related, life-related, and client-related burnout (Kristensen, Borritz, Villadsen, & Christensen, 2005). I chose to use the life-related and work-related sub-dimensions of this scale to measure burnout since they are most relevant to the WHC construct. Drawing on the WFC literature and the relationship between WIF and job satisfaction and the relationship between FIW and family satisfaction (Adams et al., 1996; Amstad et al., 2011; Carlson et al., 2000; Ford et al., 2007; Matthews et al., 2010; Mesmer-Magnus & Viswesvaran, 2005; Shockley & Singla, 2011), I proposed that work-related burnout would be related to WIH and life-related burnout would be related to HIW.
In scale development it is important to demonstrate incremental validity in order to provide evidence that the measure is improving prediction in outcomes beyond existing measures (Hunsley & Meyer, 2003). If a measure demonstrates that it can predict criterion above and beyond existing measures or data, then incremental validity is supported (Hunsley & Meyer, 2003) and the scale can be seen as both meaningful and practical. I proposed that the WHC scales (WIH and HIW) would predict variance in job satisfaction, life satisfaction, withdrawal, and burnout over and above the variance of a measure of WFC.

Negative affect has been used a control variable in stress research (Judge, Erez, & Thoresen, 2000). Individuals high in negative affect report higher amounts of stress and adverse health outcomes compared to individuals lower on negative affect (Judge et al., 2000). Negative affect will be measured and controlled for when examining relationships between WHC and strain-related outcomes.

**H5:** When controlling for WFC, WHC will have a negative relationship with job satisfaction.

**H6:** When controlling for FWC, HWC will have a negative relationship with life satisfaction.

**H7:** When controlling for WFC, WHC will have a positive relationship with withdrawal.

**H8a:** When controlling for WFC, WHC will have a positive relationship with work-related burnout.

**H8b:** When controlling for FWC, HWC will have a positive relationship with life-related burnout.

WIF and FIW have yielded different outcomes depending on the source of the conflict (Carlson et al., 2000; Matthews et al., 2010; Netemeyer et al., 1996; Shockley & Singla, 2011).
Two recent meta-analyses looked at competing hypotheses of family and job satisfaction outcomes for the two different types of conflict: FIW or WIF (Amstad et al., 2011; Shockley & Singla, 2011). The first and more popular theory is of domain specificity (Shockley & Singla, 2011). In other words, the domain (work or home) where the conflict is experienced will lead to a strain outcome in the opposite domain. An example of this is when family obligations begin interfering with someone’s work duties (FIW). According to the domain specificity theory, the strain would be experienced in the workplace. This would lead to the individual’s job satisfaction decreasing (Shockley & Singla, 2011). Source attribution theory predicts the reverse scenario (Shockley & Singla, 2011). According to source attribution theory, the domain (work or home) where the conflict is experienced matches the strain outcome (life or job satisfaction). For example if an individual is interrupted during a conference call due to a family situation, the individual’s family satisfaction is hypothesized to be affected to a greater extent than the individual’s job satisfaction (Shockley & Singla, 2011). Both meta-analyses found a greater support for source attribution theory (Amstad et al., 2011; Shockley & Singla, 2011). The meta-analysis by Amstad et al. (2011) also looked at life satisfaction and found a significant negative relationship between both types (WIF and FIW) and overall satisfaction with life. Following in line with this research, it was predicted that the two dimensions of the current scale will have different outcomes with job and life satisfaction. Greater amounts of WIH were hypothesized to have a stronger negative correlation with job satisfaction than HIW. Additionally, HIW is hypothesized to have a stronger negative relationship with life satisfaction than WIH.

\[ H9a: \text{WIH will have a stronger negative relationship to job satisfaction than life satisfaction.} \]
H9b: HIW will have a stronger negative relationship to life satisfaction than job satisfaction.
CHAPTER 2

Method

Study 1- Item Generation

The first step in scale development was generating items that are related to Work-Health Conflict issues. My goal was to create a scale that assesses the degree to which health issues interfere with work and work interferes with health for individuals that are managing a chronic illness.

Participants

An online survey system was utilized (M-Turk) to recruit participants. All participants were compensated $7.50 to fill out the survey. Due to different countries having different medical systems and policies regarding working with a chronic illness, the scale validation studies were restricted to workers in the U.S. Participants also had to have at least one chronic illness and work a minimum of 40 hours per week. A sample of 64 workers were recruited using Amazon.com’s M-Turk site. A short screening study was previously conducted to identify participants that met the inclusion criteria. I invited 64 participants that had indicated having at least one chronic illness, working a minimum of 40 hours per week and lived in the U.S. After the initial response of 20 participants, I reviewed the data to see if it had reached saturation. Since there appeared to be a variety of different responses to the open-ended questions, 14 more participants filled out the survey. Upon inspection of the data responses had reached saturation (no new information reported by participants). The final sample of workers represented a variety of different occupations and chronic illnesses. Information on working with a chronic illness was gathered from 35 participants with a response rate of 55%. The average age of respondents was 35.83 (SD = 10.74) and the sample was 51.4 % male. The average tenure at the current
organization was 6.57 years. Over half of the sample (68.5%) reported having at least a 4-year college degree or graduate degree and 28.6% reported having some college education. For more details on the demographics of this study please see Table 1a and 1b.

**Design and Procedure**

An open-ended survey was administered online. A measure of Illness severity and demographics (e.g. age) were included (please see appendix A for the full list). In order to ensure that participant responses were not primed by illness severity; the open-ended survey appeared first, followed by the demographic questions.

**Measures**

**Open-ended Questions.** The open-ended questions asked about conflict between illness treatment and work. These questions were written based on the construct definitions provided above for time-based, strain-based, and energy-based WIH and HIW. There were a total of eight questions: two general questions to examine if there were other WHC themes beyond the six themes identified based on theory and six specific questions based on the WFC construct and a review of the chronic illness literature, one representing each of the six domains of WHC (WIH and HIW, time, strain, and energy-based). An example question for time-based WIH is, “Has time spent at work or performing your job prevented you or decreased your ability to treat your illness? Please explain”. An example of a general WHC question is “How has having a chronic illness interfered with or affected your work?” For a full list of the open-ended questions please refer to Appendix B.

**Content Analysis**

A combination of techniques was employed in order to generate items. First, content analysis was conducted, and based on the responses, themes were created. There are three
popular approaches to content analysis: conventional, directed, and summative (Hsieh & Shannon, 2005). Conventional techniques use the data directly to develop codes (Hsieh & Shannon, 2005). Directed techniques (a.k.a. thematic coding) use theory to develop codes and summative usually use keywords and counting methods (Boyatzis, 1998; Hsieh & Shannon, 2005). Using both theory from WFC and the chronic illness literature, I used the thematic approach to develop codes (time, strain, energy). However, to ensure content validity, I also used the conventional approach to analyze the following two open-ended questions: “How has work interfered or affected your illness?” and “How has your illness interfered or affected your work?” These questions were included in the survey to ensure that I was not missing any important themes of WHC. Using the combination of thematic and conventional analysis helped ensure that I included all relevant content to develop a comprehensive scale. The number of times a theme was mentioned was enumerated and the most represented themes were included as items (Boyatzis, 1998).

Results

Two I/O Psychology students that are members of an Occupational Health Psychology Lab (I and another member) participated in the thematic coding of the survey responses. The open-ended surveys were coded based on the themes developed (e.g. time, strain and energy based WIH and HIW) through a thorough review of the WFC and Chronic Illness literature (Boyatzis, 1998). Both coders independently reviewed the responses to each question. First, the conventional content analysis technique (Hsieh & Shannon, 2005) was used to review the two general open-ended questions (e.g., How has work interfered with or affected your illness?) in order to examine the responses for possible untapped dimensions (i.e., besides time, strain, and energy-based conflict). We read each response to the two broad questions and coded the
response as either: time-based WIH or HIW, energy-based HIW or WIH, strain-based HIW or WIH, or “other.” After reading through each response and sorting it into the proper theme, the responses sorted as “other” were examined to explore the possibility of another theme being added beyond time, strain, and energy. After reading each response and coding it independently, the two coders met to discuss the initial coding of the responses and any discrepancies were resolved through discussion and consensus.

The total number of excerpts to be coded for the two broad questions combined was 69 (35 for the first question and 34 for the second question). The most frequent response to the first broad question (How has work interfered or affected your illness?) was time-based WIH which was mentioned in seven different excerpts. The second most frequent code was strain-based WIH, which was mentioned a total of six times. Four different respondents reported energy-based WIH and 11 responses were coded as “other.” Nine of the 11 responses were coded as health interfering with work. Of the 11 responses that were categorized as other, 10 of the responses discussed symptoms of the chronic illness or how these symptoms are more salient or exacerbated at work. Many of these responses were highly specific in nature. An example of one of these excerpts is:

“I have had chronic back issues and work is a major factor. I have herniated my l5s1 disc and my doctor thinks it is because all I do is sit in a chair -- I am not active. This caused me to lose feeling in my right leg and to have unbearable pain in my back that crippled me. I eventually had surgery which has given me walking back (still numb in my foot though) but still sit at work all day, which is causing my back to be sore. He’s worried I could herniate it again.”
Since many responses described symptoms that were specific to a particular illness or injury or described a specific work environment, an additional sub-dimension was not added for symptoms. For example one respondent discussed insomnia symptoms and another respondent discussed having to constantly monitor their blood sugar levels.

The open-ended general health interfering with work question (“how has work interfered with or affected your illness?”) was analyzed next to explore whether an additional sub-dimension needed to be added to the HIW scale. Time-based HIW was mentioned 11 times, followed by energy-based HIW which was mentioned in nine different excerpts. Strain-based HIW was only coded 4 times and 9 excerpts were coded as “other.” Notably, three respondents reported that their health did not interfere with their work.

Of the 9 excerpts that were coded as other, 7 reflected symptom-based conflict or symptoms impacting the workers job performance. Twenty one of the respondents reported having diminished work ability due to their illness. Eight of these excerpts discussed frustration with lower job performance, for example:

“Having a chronic illness is frustrating with work. I have to get up regularly to just walk around to help my back and I have to do stretches on poles when I should be working. They're accommodating but it's frustrating.”

We coded this example as strain-based HIW. Other examples focused on specific symptoms interfering with work, for example:

“Sometimes I have difficulty pressing the exact letters on the keyboard since my fingers are big due to my diabetes and fluid retention. I also don't have a lot of mental energy or physical energy for tasks.”
Although these excerpts focused on chronic illness symptoms impacting work, many of these examples also fit one of the pre-existing codes (e.g. time, strain, or energy-based conflict) so an additional sub-dimension was not added to the HIW scale.

Overall, responses to the survey questions for each category were as expected. Despite many respondents reporting specific symptoms or job characteristics, the broad conflict themes of time, strain and energy still emerged in the data. There were a total of 161 excerpts/responses to the other six questions that focused specifically on time-based, energy-based, or strain-based WIH and HIW. Please see Table 2 for example responses to all of the open-ended questions. Of the 161 excerpts, 159 were usable (2 respondents reported no to one of the questions and therefore the excerpts were not coded). Thematic coding (Hsieh & Shannon, 2005) was used for these questions in order to come up with items for the scale. More specifically, the two coders (I and the same OHP lab student) read all of the responses for each of the remaining questions and wrote items for each of the six sub-dimensions based on the excerpts. After the initial item generation, we met and reviewed each item. Items were edited for grammar and wording clarity, and redundant items were deleted. In line with previous scale development projects that focused on work/life conflict, I reviewed the WFC scale by Carlson et al. (2000) and modified three items to add to the list of scale items. Any reference to home or family was modified to “managing my health condition” or “chronic illness”. I chose this scale because it is a psychometrically sound scale that distinguishes between time, strain, and behavior-based WFC (Carlson et al., 2000). An example is “I am often am too preoccupied with work while I am home” was modified to “I often am too preoccupied with work to focus on managing my chronic illness”. A total of 63 items were retained and analyzed in the next study for content validity (please see Appendix B).
Participants

Eleven I/O Psychology faculty \((n = 3)\) and graduate students \((n = 8)\) who had knowledge of scale development voluntarily completed an online Q-sort survey in which they attempted to sort the items generated in Study 1 into the six theoretically-derived categories (time, strain, and energy-based WIH and HIW). No recruitment incentives were used.

Procedure

Participants were asked to sort the items of the scale into the dimension which they thought it best fit (Time-based, Strain-based, or Energy-based WIH or HIW). Items respondents did not think fit into any of the proposed categories were placed into a “none-of-the-above” category. There was also an open-ended question for each item that allowed the sorters to make comments or suggestions for wording changes. Consistent with prior WFC and Work/Nonwork Interference research the items were rated on a 3-point Likert-type scale (2) very representative, (1) somewhat representative, (0) not at all to how relevant they were to the construct definition (Carlson et al., 2006; Fisher et al., 2009; Hanson, Hammer, & Colton, 2006; Netemeyer et al., 1996). Items with an average score of 1.5 or greater (i.e. halfway between somewhat representative (1) and very representative (2) and were properly sorted were retained (Fisher et al., 2009).

Results

In order to choose the final scale items for the Work-Health Conflict Scale I first calculated the percentage of respondents who chose the correct dimension. Items that were sorted into their proper dimension by 72% (i.e., 8/11) of the respondents were retained. Comments were
also reviewed for each of the items on the survey. Based on suggestions made by the 11 respondents, items were revised in order to clarify their meaning or correct minor grammatical errors. Items that were rated above a 1.5 and were sorted into the hypothesized dimension were retained. A total of 43 items were retained from the original 63 (68%). Descriptive statistics for all of the items are reported in Table 3. The WIH scale after the Q-sort included 8 time-based, 8 energy-based, and 9 strain-based items. The HIW scale after the Q-sort contained 6 time-based, 6 energy-based, and 6 strain-based items please see Appendix D and E.
CHAPTER 4

Study 3- Scale Validation

Participants and Procedure

Participants were recruited using Amazon.com’s M-Turk site and a link to the survey was posted on two popular chronic illness blogs (workingwithchronicillness.com, and http://forums.spondylitis.org) and advertised on Twitter. Similar to Study 1, the inclusion criteria for Study 3 were that the individual had a chronic health condition and worked in the U.S for at least 40 hours/week. The survey items addressing illness severity and WHC appeared toward the end of the survey in order to reduce potential bias in responding due to affective reactions to health-related questions. After the initial data screening (please see data screening section below) a total of 230 participants remained in the sample. The sample contained 102 males (45%) and 124 Females (55%). Participants were generally well-educated: over half of the sample reported having a 4-year college degree or beyond. The average age of the participants was 40.76. The average organizational tenure was 8.02 years. Participants reported having a chronic illness for an average of 8.76 years. For more details on the demographics of the sample please see Table 4.

Measures

Illness severity. To measure illness severity, five of six items were used from the Consequences subscale of the Revised Illness Perceptions Questionnaire (Moss-Morris et al., 2002) due to the sixth item causing (reverse coded) causing some issues with reliability in this sample. Using five of the six items increased the internal reliability of the measure. An example item is “My chronic illness has major consequences in my life.” Response options range from (1) strongly disagree to (5) strongly agree. Reliability was in acceptable range (α = .70). Please see Appendix F.
**Work-health conflict (WIH).** The WIH scale contained 25 items. There were 8 time-based conflict items ($\alpha = .86$). An example item is “I am not easily able to leave work for medical appointments.” The energy-based conflict subscale contained 8 items ($\alpha = .86$). An example item is “Work depletes the physical energy I need to take care of my health.” The strain-based subscale contained 9 items ($\alpha = .88$). An example item is “Stress at work makes it more difficult for me to cope with living with a chronic health condition.” Response options ranged from (1) *strongly disagree* to (5) *strongly agree*. Please see Appendix D.

**Health-Work conflict (HIW).** The HIW subscale contained a total of 18 items (6 items per subscale). Response options ranged from (1) *strongly disagree* to (5) *strongly agree*. An example time-based conflict item is “Sometimes I need to leave work early due to illness symptoms.” The coefficient alpha was acceptable ($\alpha = .76$). An example item of the energy-based WIH subscale is “Tiredness or fatigue related to chronic illness sometimes interferes with my work.” Again, the coefficient alpha was in the acceptable range ($\alpha = .80$). The strain-based subscale had acceptable reliability ($\alpha = .77$). An example item is “I am sometimes frustrated that I have to deal with my chronic illness symptoms at work.” Please see Appendix E.

**Work-Family conflict (WIF).** This scale has five items that assess time, strain, and behavior based conflict when work conflicts with family (Netemeyer et al., 1996). An example item is: “The demands of my job interfere with my home and family life.” Items were rated using a 5-point Likert-type scale ranging from (1) *strongly disagree* to (5) *strongly agree* and the coefficient alpha was acceptable ($\alpha = .86$). Please see Appendix G.

**Family-Work conflict (FIW).** The Netemeyer et al. (1996) scale was used to assess Family to Work with five items. An example item is: “I have to put off doing things at work because of demands of my time at home.” Items were rated using a 5-point Likert-type scale
ranging from (1) strongly disagree to (5) strongly agree) and the coefficient alpha was acceptable ($\alpha = .89$). Please see Appendix H.

**Work stress.** The 15-item stress in general (SIG) scale that assesses overall job stress was used (Stanton, Balzer, Smith, Parra, & Ironson, 2001). This scale contains two dimensions: Pressure (7 items) and Threat (8 items). Response options to the scale are Yes, No, and ?. Scoring for positive items is N=0, ? = 1.5, and Y = 3, and the reverse for negatively worded items. The coefficient alpha was .86. Example items are “demanding” for pressure and “hassled” for threat. Please see Appendix I.

**Negative affect.** Negative Affect has been shown to inflate ratings of strain, so a scale of NA was used in order to control for it during analysis. The PANAS scale that lists 10 emotions (afraid, jittery, etc.) was used to measure negative affect. Respondents rated each emotion on a 4-point Likert-type scale (Watson, Clark, & Tellegren, 1998) ranging from (1) never to (5) almost always. The coefficient alpha was acceptable ($\alpha = .86$). Please see Appendix J.

**Boundary flexibility.** The 4-item boundary flexibility scale was used (Matthews & Barnes-Farrell, 2010). Items were rated on a 5-point Likert-type scale ranging from (1) strongly disagree to (5) strongly agree and the coefficient alpha was acceptable ($\alpha = .80$). An example item is: “I am able to arrive and depart from work when I want in order to meet personal responsibilities.” Please see Appendix K.

**Data screening**

A total of 762 participants completed the survey, 691 from Blogs and Twitter and 71 from M-Turk. In order to ensure that participants filled out the survey conscientiously, the surveys were timed. Due to public posting of the survey online (twitter.com, workingwithchronicillness.com and http://forums.spondylitis.org), the majority of the
participants either did not adequately complete the survey and just “clicked through” the items, and took fewer than 10 minutes to complete the survey. Since the survey was long (155 items) and it would be nearly impossible to complete it in less than 10 minutes, all participants that took less than 10 minutes were deleted. Many of the survey testers that completed the survey before the launch reported completing the survey in 10-20 minutes. It is important to note that many of these respondents took under 5 minutes to fill out the survey ($n = 278$). A total of 511 respondents were deleted for completing or clicking through the survey in less than 10 minutes, leaving a total of 251 participants.

The data were also further screened in order to ensure that the respondents were paying attention while filling out the survey. Three items were embedded in the survey to detect insufficient effort responding, e.g., “If you are reading this please select neutral.” Responses from respondents missing more than one of these three items were removed from the dataset ($n = 15$).

The data were also screened to identify participants with extensive missing data. While most of the participants completed the entire survey, two had extensive missing data (over half of the survey) and were deleted. Upon further inspection of the demographic variables and illness severity scales, it was revealed that 4 respondents reported over 40,000 doctor visits in a year. Since this is impossible and two participants reported the same amount of doctor visits (i.e. 41,798), the four participants were deleted from the survey. After the initial data screening and removal of inattentive respondents, total of 230 participants remained.

**Results**

All means and standard deviations for the Study 3 variables can be found in Table 5 and correlations for all study variables can be found in Table 6. All of the descriptive statistics were
examined. Overall the sample reported relatively high levels (higher than the scale midpoint) of illness severity ($M = 3.50$, $SD = .71$). The sample reported relatively low levels of FWC ($M = 2.67$, $SD = .95$), whereas WFC ($M = 3.53$, $SD = .85$), WHC ($M = 3.37$, $SD = .83$), and HWC ($M = 3.39$, $SD = .74$) were above the scale midpoints indicating that the sample overall on average reported experiencing some workplace and health conflict. Additionally, the sample reported a high amount of workplace flexibility ($M = 3.21$, $SD = .92$) which may buffer the experience of WHC. Overall the sample reported relatively low levels of Negative affect ($M = 2.57$, $SD = .72$). Work stress was also above the scale midpoint ($M = 1.85$, $SD = .68$). Overall, many of the inter-variable correlations were as expected (see Table 6). WIH had a significant positive relationship with illness severity ($r = .59$, $p < .001$), hours worked ($r = .16$, $p < .05$) and WFC ($r = .51$, $p < .001$) and a significant negative relationship with boundary flexibility ($r = -.21$, $p < .001$). However, interestingly there was no relationship observed between WIH and FWC. Also many of the correlations between HIW and the study variables were in the expected directions. Again, there was a significant positive relationship with illness severity ($r = .40$, $p < .001$), WFC ($r = .49$, $p < .001$), and hours worked ($r = .20$, $p < .001$) and a negative relationship with boundary flexibility ($r = -.34$, $p < .001$). However, again there was no relationship with FWC. Upon inspection of the inter-variable correlations for study 4, again all of the variables displayed a similar pattern (please see Table 9). There were some unexpected findings in the data. There was no significant relationship observed between WIH and HIW with job satisfaction or life satisfaction. Even more unexpected, there was no significant relationship between WFC and FWC and job and life satisfaction. Overall the inter-variable correlations provide initial support for many of the hypotheses; however, the hypotheses in study 4 regarding job and life satisfaction are not supported based on the inter-variable correlations. Following the guidelines
presented by Malone & Lubansky (2000), the data was screened by running descriptive statistics, examining the minimum and maximum values for all of the indicators, running histograms, and examining VIF and tolerance values. To examine the data for univariate outliers I transformed all of the data into Z scores and used a cutoff of 3.29 because it is significant at the .001 level. I also computed a multiple regression with Mahalanobis distance to examine the data for multivariate outliers. No univariate or multivariate outliers were detected and there were no issues of multicollinearity (i.e. there were no tolerance levels above .10). I will first report the results of the CFA and item deletion. I will then report the results of Hypothesis 1 (i.e. discriminant validity with WFC), Hypothesis 3a-3c (i.e. WHC relationship with illness severity, hours worked, and boundary flexibility) and Hypothesis 4 (i.e. convergent validity with overall work stress).

**CFA and item reduction.** The factor structure of the WHC scale was analyzed using CFA methods in M-plus version 6.11. Prior to running the analysis, the data was inspected to ensure that it met the assumptions of maximum likelihood. The first model tested the hypothesized scale. More specifically, a higher order model was tested where the 43 items were set to load onto their respective six sub-dimensions (time-based WIH, energy-based WIH, strain-based WIH, time-based HIW, energy-based HIW, and strain-based HIW) with two higher order factors (WHC and HWC). The model was a poor fit to the data, $\chi^2(853) = 2478.55$, $p < .001$, CFI = .70, RMSEA = .09[90% CI = .09, .10], yet fit the data better than a single-factor model, $\chi^2(862) = 3147.70$, $p < .001$, CFI = .58, RMSEA = .11[90% CI = .10, .11] where all items loaded on one WHC scale: $\Delta\chi^2 = 669.15$, $p < .05$. Using criteria cited in past scale development articles (e.g., Carlson et al. 2000), I deleted one item that had a standardized factor loading of less than .50 (time-based HIW; $\beta = .46$). I also examined the modification indices to identify items that
were related to a sub-dimension other than the one they were specified for (i.e. looked for cross-loadings). After identifying items that were cross-loading on other dimensions (4 items), I reviewed the items carefully. The 4 items identified as cross-loading could be interpreted as double-barreled. For example, the item “Sometimes I am too tired (i.e. energy) from my illness to come to work (i.e. time)” could be interpreted as both energy and time-based conflict. Therefore items that were identified as potentially loading on other factors and could be interpreted as more than one type of conflict were removed from the scale. A total of 8 items were removed based on these criteria: 4 items were deleted for cross-loading issues, 3 items for standardized factor loadings below .52, and 1 item for correlated measurement error. A revised model was tested with the above items deleted. Although the fit for the model increased, it was still a poor fit to the data, $\chi^2 (553) = 1404.29, p < .001, \text{CFI} = .80, \text{RMSEA} = .08 [90\% \text{ CI} = .08, .09]$.

The goal of the current study was then revisited in light of the poor-fitting models. The intent was to create a parsimonious WIH and HIW scale with three items for each type of conflict. Based on this goal, another review of the standardized factor loadings, the modification indices (in order to identify cross-loadings), the residuals and the inter-item correlations and the items on the scale was conducted. After a thorough review, 17 more items were deleted (10 based on lower standardized factor loadings, less than .62, and 7 based on multiple issues). For example, based on the modification indices, many of the items were associated with multiple factors. The final model tested an 18 item scale (3 items per sub-dimension) for the final scale items please see Appendix L. The scale demonstrated an acceptable fit to the data, $\chi^2 (128) = 323.19, p < .001, \text{CFI} = .90, \text{RMSEA} = .08 [90\% \text{ CI} = .07, .09]$. Please see figure 1.
**Alternative model testing.** After the final scale items were chosen, alternative models were tested similar to the scale validation study by Carlson et al. (2000). In order to ensure that the two higher order factor with 6 sub-dimensions was the best fitting model, I examined other alternative models that are popular in scale development (please see Table 7). The first model tested was a one factor model (WHC) with three sub-dimensions (time, energy, and strain). The model was a poor fit to the data $\chi^2 (132) = 455.74, p < .001, \text{CFI} = .84, \text{RMSEA} = .10$. The next model tested was a two factor model where all of the WIH items were loaded on WIH and all of the HIW items were loaded on WIH. The model was a poor fit to the data, $\chi^2 (134) = 450.60, p < .001, \text{CFI} = .81, \text{RMSEA} = .10$. The last model tested loaded all of the items onto one overall WHC factor. Again the model was a poor fit to the data, $\chi^2 (135) = 511.45, p < .001, \text{CFI} = .81, \text{RMSEA} = .11$. The alternative models tested provide additional support that the two higher order factor model with 6 sub-dimensions is the best fit to the data.

**Discriminant validity.** The WHC scale was analyzed to assess discriminant validity with a WFC scale. I estimated two CFA models, the first being a one-factor model with all of the WHC and WFC items loading together, $\chi^2 (353) = 2235.67, p < .001, \text{CFI} = .45, \text{RMSEA} = .15 [90\% \text{ CI} = .15, .16]$. The second two-factor model consisted of the WHC and WFC items loading on separate factors, $\chi^2 (352) = 1926.17, p < .001, \text{CFI} = .54, \text{RMSEA} = .14 [90\% \text{ CI} = .13, .15]$. To support discriminant validity, a chi-square difference test was conducted. The chi-square difference ($\Delta \chi^2 = 309.5$) exceeded the critical value $\chi^2 (1) = 3.84$. The two factor model fit the data better, supporting Hypothesis 1.

In order to gather more support for discriminant validity, the WHC scale was compared to work stress. Since WIH is a hypothesized to be a work stressor, I examined the WIH scale with a known work stressor scale (i.e. Stress in General). In order to test this, all of the stress in
general (SIG) and WIH items were loaded onto one factor, $\chi^2 (252) = 1006.88, p < .001, CFI = .66, RMSEA = .11[90\% CI = .11, .12]$. The second model loaded all of the stress in general and WHC items onto two separate factors, $\chi^2 (251) = 677.73, p < .001, CFI = .79, RMSEA = .09[90\% CI = .08, .09]$. The chi-square difference exceeded the critical value of $\chi^2 (1) = 3.84 (\Delta\chi^2 = 329.15)$ revealing that the two factor model better fits the data, further supporting the discriminant validity of WIH.

In order to examine the HIW scale for discriminant validity, the scale was compared to an illness severity scale (i.e. the consequences of illness). It is expected that these two constructs would be related because they measure the degree that a chronic illness impacts a person’s life. The first model tested loaded all of the consequences of illness HIW items onto one factor, $\chi^2 (107) = 651.63, p < .001, CFI = .55, RMSEA = .15[90\% CI = .14, .16]$. The second tested a two factor model where all of the items loaded on their respective factors, $\chi^2 (106) = 629.94, p < .001, CFI = .56, RMSEA = .15 [90\% CI = .14, .16]$. Again, a chi-square difference test was conducted. The chi-square exceeded the critical value $\chi^2 (1) = 3.84 (\Delta\chi^2 = 21.69)$, providing support for discriminant validity.

**Convergent validity.** Based on COR theory, conflict between an individual’s health and work is thought to relate to overall job stress. In line with this the relationships between WIH ($r = .49$, $p = .001$) and HIW ($r = .37$, $p = .001$) with stress in general were both significant providing support for Hypothesis 4. To test Hypothesis 3a-3c simple correlations were calculated. WIH ($r = .58$, $p < .001$) and HIW ($r = .63$, $p < .001$) were significantly and positively related to illness severity, supporting Hypothesis 3a. Additionally, the correlations between number of hours worked and WIH ($r = .16$, $p = .018$) and hours worked and HIW ($r = .19$, $p = .006$) were significant, supporting Hypothesis 3b. There was also a significant and negative
relationship between WIH and boundary flexibility \((r = -.21, p = .001)\). However, the relationship between HIW and boundary flexibility was not significant providing partial support for Hypothesis 3c. Overall, the current scale also demonstrated convergent validity with scales that are expected to be related to the WHC construct.
CHAPTER 5

Study 4- Criterion Validity

Participants and Procedure

The same sample of workers with chronic illness used in Study 3 was used in order to test the hypotheses in study 4. The total number of respondents were 230 U.S. workers working full-time with a chronic illness.

Measures

**Work-Health conflict.** The 9-item WIH scale was used. An example item of the scale is “I am often so tired from work that I cannot perform activities that help my illness management such as exercise, eating certain foods, etc.” Response options ranged from (1) *strongly disagree* to (5) *strongly agree*. The coefficient alpha for the scale is .89. Please see Appendix L.

**Health-Work conflict.** The 9-item HIW scale was used for the current study. The coefficient alpha was .85. Responses ranged from (1) *strongly disagree* to (5) *strongly agree*. An example item is “My symptoms sometimes deplete the energy I need to perform my job”. Please see Appendix M.

**Job satisfaction.** A 3-item measure of job satisfaction was used (Cammann et al., 1983). An example item of this scale is: “In general, I don’t like my job.” Items are rated on a 5-point Likert-type scale (1) *strongly disagree* to (5) *strongly agree* ($\alpha = .74$). Please see Appendix N.

**Life satisfaction.** A 5-item measure of life satisfaction was used (Diener et al., 1985). An example item of this scale is: “In most ways my life is close to ideal”. Items are rated on a 7-point Likert-type scale (1) *strongly disagree* to (7) *strongly agree* ($\alpha = .85$). Please see Appendix O.
**Withdrawal.** A 13-item measure of work and job withdrawal was used in which participants are asked to report the ways that they react to stress on a 4 point Likert-type scale, (1) *never* to (4) *many times* (Hanisch & Hulin, 1990). An example question is “Thought about leaving your job” ($\alpha = .80$). Please see Appendix P.

**Burnout.** The Copenhagen Burnout Inventory (Kristensen et al., 2005) was used to measure burnout. The 6-item measure of personal burnout was used to measure life-related burnout ($\alpha = .83$). An example item is “How often do you think: ’I can’t take it anymore’”? The 7-item subscale of work-related burnout was also used ($\alpha = .74$). An example item from that scale was “Do you feel worn out at the end of the working day? Response options for this scale ranged from (1) *never (to a low degree)* to (5) *always (to a very high degree)*. Please see Appendix Q.

**Illness severity.** The same scales used in the previous studies will be used as measures of illness severity; the Consequences subscale of the Revised Illness Perceptions Questionnaire, coefficient alpha was .69 was used (Moss-Morris et al., 2002). Please see Appendix F.

**Negative affect.** The PANAS scale used in the previous study was used (Watson et al., 1998). Please see Appendix J ($\alpha = .86$).

**Boundary flexibility.** The Boundary Flexibility scale described in the previous study was used (Matthews & Barnes-Farrell, 2010). Please see Appendix K ($\alpha = .80$).

**Analysis**

To examine incremental validity four hierarchical multiple-regressions were conducted to see if the present scale predicted job satisfaction, life satisfaction, burnout, and withdrawal beyond the WFC scale (Hypotheses 5-8). To test this, illness severity, and negative affectivity
(control variables) were entered into the first block. WFC and FWC were entered in step two, and the WHC and HWC were entered in the last step.

**Results**

Hypothesis 5 predicted that after controlling for WFC, WIH would have a negative relationship with job satisfaction. After controlling for both negative affect and illness severity, neither WFC ($\beta = -.05, SE = .08, t = -0.66, p = .508$) nor WIH ($\beta = -.07, SE = .10 t = -.08, p = .439, \Delta R^2 = .003, p = .439$) were significantly related to job satisfaction. Therefore there was no support for Hypothesis 5. All means and standard deviations for the study variables and correlations are reported in Tables 9 and 10. For all multiple regression results please see Table 10.

Hypothesis 6 predicted that after controlling for FWC, HWC would have a negative relationship with life satisfaction. Again, after controlling for negative affect and illness severity in the first block, entering FWC into the second block, HWC ($\beta = -.02, SE = .15 t = 0.25, p = .805, \Delta R^2 = .00, p = .805$) was not a significant predictor of life satisfaction. In the current study, both FWC and HWC did not have a significant relationship with life satisfaction. So there was not support for hypothesis 6.

Hypothesis 7 predicted that after controlling for WFC, there would be a significant and positive relationship between work withdrawal and WHC. WHC was significant, $\beta = .22, SE = .04 t = 2.94, p = .004, \Delta R^2 = .02, p = .004$, providing support for Hypothesis 7.

Hypothesis 8a and 8b were also tested using two multiple regression analyses. The two control variables (negative affect and illness severity) were entered into the first step, for hypothesis 8a WFC was entered into the second step and WHC was entered into the last. WHC had a significant relationship with work-related burnout, $\beta = .51, SE = .05 t = 7.27, p < .001, \Delta R^2$
= .12, p < .001. Thus, there was full support for Hypotheses 8a and 8b was tested by entering the control variables into block 1, FWC into block 2, and HWC into the last block. HWC had a significant relationship with life-related burnout, β = .38, SE = .06 t = 5.19, p < .001, ΔR² = .06, p < .001, fully supporting Hypothesis 8b.

There was no bivariate relationship between life satisfaction and HWC nor was there a significant bivariate relationship between job satisfaction and WHC so Hypotheses 9a and 9b were not tested due to the lack of a significant relationship between these variables.
CHAPTER 6

Discussion

The current study used both a theoretical and empirical approach to develop a WHC scale that measures both WIH and HIW. This scale is important because it advances the working with chronic illness literature which has been primarily overlooked until recently. With the aging of the workforce and advancement of medical treatments, working with chronic illness will continue to become prevalent in the workplace. Having a psychometrically sound measure of WHC is important in order to capture conflict experienced by this population of workers. The scale can help researchers examine additional outcomes of WHC as well as identify antecedents. One of the main goals of this study was to measure WHC with a short and parsimonious scale so that both organizations and researchers can use this measure to efficiently measure WHC in order to either create new employee assistance programs (EAP) or advance the empirical literature. This scale can also help researchers and practitioners examine the effectiveness of targeted interventions aimed at reducing WHC.

Key findings. One of the key findings of this study is that based on the content analysis of the qualitative study workers with a chronic illness do experience conflict when attending to health and work. Based on the content analysis, most of HIW conflict appears to be stemming from symptoms that either affect employees’ time, energy, or create strain making work more challenging. Additionally, work was reported to interfere with employees’ ability to manage their illness, rest, and remain compliant with their doctor’s orders. This qualitative data provided rich information that supports the development of the sub-dimensions of this scale (i.e. time, energy, and strain). However, many of the excerpts mentioned multiple sub-dimensions suggesting that,
although there is support for these sub-dimensions, the source of conflict (i.e., WIH time, strain, and energy) may be occurring simultaneously.

Another key finding is that the scale supported a two-order higher factor model with 6 sub-dimensions with an acceptable model fit. The WHC scale also demonstrated discriminant validity with the Netemeyer et al. (1996) WFC Scale. Additionally, the WIH scale had evidence of discriminant validity with the SIG scale. I also further tested the HIW scale for discriminant validity with illness severity. Results of this analysis revealed discriminant validity between these two scales which provides further support for discrimination between WHC and other related, but distinct scales. Overall the support for discriminant validity supports that conflict that workers managing a chronic illness experience is unique compared to other well established workplace stressors.

The scale was also examined for convergent validity with SIG which was supported. Again, demonstrating that there are relationships between WIH and HIW with SIG supports that the current scale is measuring stress which is critical to the validity of the construct. Lastly, the WHC scale had a positive relationship with number of hours worked and illness severity suggesting that greater numbers of hours worked and greater illness severity is associated with more WHC. There was also a negative relationship between workplace flexibility and WHC. Future research should examine this further using a longitudinal research method to examine if increasing flexibility in the workplace can help buffer the experience of WHC. Workplace flexibility; however, did not have a relationship with HIW. This, upon further inspection, makes theoretical sense because you would not expect a person’s chronic illness to impact or be related to workplace flexibility.
After controlling for illness severity and negative affect WIH demonstrated incremental validity over WFC when predicting self-reported work-related burnout and withdrawal behaviors. Also, after controlling for illness severity and negative affect, HIW also demonstrated incremental validity over FWC when predicting life-related burnout. This supports that the current WHC scale is useful in that it captures the unique experiences of worker with chronic illness over and above the common surveys that are used to measure workplace conflict (i.e. WFC). The incremental validity of the WHC scale and its’ ability to account for variance above and beyond other existing measures in life and work related burnout and withdrawal behaviors also supports the added value of this scale.

Probably the most interesting key finding of the current study is that there were no observed relationships between either the WFC or WHC scales with both job and life satisfaction. It is possible that WHC is not related to job or life satisfaction; however, this is contrary to the large amount of WFC literature that has found relationships between WFC and job and life satisfaction. Therefore these results should be examined with caution. One of the key tenets of the WFC literature is that the role must be seen as a salient feature in order for conflict to occur (Greenhaus & Beutell, 1985). It is possible that given the large amount of research that supports the domain specificity theory that WIH would predict lower levels of job satisfaction. However, if a person views their chronic health condition as irrelevant from their work role, it is possible that when work interferes with health that it is not the organization’s fault. Job requirements such as attending meetings and completing work objectives are expected of employees regardless of a person’s chronic health condition. Therefore it is plausible that when WIH it is not seen as a negative attribute of the job and therefore may not be related to workplace attitudes.
Additionally, life satisfaction is impacted by several different factors. Although chronic illness can impact a person’s quality of life during symptomatic periods, there are still many other factors that play a role in a person’s evaluation of life. A more appropriate measure may be an evaluation of health satisfaction which is more closely related to the HIW construct. Although these findings were surprising it makes sense that managing a health condition while working may not be a factor when evaluating a person’s work and life.

The overall results of this study provide some insight into some constructs that are related to WHC (i.e. burnout and withdrawal) which helps inform research so that interventions tailored to this population of workers may be implemented. Based on the empirical evidence in this study, both researchers and practitioners should begin to examine how these strains can be mitigated. Additional research that can examine interventions on how to alleviate WHC is also needed.

The WHC scale can also be used in an applied setting. The scales could be used to help organizations assess the levels of stress this population of workers is experiencing, which could lead to job-redesign or expansion of “family-friendly” policies to include this specific population of workers. That way all workers can reduce stressors without fear of repercussions or other stigma threat, for example, being over looked for a promotion (McGonagle & Barnes-Farell, 2011; Ragins, 2008). One of the major issues workers with a chronic illness face is whether or not to disclose to a supervisor that they have an illness. Most of the current policies that are designed to reduce WFC (stressor) are targeted at populations who do not fear discrimination based on disclosure (i.e. disclose that you have a child or dependent parent in the home). This scale could be administered anonymously so that individuals could report their levels of conflict without fear of stigmatization. Organizations could then design policies based on the overall
scores of an organization. Another intervention organizations could employ is to set up more accommodations or flexibility that all workers could utilize without having to disclose why.

The current project is unique in that it adds to the literature on work conflict and examines a large population of workers that have been under-represented in the I/O Psychology literature. With several empirical studies supporting that job stressors lead to physiological and psychological strain outcomes, it is of the utmost importance to include this population of workers into the empirical literature.

Another potential consequence of strain is that it may add to and exacerbate occupational stress and increase symptoms of the chronic illness. Stress has also been found to be linked to turnover intentions, absenteeism, and decreased productivity (Colligan & Higgins, 2005). Many workers who are managing a chronic health condition are already coping with physiological deficiencies. Identifying this unique stressor and its relationship to work-related burnout, life-related burnout and withdrawal will lead to interventions that can help this group of workers maintain functioning critical to remaining in the workforce and preventing exacerbating their symptoms due to job strain.

**Limitations and future directions.** The current project is not without limitations. In order to design and measure conflict workers with a chronic illness face, many types of illnesses were included. It is important to create a scale that measures WHC that can be used regardless of a workers’ chronic health condition, despite the fact that overall levels of WHC and its relationship with strain outcomes may vary by illness type. However, despite their differences there are also some similarities these workers do share (Beatty & Joffe, 2006). Even the same chronic illness differs in symptomology from person to person, so creating scales that only measure a specific chronic illness would still yield a large amount of variance between
individuals. Therefore, I posit that illness severity is the salient feature of the conflict workers' experience when attending to both their health condition and work, not the diagnosis of the illness. Another potential limitation of the study is the high correlation observed between WIH and work-related burnout. The burnout items ask about fatigue in the workplace which closely mirrors the energy dimension of WIH; however, the items are unrelated to the time and strain dimensions. Future studies should examine the possibility of adding additional measures of burnout.

Also, it is important to measure WHC with a parsimonious and short measure so that organizations can effectively and efficiently measure the impact of work on health so that interventions and accommodations can be offered. Therefore many items that were originally developed based on content analysis and validity were deleted. Another limitation of the current study is that the CFA model fit statistics only met the minimum requirements for an acceptable fit. Although a higher CFI and lower RMSEA would have been more ideal, the sample size was low given the number of parameter estimations. Although this study yielded a short valid WHC measure, the lower fit statistics of the CFA and the deletion of several items may be interpreted as a limitation of the current study.

Another future study needs to reexamine the WHC with job and life satisfaction. It is possible that workers managing a chronic health condition do not associate this with their overall job and life satisfaction. However, this may be something unique to this sample of data, especially given the fact that most of the conflict literature suggests that work stressors are related to job satisfaction. Lastly, due to the fact that the data is cross-sectional, causality cannot be determined. We also cannot confirm that WHC is bidirectional due to lack of longitudinal data. Furthermore, some of the relationships may be spurious due to common method variance.
Future multi-method or longitudinal studies are needed in order to be able to gather support for the bidirectionality or determine causality. Another limitation is the lack of a relationship between life and job satisfaction with WFC. Past research has typically observed relationships between these constructs. Inspection of the WFC scale and demographics of the sample in the construct and criterion related validity study revealed that WFC may have not been an issue for this sample. Future studies showed ensure that WFC is represented in the sample in order to properly test the WHC for discriminant validity with the WFC scale.

Despite these limitations, the WHC scale provides a psychometric tool that can be used for future research. Interventions to help workers with chronic illnesses cope with work-related issues can now measure WHC and determine if these interventions reduce WHC and help enhance the quality of work life for this population of workers. It is my hope that this thesis generates more research in order to address this gap in the I/O literature.
Table 1a
*Participant Demographics for Study 1*

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<td>14.3</td>
</tr>
<tr>
<td><strong>Medical Insurance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>27</td>
<td>77.1</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>22.9</td>
</tr>
<tr>
<td><strong>Type of Job</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managerial</td>
<td>12</td>
<td>34.3</td>
</tr>
<tr>
<td>Non-managerial</td>
<td>23</td>
<td>65.7</td>
</tr>
</tbody>
</table>

*Note: N = 35*
Table 1b
Participant Demographics for Study 1

<table>
<thead>
<tr>
<th>Demographics</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years since diagnosis</td>
<td>8.89</td>
<td>7.94</td>
</tr>
<tr>
<td>Age</td>
<td>35.83</td>
<td>10.74</td>
</tr>
<tr>
<td>Hours worked per week</td>
<td>44.49</td>
<td>13.25</td>
</tr>
<tr>
<td>Organizational Tenure (years)</td>
<td>6.57</td>
<td>5.96</td>
</tr>
<tr>
<td>Illness Severity</td>
<td>3.90</td>
<td>1.56</td>
</tr>
<tr>
<td>Medications</td>
<td>2.69</td>
<td>10.55</td>
</tr>
<tr>
<td>Medical Appointments Last Year</td>
<td>9.28</td>
<td>1.38</td>
</tr>
<tr>
<td>ER Visits/Hospitalizations</td>
<td>1.03</td>
<td>0.73</td>
</tr>
</tbody>
</table>

N = 35
<table>
<thead>
<tr>
<th>Question</th>
<th>Participant Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>How has having a chronic illness interfered or affected your work?</td>
<td>I find that on some mornings, I will feel so exhausted that I tend to slur my words and probably ramble more than I normally accustomed to and that my co-workers probably pick-up and observe that in me and are probably making some perceptions about me based on those observations.</td>
</tr>
<tr>
<td>How has work interfered or affected your illness?</td>
<td>It has made it difficult to take the time I need to see doctors and navigate health care access. Work increases stress and pressure about not letting my illness affect me or my professionalism.</td>
</tr>
<tr>
<td>Has time spent at work or performing your job prevented you or decreased your ability to treat your illness? Please explain.</td>
<td>Yes, it is difficult to schedule treatment around a job schedule and I am less motivated to follow through with treatment when I am exhausted and stressed out from working all the time, but if I don't I can't afford treatment.</td>
</tr>
<tr>
<td>Has time spent treating or coping with your illness prevented you from performing your job or job-related duties? Please explain.</td>
<td>There have been a few cases where I woke up feeling poorly, because of the disease or due to medication side-effects, and I had to call out, or go home, sick.</td>
</tr>
<tr>
<td>Does stress resulting from your job make your illness/symptoms worse? Please explain.</td>
<td>Much worse. The more tension I have the more pain I have. Also, because my type of arthritis can be triggered from intestinal bacteria imbalances, stress can cause my stomach to be upset which can in turn cause my arthritis symptoms to be worse.</td>
</tr>
<tr>
<td>Does stress from treating your illness interfere with your job performance or work ability? Please explain.</td>
<td>Yes, very much so. I am under a lot of pressure and don't want to appear weak or less efficient. I worry about not being able to complete work on time or making mistakes because I'm preoccupied with my health. I can't focus on myself because I have to stay focused on work otherwise I won't be able to do my job.</td>
</tr>
</tbody>
</table>
Does the energy you exert on your job deplete or lower your ability to treat your illness? Please explain. Give examples.

My energy exerted in my job lowers my ability to treat my illness because I am mentally fatigued and physically fatigued at the end of the day. This causes me not to have the willpower or the energy to go to the gym or to eat healthy.

Does the energy spent on treating your illness deplete the energy needed to perform your job? Can you give an example?

Yes. When I am physically sapped of energy, I am too tired to work a lot. There are times where I end up leaving early because I am no longer able to continue on with my day.
Table 3a

Descriptive statistics for work interfering with health time-based scale items

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Sorted correctly (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time at work prevents my ability to treat my illness (e.g. take medicine, exercise, rest).</td>
<td>1.89</td>
<td>0.33</td>
<td>91%</td>
</tr>
<tr>
<td>Spending time at work prevents me from taking time to recuperate from my illness symptom flare-ups.</td>
<td>1.80</td>
<td>0.42</td>
<td>100%</td>
</tr>
<tr>
<td>I often come in to work when not feeling well or symptoms are flaring up.</td>
<td>1.00</td>
<td>0.71</td>
<td>0%</td>
</tr>
<tr>
<td>I have a difficult time taking a work break in order to rest or treat my illness.</td>
<td>1.33</td>
<td>0.50</td>
<td>82%</td>
</tr>
<tr>
<td>My work schedule makes it difficult to schedule necessary medical visits, treatments, or procedures.</td>
<td>1.90</td>
<td>0.32</td>
<td>91%</td>
</tr>
<tr>
<td>I am not easily able to leave work for medical appointments.</td>
<td>1.50</td>
<td>0.53</td>
<td>91%</td>
</tr>
<tr>
<td>I cannot take time off work needed to treat my chronic health condition.</td>
<td>1.73</td>
<td>0.47</td>
<td>100%</td>
</tr>
<tr>
<td>Time spent at work interferes with my ability to conform to a long-term treatment plan.</td>
<td>2.00</td>
<td>0.00</td>
<td>100%</td>
</tr>
<tr>
<td>Statement</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------</td>
<td>-----</td>
<td>----</td>
</tr>
<tr>
<td>I have a difficult time focusing on my health because I am spending time focusing on work.</td>
<td>1.70</td>
<td>0.67</td>
<td>91%</td>
</tr>
<tr>
<td>I am afraid that if I take time to treat my illness that I will lose my job.</td>
<td>1.55</td>
<td>0.52</td>
<td>9%</td>
</tr>
<tr>
<td>I have to miss doctor appointments or treatments due to the amount of time I must spend on my work responsibilities.</td>
<td>2.00</td>
<td>0.00</td>
<td>91%</td>
</tr>
<tr>
<td>My work duties and/or responsibilities prevent me from taking my doctors’ orders (e.g. rest, breaks).</td>
<td>1.25</td>
<td>0.96</td>
<td>45%</td>
</tr>
<tr>
<td>My work load makes it difficult to manage my illness.</td>
<td>1.25</td>
<td>0.50</td>
<td>36%</td>
</tr>
</tbody>
</table>

*Note: N = 11*
Table 3b  
*Descriptive statistics for work interfering with health energy-based scale items*  

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Sorted correctly (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am often so tired from work that I cannot perform activities that help my illness management such as exercise, eating certain foods, etc.</td>
<td>1.80</td>
<td>0.42</td>
<td>100%</td>
</tr>
<tr>
<td>I have a difficult time following an illness treatment plan because I am tired from work</td>
<td>1.82</td>
<td>0.40</td>
<td>100%</td>
</tr>
<tr>
<td>Work depletes the <em>mental</em> energy I need to take care of my health.</td>
<td>1.67</td>
<td>0.50</td>
<td>82%</td>
</tr>
<tr>
<td>Work depletes the <em>physical</em> energy I need to take care of my health.</td>
<td>2.00</td>
<td>0.00</td>
<td>82%</td>
</tr>
<tr>
<td>I am too tired after working to do things that are good for illness management (e.g., exercise, eating a healthy diet).</td>
<td>1.82</td>
<td>0.40</td>
<td>100%</td>
</tr>
<tr>
<td>Energy exerted at work increases my chronic illness symptoms.</td>
<td>2.00</td>
<td>0.00</td>
<td>100%</td>
</tr>
<tr>
<td>I have to exert more energy in order to maintain my job performance due to my chronic illness.</td>
<td>1.73</td>
<td>0.47</td>
<td>18%</td>
</tr>
</tbody>
</table>
I do not feel like attending doctor appointments or receiving medical treatments after a long day or week at work.  
1.38 0.52 73%

I am too drained from work at the end of the day to schedule health-related appointments.  
1.73 0.47 100%

I am too tired by the end of the work day to make it to health-related appointments.  
1.89 0.33 82%
<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Sorted correctly (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress at work makes my chronic health symptoms worse.</td>
<td>1.91</td>
<td>0.30</td>
<td>100%</td>
</tr>
<tr>
<td>Stress at work increases my illness-related depression.</td>
<td>1.64</td>
<td>0.67</td>
<td>100%</td>
</tr>
<tr>
<td>Stress at work makes it more difficult for me to cope with living with a chronic health condition.</td>
<td>1.64</td>
<td>0.50</td>
<td>100%</td>
</tr>
<tr>
<td>Work stress causes me to neglect my overall health.</td>
<td>1.73</td>
<td>0.47</td>
<td>100%</td>
</tr>
<tr>
<td>I have a difficult time managing my illness because I am burned out from work.</td>
<td>1.64</td>
<td>0.50</td>
<td>45%</td>
</tr>
<tr>
<td>My illness symptoms are worse when I am frustrated or upset about work.</td>
<td>1.70</td>
<td>0.48</td>
<td>91%</td>
</tr>
<tr>
<td>Work stress increases the frequency or severity of my symptoms.</td>
<td>2.00</td>
<td>0.00</td>
<td>100%</td>
</tr>
<tr>
<td>Statement</td>
<td>Average</td>
<td>Standard Deviation</td>
<td>Percentage</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------</td>
<td>---------</td>
<td>--------------------</td>
<td>------------</td>
</tr>
<tr>
<td>Stress from my job prevents me from managing my illness (e.g., resting,</td>
<td>1.91</td>
<td>0.30</td>
<td>100%</td>
</tr>
<tr>
<td>exercise, medication).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often am too preoccupied with work to focus on managing my chronic</td>
<td>1.60</td>
<td>0.52</td>
<td>91%</td>
</tr>
<tr>
<td>illness.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work stress depletes the mental energy I need to take care of my health.</td>
<td>1.64</td>
<td>0.50</td>
<td>27%</td>
</tr>
<tr>
<td>Work stress depletes the physical energy I need to take care of my</td>
<td>1.70</td>
<td>0.48</td>
<td>27%</td>
</tr>
<tr>
<td>health.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work-related pressures cause me to go in to work even when I am feeling</td>
<td>1.56</td>
<td>0.53</td>
<td>82%</td>
</tr>
<tr>
<td>ill.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3d

*Descriptive statistics for health interfering with work time-based scale items*

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Sorted correctly (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>My illness symptoms interfere with my ability to complete work duties.</td>
<td>1.10</td>
<td>0.74</td>
<td>0%</td>
</tr>
<tr>
<td>I sometimes work extra hours/shifts to try and make up for when I have missed work due to my illness.</td>
<td>1.50</td>
<td>0.76</td>
<td>73%</td>
</tr>
<tr>
<td>Symptoms sometimes prevent me from making it into work.</td>
<td>1.67</td>
<td>0.71</td>
<td>36%</td>
</tr>
<tr>
<td>I often have to work from home because of my health symptoms.</td>
<td>1.00</td>
<td>0.63</td>
<td>27%</td>
</tr>
<tr>
<td>Sometimes I need to leave work early due to illness symptoms.</td>
<td>1.67</td>
<td>0.50</td>
<td>82%</td>
</tr>
<tr>
<td>Treating my illness often requires that I miss work.</td>
<td>1.80</td>
<td>0.42</td>
<td>91%</td>
</tr>
<tr>
<td>My symptoms often disrupt my work.</td>
<td>1.18</td>
<td>0.75</td>
<td>9%</td>
</tr>
<tr>
<td>I am discouraged from taking time to treat my illness when working.</td>
<td>1.45</td>
<td>0.69</td>
<td>0%</td>
</tr>
</tbody>
</table>
I sometimes have to miss work in order to attend a medical appointment.  

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.90</td>
<td>0.32</td>
<td>91%</td>
</tr>
</tbody>
</table>

I have a hard time meeting the demands of my work because of time spent treating my illness.  

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.82</td>
<td>0.60</td>
<td>100%</td>
</tr>
</tbody>
</table>

I often have to change my work schedule in order to manage my chronic illness.  

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.50</td>
<td>0.53</td>
<td>73%</td>
</tr>
</tbody>
</table>

*Note: N = 11*
Table 3e

*Descriptive statistics for health interfering with work energy-based scale items*

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Sorted correctly (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tiredness or fatigue related to chronic illness sometimes interferes with my work.</td>
<td>2.00</td>
<td>0.00</td>
<td>82%</td>
</tr>
<tr>
<td>My symptoms sometimes deplete the energy I need to perform my job.</td>
<td>1.90</td>
<td>0.32</td>
<td>91%</td>
</tr>
<tr>
<td>Sometimes I am too tired from my illness to come to work.</td>
<td>1.70</td>
<td>0.48</td>
<td>91%</td>
</tr>
<tr>
<td>Treating my illness (e.g. side effects from medications) sometimes depletes energy I need to do my work.</td>
<td>1.89</td>
<td>0.33</td>
<td>82%</td>
</tr>
<tr>
<td>Fatigue from my illness sometimes make it difficult to communicate with others at work.</td>
<td>1.80</td>
<td>0.42</td>
<td>91%</td>
</tr>
<tr>
<td>I sometimes have to leave work early because I have no energy left by the end of the day.</td>
<td>1.75</td>
<td>0.46</td>
<td>73%</td>
</tr>
</tbody>
</table>

*Note: N = 11*
Table 3f

*Descriptive statistics for health interfering with work strain-based scale items*

<table>
<thead>
<tr>
<th>Scale Items</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Sorted correctly (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I am sometimes frustrated that I have to deal with my chronic illness symptoms at work.</td>
<td>1.56</td>
<td>0.53</td>
<td>82%</td>
</tr>
<tr>
<td>I get stressed out when my illness prevents me from being able to do my job well.</td>
<td>1.82</td>
<td>0.40</td>
<td>100%</td>
</tr>
<tr>
<td>I worry that I will have a flare up of illness symptoms at work.</td>
<td>1.71</td>
<td>0.49</td>
<td>64%</td>
</tr>
<tr>
<td>Worrying about my illness affecting my work increases my illness symptoms.</td>
<td>1.09</td>
<td>0.94</td>
<td>45%</td>
</tr>
<tr>
<td>I worry about not being able to complete my work on time because of my chronic health condition.</td>
<td>1.60</td>
<td>0.70</td>
<td>55%</td>
</tr>
<tr>
<td>I am often too preoccupied with my illness that I am unable to focus on work.</td>
<td>1.64</td>
<td>0.50</td>
<td>100%</td>
</tr>
<tr>
<td>Statement</td>
<td>Mean</td>
<td>SD</td>
<td>Percentage</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------</td>
<td>-----</td>
<td>------------</td>
</tr>
<tr>
<td>Stress from my chronic illness makes it difficult for me to interact</td>
<td>1.67</td>
<td>0.71</td>
<td>82%</td>
</tr>
<tr>
<td>with others at my work.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often worry about losing my job due to taking so many days off.</td>
<td>1.36</td>
<td>0.67</td>
<td>18%</td>
</tr>
<tr>
<td>I worry that my illness affects my work performance.</td>
<td>1.67</td>
<td>0.50</td>
<td>82%</td>
</tr>
<tr>
<td>I worry that managing my symptoms will affect how people view my work</td>
<td>1.33</td>
<td>0.71</td>
<td>82%</td>
</tr>
<tr>
<td>ability.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I get stressed out when I cannot perform my work to the expected level</td>
<td>1.64</td>
<td>0.50</td>
<td>100%</td>
</tr>
<tr>
<td>due to my illness.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note:* N = 12
### Table 4a

**Demographic variables for study 3 and 4**

<table>
<thead>
<tr>
<th>Demographics</th>
<th>n = 230</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>102</td>
<td>45.1</td>
</tr>
<tr>
<td>Female</td>
<td>124</td>
<td>54.9</td>
</tr>
<tr>
<td><strong>Highest Education Level</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did Not Graduate</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>14</td>
<td>6.2</td>
</tr>
<tr>
<td>Some College but No Degree</td>
<td>67</td>
<td>29.5</td>
</tr>
<tr>
<td>4-Year College Degree</td>
<td>99</td>
<td>43.6</td>
</tr>
<tr>
<td>Some Graduate School</td>
<td>17</td>
<td>7.5</td>
</tr>
<tr>
<td>Post Graduate School</td>
<td>28</td>
<td>12.3</td>
</tr>
<tr>
<td><strong>Primary Breadwinner</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>165</td>
<td>73.3</td>
</tr>
<tr>
<td>No</td>
<td>54</td>
<td>24</td>
</tr>
<tr>
<td><strong>Currently Need Work Accommodations</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>84</td>
<td>37</td>
</tr>
<tr>
<td>No</td>
<td>143</td>
<td>63</td>
</tr>
<tr>
<td><strong>Supervisor Aware of Illness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>163</td>
<td>71.5</td>
</tr>
<tr>
<td>No</td>
<td>65</td>
<td>28.5</td>
</tr>
<tr>
<td><strong>How many people above level know about illness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>31</td>
<td>13.5</td>
</tr>
<tr>
<td>1</td>
<td>25</td>
<td>10.9</td>
</tr>
<tr>
<td>2</td>
<td>46</td>
<td>20.1</td>
</tr>
<tr>
<td>3</td>
<td>49</td>
<td>21.4</td>
</tr>
<tr>
<td>4</td>
<td>32</td>
<td>14</td>
</tr>
<tr>
<td>5</td>
<td>31</td>
<td>13.5</td>
</tr>
<tr>
<td>6 or more</td>
<td>15</td>
<td>6.6</td>
</tr>
<tr>
<td><strong>Coworkers Aware of Illness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>18</td>
<td>7.9</td>
</tr>
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<td>No</td>
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<td>Managerial</td>
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<td>Non-managerial</td>
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<tr>
<th>Absenteeism due to Illness</th>
<th>No</th>
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<tr>
<td>Never</td>
<td>19</td>
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<td>Less than Once a Month</td>
<td>103</td>
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<tr>
<td>Once a Month</td>
<td>46</td>
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</tr>
<tr>
<td>2-3 Times a Month</td>
<td>46</td>
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<tr>
<td>Once a Week</td>
<td>8</td>
<td>3.5</td>
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<tr>
<td>2-3 Times a Week</td>
<td>4</td>
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<td>Daily</td>
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<table>
<thead>
<tr>
<th>Required to make up Absence</th>
<th>No</th>
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<th>Type of Chronic Illness</th>
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<tr>
<td>Autoimmune Diseases (e.g. MS, Lupus, etc.)</td>
<td>21</td>
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<tr>
<td>Anklosing spondylitis</td>
<td>40</td>
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<tr>
<td>Asthma/COPD</td>
<td>42</td>
<td>18.26</td>
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<tr>
<td>Celiac/Gastritis/Ulcerative Colitis/Chrons Disease</td>
<td>26</td>
<td>11.3</td>
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<tr>
<td>Rheumatoid Arthritis/Psoriatic Arthritis</td>
<td>36</td>
<td>15.65</td>
</tr>
<tr>
<td>Chronic Pain/Fatigue</td>
<td>27</td>
<td>11.74</td>
</tr>
<tr>
<td>Lyme Disease</td>
<td>6</td>
<td>2.61</td>
</tr>
<tr>
<td>Diabetes</td>
<td>27</td>
<td>11.74</td>
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<td>Migraines</td>
<td>19</td>
<td>8.26</td>
</tr>
<tr>
<td>Cancer</td>
<td>6</td>
<td>2.61</td>
</tr>
<tr>
<td>Heart Disease/Hypertension</td>
<td>47</td>
<td>20.43</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>16</td>
<td>6.96</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>4</td>
<td>1.74</td>
</tr>
<tr>
<td>Blindness/Glaucoma</td>
<td>7</td>
<td>3.04</td>
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<td>Kidney disease</td>
<td>7</td>
<td>3.04</td>
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<td>Hepatitis/Liver issues</td>
<td>2</td>
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<tr>
<td>Misc. (Sickle cell anemia, Muscular Dystrophy, HIV)</td>
<td>6</td>
<td>2.61</td>
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### Table 4b

**Demographics for study 3 and 4**

<table>
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<th>Demographics</th>
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<th>Standard Deviation</th>
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<tr>
<td>Years since diagnosis</td>
<td>8.76</td>
<td>7.69</td>
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<td>Age</td>
<td>40.76</td>
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<tr>
<td>Hours worked per week</td>
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<td>Organizational Tenure (years)</td>
<td>8.02</td>
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<td>Illness Severity</td>
<td>3.50</td>
<td>0.71</td>
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<td>Medications</td>
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<td>2.49</td>
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<td>Medical Appointments Last Year</td>
<td>8.98</td>
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<tr>
<td>ER Visits/Hospitalizations</td>
<td>1.73</td>
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*Note: N = 230*
Table 5

*Means and standard deviations for study 3 variables*

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<th>Std. Deviation</th>
<th>Scale</th>
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<td>3.40</td>
<td>0.91</td>
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<td>Energy-based WHC</td>
<td>3.39</td>
<td>0.99</td>
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<td>Strain-based WHC</td>
<td>3.34</td>
<td>0.95</td>
<td>1-5</td>
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<td>Time-based HWC</td>
<td>3.08</td>
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<td>Energy-based HWC</td>
<td>3.55</td>
<td>0.92</td>
<td>1-5</td>
</tr>
<tr>
<td>Strain-based HWC</td>
<td>3.51</td>
<td>0.93</td>
<td>1-5</td>
</tr>
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<td>Work Family Conflict</td>
<td>3.53</td>
<td>0.85</td>
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<tr>
<td>Family Work Conflict</td>
<td>2.67</td>
<td>0.95</td>
<td>1-5</td>
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<tr>
<td>Work Health Conflict</td>
<td>3.37</td>
<td>0.83</td>
<td>1-5</td>
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<tr>
<td>Health Work Conflict</td>
<td>3.39</td>
<td>0.74</td>
<td>1-5</td>
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<td>Work Flexibility</td>
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<td>1-5</td>
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<td>Negative Affect</td>
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<td>0.72</td>
<td>1-5</td>
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<td>Stress in General</td>
<td>1.85</td>
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*Note:* N = 230
Table 6

Correlations for all study 3 variables

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<td>.49**</td>
<td>.15**</td>
<td>.30**</td>
<td>.45**</td>
<td>.49**</td>
<td>.37**</td>
<td>.43**</td>
<td>-1.17</td>
<td>1.00</td>
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<td>Illness Severity</td>
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<td>.59**</td>
<td>.32**</td>
<td>.60**</td>
<td>.60**</td>
<td>.59**</td>
<td>.63**</td>
<td>.42**</td>
<td>-2.26</td>
<td>.41**</td>
<td>1.00</td>
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<td>-.22**</td>
<td>.02</td>
<td>.01</td>
<td>-.14**</td>
<td>-.21**</td>
<td>-.05</td>
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<td>.17**</td>
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<td>-1.10</td>
<td>1.00</td>
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<tr>
<td>Hours worked</td>
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<td>.16**</td>
<td>.10</td>
<td>.16**</td>
<td>.19**</td>
<td>.16**</td>
<td>.19**</td>
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Note: N = 230

**Correlation is significant at the 0.01 level (2-tailed).

*Correlation is significant at the 0.05 level (2-tailed).
<table>
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<tr>
<th>Model</th>
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<th>Df</th>
<th>$p$</th>
<th>CFI</th>
<th>RMSEA</th>
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<tr>
<td>Two higher order factor model with 6 sub-dimensions</td>
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<tr>
<td>Three dimension model (Time, Energy, and Strain)</td>
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<td>0.10</td>
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<tr>
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<td>0.81</td>
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</table>

*Note:* N = 230
Table 8

*Statistically Significant Interactions of Resources on the Relationships between Demands and Work Ability*

<table>
<thead>
<tr>
<th></th>
<th>Life sat. (n=230)</th>
<th>Life burnout (n=230)</th>
<th>Job sat. (n=230)</th>
<th>Work burnout (n=230)</th>
<th>Work Withdrawal (n=230)</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>β</td>
<td>β</td>
<td>β</td>
<td>β</td>
<td>β</td>
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<td>Step 1: Control Variables</td>
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<td>Illness Severity</td>
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<td>.43**</td>
<td>.16*</td>
<td>.36**</td>
<td>.64**</td>
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<tr>
<td>Negative Affect</td>
<td>-.02</td>
<td>.49**</td>
<td>-.24**</td>
<td>.35**</td>
<td>-.04</td>
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<td>Total R²</td>
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<td>.45 a</td>
<td>.08 a</td>
<td>.27 a</td>
<td>.41 a</td>
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<td>Step 2: WFC</td>
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<td>FWC</td>
<td>.08</td>
<td>-.17**</td>
<td>-.07</td>
<td>.38**</td>
<td>.18*</td>
</tr>
<tr>
<td>Total R²</td>
<td>.04</td>
<td>.48 a</td>
<td>.08</td>
<td>.39 a</td>
<td>.44 a</td>
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<td>Step 3:</td>
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<td>-.07</td>
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<td>HIW</td>
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</tr>
<tr>
<td>Total R²</td>
<td>.04</td>
<td>.53 a</td>
<td>.09</td>
<td>.51 a</td>
<td>.46 a</td>
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Note: * p < .05. ** p < .01. a indicates significant change in R² at p < .05.
Table 9
Descriptive statistics for study 4 variables

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<thead>
<tr>
<th>Variable Name</th>
<th>Mean</th>
<th>Standard Deviation</th>
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<tr>
<td>Job Satisfaction</td>
<td>3.42</td>
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<tr>
<td>Life Satisfaction</td>
<td>4.04</td>
<td>1.19</td>
</tr>
<tr>
<td>Withdrawal</td>
<td>2.33</td>
<td>0.49</td>
</tr>
<tr>
<td>Time-based WHC</td>
<td>3.40</td>
<td>0.91</td>
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<tr>
<td>Energy-based WHC</td>
<td>3.38</td>
<td>0.99</td>
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<tr>
<td>Strain-based WHC</td>
<td>3.34</td>
<td>0.95</td>
</tr>
<tr>
<td>Time-based HWC</td>
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<td>0.84</td>
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<tr>
<td>Energy-based HWC</td>
<td>3.55</td>
<td>0.92</td>
</tr>
<tr>
<td>Strain-based HWC</td>
<td>3.51</td>
<td>0.93</td>
</tr>
<tr>
<td>Work Health Conflict</td>
<td>3.38</td>
<td>0.83</td>
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<tr>
<td>Health Work Conflict</td>
<td>3.39</td>
<td>0.74</td>
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</tbody>
</table>

*Note:* N=230
Table 10  
*Correlations of all study 4 variables*

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*Note: N =230*  
**Correlation is significant at the 0.01 level (2-tailed).  
*Correlation is significant at the 0.05 level (2-tailed).
Figure 1. Completely standardized path loadings for WHC scale item

Model fit $\chi^2 (128) = 323.19, p < .001$, CFI = .90, RMSEA = .08[90% CI = .07, .09]
Appendix A

Demographic Items

1. What is your gender?
2. What is your age?
3. What is the highest level of education you have attained?
4. Are you the primary breadwinner in your family?
5. What type of job do you have?
6. How many hours per week do you typically work?
7. Do you have health insurance?
8. What type of chronic illness(s) do you have?
9. How many years has it been since the diagnosis of your illness(s)?
10. Have you disclosed your illness to your supervisor(s)?
11. Do you currently need accommodations at work due to your illness?
12. If yes: do you have the accommodations you need at work?
13. How many years have you worked for your current organization?
14. What size is your employing organization?
15. Are you a supervisor/manager at your work?
16. Are you part of a union?
17. Do you have another job for additional income?
18. How much responsibility do you personally have for any children under 18 in your household?
19. How many adults depend on you in any way to help them due to disability or chronic illness?
Appendix B

Open-Ended Survey Questions

1. How has having a chronic illness interfered with or affected your work?

2. How has work interfered with or affected your illness?

3. Has time spent at work or performing your job prevented you or decreased your ability to treat your illness? Please explain.

4. Has time spent treating or coping with your illness prevented you from performing your job or job-related duties? Please explain.

5. Does stress resulting from your job make your illness/symptoms worse? Please explain.

6. Does stress from treating your illness interfere with your job performance or work ability? Please explain.

7. Does the energy you exert on your job deplete or lower your ability to treat your illness? Please explain. Give examples.

8. Does the energy spent on treating your illness deplete the energy needed to perform your job? Can you give an example?

9. Are there any issues that you have with work or your illness that has not been asked in this survey? If so, what are they?
Appendix C

Work-health conflict items generated based on open-ended survey (Study 1)

Work-Health Conflict (WIH)

WIH-Time

1. Time at work prevents my ability to treat my illness (e.g. take medicine, exercise, rest).
2. Spending time at work prevents me from taking time to recuperate from my illness symptom flare-ups.
3. I often come in to work when not feeling well or symptoms are flaring up.
4. I have a difficult time taking a work break in order to rest or treat my illness.
5. My work schedule makes it difficult to schedule necessary medical visits, treatments, or procedures.
6. I am not easily able to leave work for medical appointments.
7. I cannot take time off work needed to treat my chronic health condition.
8. Time spent at work interferes with my ability to conform to a long-term treatment plan.
9. I have a difficult time focusing on my health because I am spending time focusing on work.
10. I am afraid that if I take time to treat my illness that I will lose my job.
11. I have to miss doctor appointments or treatments due to the amount of time I must spend on my work responsibilities.
12. My work duties and/or responsibilities prevent me from taking my doctors’ orders (e.g. rest, breaks).
13. My work load makes it difficult to manage my illness.

WIH-Energy

1. I am often so tired from work that I cannot perform activities that help my illness management such as exercise, eating certain foods, etc.
2. I have a difficult time following an illness treatment plan because I am tired from work
Appendix C (cont.)

3. Work depletes the *mental* energy I need to take care of my health.

4. Work depletes the *physical* energy I need to take care of my health.

5. I am too tired after working to do things that are good for illness management (e.g., exercise, eating a healthy diet).

6. Energy exerted at work increases my chronic illness symptoms.

7. I have to exert more energy in order to maintain my job performance due to my chronic illness.

8. I do not feel like attending doctor appointments or receiving medical treatments after a long day or week at work.

9. I am too drained from work at the end of the day to schedule health-related appointments.

10. I am too tired by the end of the work day to make it to health-related appointments.

**WIH-Strain**

1. Stress at work makes my chronic health symptoms worse.

2. Stress at work increases my illness-related depression.

3. Stress at work makes it more difficult for me to cope with living with a chronic health condition.

4. Work stress causes me to neglect my overall health.

5. I have a difficult time managing my illness because I am burned out from work.

6. My illness symptoms are worse when I am frustrated or upset about work.

7. Work stress increases the frequency or severity of my symptoms.

8. Stress from my job prevents me from managing my illness (e.g., resting, exercise, medication).

9. I often am too preoccupied with work to focus on managing my chronic illness.

10. Work stress depletes the mental energy I need to take care of my health.

11. Work stress depletes the physical energy I need to take care of my health.
Appendix C (cont.)

12. Work-related pressures cause me to go in to work even when I am feeling ill.

Health-Work Conflict (HIW)

HIW-time

1. My illness symptoms interfere with my ability to complete work duties.

2. I sometimes work extra hours/shifts to try and make up for when I have missed work due to my illness.

3. Symptoms sometimes prevent me from making it into work.

4. I often have to work from home because of my health symptoms.

5. Sometimes I need to leave work early due to illness symptoms.

6. Treating my illness often requires that I miss work.

7. My symptoms often disrupt my work.

8. I am discouraged from taking time to treat my illness when working.

9. I sometimes have to miss work in order to attend a medical appointment.

10. I have a hard time meeting the demands of my work because of time spent treating my illness.

11. I often have to change my work schedule in order to manage my chronic illness.

HIW-energy

1. Tiredness or fatigue related to chronic illness sometimes interferes with my work.

2. My symptoms sometimes deplete the energy I need to perform my job.

3. Sometimes I am too tired from my illness to come to work.

4. Treating my illness (e.g. side effects from medications) sometimes depletes energy I need to do my work.

5. Fatigue from my illness sometimes make it difficult to communicate with others at work.

6. I sometimes have to leave work early because I have no energy left by the end of the day.
Appendix C (cont.)

HIW-Strain

1. I am sometimes frustrated that I have to deal with my chronic illness symptoms at work.

2. I get stressed out when my illness prevents me from being able to do my job well.

3. I worry that I will have a flare up of illness symptoms at work.

4. Worrying about my illness affecting my work increases my illness symptoms.

5. I worry about not being able to complete my work on time because of my chronic health condition.

6. I am often too preoccupied with my illness that I am unable to focus on work.

7. Stress from my chronic illness makes it difficult for me to interact with others at my work.

8. I often worry about losing my job due to taking so many days off.

9. I worry that my illness affects my work performance.

10. I worry that managing my symptoms will affect how people view my work ability.

11. I get stressed out when I cannot perform my work to the expected level due to my illness.
Appendix D

WHC Scale Items retained after Q-sort

WIH-Time

1. Time at work prevents my ability to treat my illness (e.g. take medicine, exercise, rest).

2. Spending time at work prevents me from taking time to recuperate from my illness symptom flare-ups.

3. My work schedule makes it difficult to schedule necessary medical visits, treatments, or procedures.

4. I am not easily able to leave work for medical appointments.

5. I cannot take time off work needed to treat my chronic health condition.

6. Time spent at work interferes with my ability to conform to a long-term treatment plan.

7. I have a difficult time focusing on my health because I am spending time focusing on work.

8. I have to miss doctor appointments or treatments due to the amount of time I must spend on my work responsibilities.

WIH-Energy

9. I am often so tired from work that I cannot perform activities that help my illness management such as exercise, eating certain foods, etc.

10. I have a difficult time following an illness treatment plan because I am tired from work.

11. Work depletes the mental energy I need to take care of my health.

12. Work depletes the physical energy I need to take care of my health.
Appendix D (cont.)

13. I am too tired after working to do things that are good for illness management (e.g., exercise, eating a healthy diet).

14. Energy exerted at work increases my chronic illness symptoms.

15. I am too drained from work at the end of the day to schedule health-related appointments.

16. I am too tired by the end of the work day to make it to health-related appointments.

WIH-Strain

17. Stress at work makes my chronic health symptoms worse.

18. Stress at work increases my illness-related depression.

19. Stress at work makes it more difficult for me to cope with living with a chronic health condition.

20. Work stress causes me to neglect my overall health.

21. My illness symptoms are worse when I am frustrated or upset about work.

22. Work stress increases the frequency or severity of my symptoms.

23. Stress from my job prevents me from managing my illness (e.g., resting, exercise, medication).

24. I often am too preoccupied with work to focus on managing my chronic illness.
Appendix E

HWC Scale Items retained after Q-sort

HIW-Time

1. Work-related pressures cause me to go in to work even when I am feeling ill.

2. I sometimes work extra hours/shifts to try and make up for when I have missed work due to my illness.

3. Sometimes I need to leave work early due to illness symptoms.

4. Treating my illness often requires that I miss work.

5. I sometimes have to miss work in order to attend a medical appointment.

6. I have a hard time meeting the demands of my work because of time spent treating my illness.

7. I often have to change my work schedule in order to manage my chronic illness.

HIW-Energy

8. Tiredness or fatigue related to chronic illness sometimes interferes with my work.

9. My symptoms sometimes deplete the energy I need to perform my job.

10. Sometimes I am too tired from my illness to come to work.

11. Treating my illness (e.g. side effects from medications) sometimes depletes energy I need to do my work.

12. Fatigue from my illness sometimes makes it difficult to communicate with others at work.

13. I sometimes have to leave work early because I have no energy left by the end of the day.
Appendix E (cont.)

HIW-Strain

14. I am sometimes frustrated that I have to deal with my chronic illness symptoms at work.

15. I get stressed out when my illness prevents me from being able to do my job well.

16. I am often so preoccupied with my illness that I am unable to focus on work.

17. Stress from my chronic illness makes it difficult for me to interact with others at my work.

18. I worry that my illness affects my work performance.

19. I get stressed out when I cannot perform my work to the expected level due to my illness.
Appendix F

Consequences subscale of the Revised Illness Perceptions Questionnaire (IPQ-R)

1. My chronic illness is a serious condition.
2. My chronic illness has major consequences on my life.
3. My chronic illness strongly affects the way others see me.
4. My chronic illness has serious financial consequences.
5. My chronic illness causes difficulties for those who are close to me.
6. My chronic illness does not have much effect on my life (R).
Appendix G

Work-Family Conflict

1. The demands of my work interfere with my home and family life.

2. The amount of time my job takes up makes it difficult to fulfill family responsibilities.

3. Things I want to do at home do not get done because of the demands my job puts on me.

4. My job produces strain that makes it difficult to fulfill family duties.

5. Due to work-related duties, I have to make changes to my plans for family activities.
Appendix H

Family-Work Conflict Scale

1. The demands of my family or spouse/partner interfere with work-related activities.

2. I have to put off doing things at work because of demands on my time at home.

3. Things I want to do at work don’t get done because of the demands of my family or spouse/partner.

4. My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.

5. Family-related strain interferes with my ability to perform job-related duties.
Appendix I

Stress In General Scale

*1. Demanding
*2. Pressured
*3. Hectic
*4. Calm (R)
*5. Relaxed (R)
*6. Many things stressful
*7. Pushed
**8. Irritating
**9. Under control (R)
**10. Nerve-wracking
**11. Hassled
**12. Comfortable (R)
**13. More stressful than I’d like
**14. Smooth running (R)
**15. Overwhelming

*Pressure Scale Items
**Threat Scale Items
R Reversed Coded
Appendix J

Negative Affect Scale

1. Scared
2. Afraid
3. Upset
4. Distressed
5. Jittery
6. Nervous
7. Ashamed
8. Guilty
9. Irritable
10. Hostile
Appendix K

Work Flexibility-Ability

1. I am able to arrive and depart from work when I want in order to meet my family and my personal responsibilities.

2. If the need arose, I could leave work early to attend to family related issues.

3. If something came up in my personal life, it would be alright if I arrived to work late.

4. While at work, I can stop what I am doing to meet responsibilities related to my family and personal life.
Appendix L

Final WHC Scale

WIH-Time

1. Time at work prevents my ability to treat my illness (e.g. take medicine, exercise, rest).
2. Spending time at work prevents me from taking time to recuperate from my illness symptom flare-ups.
3. I have a difficult time focusing on my health because I am spending time focusing on work.

WIH-Energy

4. I am often so tired from work that I cannot perform activities that help my illness management such as exercise, eating certain foods, etc.
5. I have a difficult time following an illness treatment plan because I am tired from work.
6. Work depletes the physical energy I need to take care of my health.

WIH-Strain

7. Stress at work increases my illness-related depression.
8. Stress at work makes it more difficult for me to cope with living with a chronic health condition.
9. Stress from my job prevents me from managing my illness (e.g., resting, exercise, medication).
Appendix M

Final HWC Scale

HIW-Time

1. Sometimes I need to leave work early due to illness symptoms.

2. I have a hard time meeting the demands of my work because of time spent treating my illness.

3. I often have to change my work schedule in order to manage my chronic illness.

HIW-Energy

4. Tiredness or fatigue related to chronic illness sometimes interferes with my work.

5. My symptoms sometimes deplete the energy I need to perform my job.

6. Fatigue from my illness sometimes makes it difficult to communicate with others at work.

HIW-Strain

7. I get stressed out when my illness prevents me from being able to do my job well.

8. I worry that my illness affects my work performance.

9. I get stressed out when I cannot perform my work to the expected level due to my illness.
Appendix N

Job Satisfaction

1. In general, I don’t like my job. (R)

2. All in all, I am satisfied with my job.

3. In general, I like working here.
Appendix O

Satisfaction with Life Scale

How do you feel about your life in general

1. In most ways my life is close to ideal.

2. The conditions of my life are excellent.

3. I am satisfied with my life.

4. So far I have gotten the important things I want in life.

5. If I could live my life over, I would change almost nothing
Appendix P

Withdrawal Scale

1. Made excuses to miss meetings
2. Drank alcohol after work because of things that happened at work.
3. Stayed home from work when you had even a minor illness.
4. Took frequent or long breaks.
5. Made excuses to go somewhere to avoid the workplace.
6. Went to work late.
7. Did not work to the best of your ability.
8. Wanted to leave work early.
9. Spent time on non-work activities (e.g. talking, e-mailing, web browsing) while at work.
10. Ignored non-essential tasks
11. Thought about leaving your job.
12. Tried to find another job.
13. Made plans to leave your job.
Appendix Q

The Copenhagen Burnout Inventory

Personal burnout

1. How often do you feel tired?
2. How often are you physically exhausted?
3. How often are you emotionally exhausted?
4. How often do you think: “I can’t take it anymore”?
5. How often do you feel worn out?
6. How often do you feel weak and susceptible to illness?

Work-related burnout

1. Do you feel worn out at the end of the working day?
2. Are you exhausted in the morning at the thought of another day at work?
3. Do you feel that every working hour is tiring for you?
4. Do you have enough energy for family and friends during leisure time? (R)
5. Is your work emotionally exhausting?
6. Does your work frustrate you?
7. Do you feel burnt out because of your work?
REFERENCES


ABSTRACT

WORK-HEALTH CONFLICT: SCALE DEVELOPMENT FOR WORKERS MANAGING A CHRONIC ILLNESS

by

SARAH STODDART

August 2014

Advisor: Dr. Alyssa K. McGonagle

Major: Psychology (Industrial and Organizational)

Degree: Master of Arts

The current study developed a Work Health Conflict (WHC) scale to measure conflict experienced by workers who are managing a chronic health condition and continuing to work. It is estimated that 72 million working age adults are also managing a chronic illness. In order to develop the scale 4 studies were conducted using two samples of workers that are currently working with an illness. The first study employed an open-ended survey in order to examine the real life conflict experiences of workers with chronic illness. Results of this study were used to confirm the proposed sub-dimensions of the scales and to confirm that no content was missing before generating items for the scale. The second study used a Q-sort method in order to examine the scale items before collecting quantitative data to examine the factor structure of the scale. In the third study items were deleted from the scale and the WHC yielded an acceptable model fit. Additionally, the WHC demonstrated both convergent and discriminant validity. The WHC also demonstrated incremental validity over WFC and FWC after controlling for illness severity and negative affect with life-related burnout, work-related burnout and withdrawal. Interestingly, in the current study no relationship was observed between the WHC scale and job or life satisfaction.
Keywords: Scale Development, chronic illness, interrole conflict
AUTOBIOGRAPHICAL STATEMENT

Sarah R. Stoddart received her Bachelor of Science in Psychology from Wayne State University in 2010. She is currently a doctoral student in Industrial/Organizational Psychology working with Dr. Alyssa McGonagle. Her major areas of interest are Work-Life/Health Conflict and Work/Life Balance and other Occupational Health Psychology topics. Her research focuses mainly on workers with chronic illness. She currently is employed at Ford Motor Co. working on updating the assessment and selection system for the U.S. salaried workforce.