Development and Validation of a Work-Life Conflict Scale:
Identifying Energy and Emotion

by

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Abstract

This research outlines a series of studies that aim to develop and validate a new scale that expands upon the current measurement of work-family conflict. While work-family conflict, and more broadly work-life conflict, has traditionally been conceptualized through the dimensions of time, strain, and behavior, an expansion of these dimensions may prove advantageous for measurement and comprehension. Specifically, energy and emotion have been cited (e.g., Judge, Ilies, & Scott, 2006; Small & Riley, 1990) as possible factors that may be beneficial to the measurement of work-family and work-life conflict. While these forms of conflict have been discussed as viable areas in which work-life conflict is evident, there is yet to be a scale that includes both energy and emotion as their own distinct dimensions. In the present research, items were identified and/or created to represent energy-based and emotion-based forms of work-life conflict to explore their feasibility in work-life conflict measurement. Emotion and energy were identified as distinct dimensions of work-life conflict through three studies of construct validation. By combining and expanding existing measures and exploring emotion and energy as dimensions for fuller work-life conflict measurement, this research creates a more encompassing scale that more accurately represents the construct of work-life conflict.

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The two most prominent realms of most individuals' lives revolve around the work and family domains (Michel, Kotrba, Mitchelson, Clark, & Baltes, 2011), and the wish to balance these domains is an ever increasing concern in today's society (Kinnunen & Mauno, 2008). The increase in dual-earner households has caused the relationship between work and family to be of more interest, while also causing more issues to arise between the two domains (Michel et al., 2011). Additionally, as more women are entering into the workforce than ever before, more men are also taking more responsibility in duties at home, which has resulted in men having higher activity in both their work and their personal or family lives. While this increase in women at work and men at home is bringing about positive changes such as increase in gender equality and higher family incomes, the downside is that work and life have become harder to balance, as more people are split between the demands of work and the demands of their personal lives (Kinnunen & Mauno, 2008). More and more individuals are unable to properly balance their work and personal lives, thus introducing conflict between work and life outside of work.

The workforce has also undergone many changes in the past few decades. With the increase in technology and the shifting economy, the balance between work and life has become more strained (Kinnunen & Mauno, 2008). This increase in technology, for example, allows for work to be conducted from nearly any computer at any time of the day, during weekends, and even during travel or holidays. The adoption of the "24-hour work day" causes work and nonwork facets of life to become increasingly interconnected. Yet, it is hard to not succumb to the pressure of being constantly connected to work. Because of the shifting economy, the fear of not being able to find work or becoming unemployed is at a very high level (Kinnunen &

Mauno, 2008). This leads to employees feeling forced to be the best worker possible, which many times is viewed as sacrificing their personal lives to focus on their work lives. Currently, the availability of jobs and even temporary employment are dwindling, and those people applying for jobs have on average higher levels of education and experience than previous decades. Therefore, while individuals may value work-life balance, they may be unable to strike the balance they desire because of external demands from their organization or from their families to provide. These issues all have led to an increased prevalence of work-life conflict.

The issue of work-life conflict is highest in the United States and other industrialized and well-developed countries due to the amount of time spent at work and the emphasis on career and job success (Kelly, Moen, & Tranby, 2011). According to recent statistics from the United States, 70 percent of men and women report at least some incompatibility or conflict between their work and nonwork responsibilities (Jacobs & Gerson 2004; Kelly et al., 2011, Schieman, Glavin, & Milkie, 2009; Tausig & Fenwick 2001). Moreover, research indicates that that 40 percent of employed parents experience forms of work-family conflict at least some of the time (Allen, Herst, Bruck, & Sutton, 2000; Galinsky, Bond, & Friedman, 1993). Additionally, Galinsky and colleagues (1993) showed that, compared to employees of earlier generations, more and more employees are focused on finding jobs that prioritize adequate work and nonwork balance. These findings shed light on the importance of assessing and understanding work-life conflict and how this conflict impacts the individual, their family and friends, as well as organizations (Allen et al., 2000).

Additionally, there are many notable negative outcomes of work-life conflict for the organization, for the individual, and for family and friends. However, it could be that proper understanding of the work-life conflict area and accurate measurement could help to mitigate

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some of these issues. Such conflict can manifest as psychological and physical health problems such as depression, anxiety, guilt, distress, hostility, and overall health depletion as well as organizational problems like turnover, absenteeism, and burnout (Frone, Russell, & Cooper, 1992). Health problems due to work-life conflict tend to be chronic, and without proper change in lifestyle, can persist for a long period of time and have lifelong negative consequences. A number of studies highlight some of these issues describing somatic symptoms such as fatigue, nervous tension, and loss of appetite (Allen et al., 2000). Additionally, work-life conflict has been shown to have a negative effect on general health and energy levels. As for psychological health, the most startling outcome is seen with depression. Nearly all studies assessing depression in relation to work-life conflict have shown that increases in conflict result in increases in depressive symptoms (Allen et al., 2000). Depression is a leading clinical issue, thus the relationship evident between work-life conflict and the potential cause of depression is of empirical importance. Work-life conflict is also associated with psychological strain, coping abilities, anxiety, feelings of self-worth, and enjoyment of everyday activities (Allen et al., 2000). In sum, the negative health outcomes are vast, and their relationship with work-life conflict is imperative to understanding the importance of studying and properly measuring work-family and work-life conflict's presence in working individuals. By developing a scale of work-life conflict that accurately reflects the real issues felt by workers, researchers can better determine ways to diminish negative outcomes of work-life conflict.

Conflict between the work and life domains has an adverse impact on the organization as well. Work-life conflict has been associated with organizational issues such as absenteeism, turnover, reduced performance, and overall lower organizational commitment (Siegel, Post, Brockner, Fishman, & Garden, 2005). Workers are more likely to miss work due to demands

from their personal life, may burnout or quit their job more easily, and are likely to have lower job satisfaction. Burnout is especially evident in work-life conflict that is caused by time demands and by stress, which are often associated with work-life conflict (Brauchli, Bauer, & Hämmig, 2011). There are many ways in which organizations attempt to mitigate these feelings by their employees, such as increasing flexibility. However, work-life conflict still remains an issue for organizations. Stressed workers who are being pulled in multiple directions do not make for a positive work environment, thus organizations should be concerned with ways in which work-life conflict can be further understood. All of these organization-level issues highlight the severity of work-life conflict's potential impact on performance. By understanding more of the issues underlying work-life conflict, researchers may be better equipped with methods to mitigate some of these negative organizational outcomes.

In sum, it has become well accepted that work-life conflict is a prevalent issue in work-family and work-life research due to the changing nature of the workforce and the negative health and organizational outcomes. More women are in the workforce, thus resulting in a rise in dual-earner families, technology allows work to permeate boundaries between work and nonwork, and more people are choosing jobs that allow for better work-life balance. Additionally, conflict between the work and home is creating serious negative outcomes, including declines in mental and physical health as well as declines in workplace performance and organizational commitment. All of these are examples of ways in which work-life conflict has become increasingly salient in our society. However, despite this increase in conflict's presence, many gaps still remain within the work-family and work-life conflict literature.

First, work-life conflict has been consistently defined as concerning time, strain, and behavior based issues. However, with this development occurring in the mid 1980's (Greenhaus

& Beutell, 1985), it could be important to reassess the constructs that comprise work-life conflict some thirty years later. Researchers have pointed to the idea of energy and psychological issues being viable constructs of work-life conflict, but measurement has not yet utilized these concepts. Additionally, the work-family conflict construct is limiting in that it focuses on only two life domains. Much research focuses strictly on conflict that occurs between a person's work and family domain, yet excludes other important domains of life including the social domain, and more personal domains. Lastly, work-family conflict is bidirectional, which has not always been acknowledged in the literature. There has long been emphasis on conflict occurring in the work to family direction, but not always in the family to work direction (Frone, Russell, & Cooper, 1992; Greenhaus & Beutell, 1985). While research has improved upon this issue and now integrates the bidirectional nature of work-family conflict, it may be that some concepts and measures of work-family conflict are rooted in a non-directional scope of the issue. Thus, this study improves upon these gaps and issues by conceptualizing work-family conflict as bidirectional, as well as focusing on work-life conflict, in which work is thought to interfere with an individual's personal life, and personal life is thought to interfere with work. We will also utilize a more expanded definition of work-life conflict by including other possible constructs, specifically energy and emotion.

Theoretical Background

Conflict between an individual's personal life and work life is at the core of many issues working individuals' experience. Although a broad theory of work-life conflict is lacking, work-life conflict draws most of its theoretical foundation from role theory (Allen, 2001). Role theory predicts that an individual's multiple life roles result in conflict between the roles, as there is an increase in the difficulty of performing each role successfully because of competing demands

(Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964). Furthermore, as delineated by role conflict theory, conflict is likely to occur when there is the simultaneous occurrence of two, or possibly more, sets of pressures such that compliance with one set would make it more difficult to comply with the other set (Kahn et al., 1964). And more specifically, there is also interrole conflict, which is a form or subset of role conflict. In interrole conflict theory, conflict is experienced when the sets of opposing pressures, as described in role conflict, arise from participation in different roles (Greenhaus & Beutell, 1985). In most, if not all cases of interrole conflict, the role pressures associated with membership in one domain are in conflict with pressures stemming from membership in other domains (Kahn et al., 1964). Specifically, in the case of work-life conflict, interrole conflict refers to the pressures that arise from participating in one's work role and one's personal-life role. Here, the conflict is evident between a person's role as a worker and also their role as a friend, parent, spouse, or other family member. Conflict between these two roles can make it more difficult to perform each role successfully due to conflicting demands on time, energy, or overall incompatibility of behaviors (Greenhaus & Beutell, 1985).

Due to the conflicting demands placed on people in their differing roles, individuals are in a perpetual state of trying to conserve their most valued resources of time and energy. The conservation of resources (COR) theory proposes that individuals seek to acquire and maintain resources, and feel stress or discomfort as a reaction to threat of losing resources, an actual loss of resources, or lack of expectation that resources can continue to be gained (Grandey & Cropanzano, 1999; Hobfoll, 1989). These resources can include objects, such as homes, food, or clothes, personal characteristics, such as self-esteem, conditions, such as financial security or social support, and energy, such as time, money, or knowledge (Hobfoll, 1989). In work-life conflict, the most commonly depleted resource is from the energy component and the personal

characteristics component. It is less likely to see, although still an option, work-life conflict result in the loss of physical objects such as one's home or other necessities. In extreme cases, work-life conflict could result in burnout and the subsequent loss of a job, which may then cause the loss of physical resources. Consistent absenteeism as a result of work-life conflict could also result in termination, which could deplete resources from this physical object dimension of COR. The conservation of resources model assumes that interrole conflict can lead to stress because many of these resources are lost in the attempt to balance both work and personal-life demands and roles (Grandey & Cropanzano, 1999). This potential for or actual loss of resources can cause many negative outcomes, which can influence the presence of conflict between the work and personal-life roles. It is important here to note that even the perception or feeling of threat to one's resources can cause negative outcomes (Grandey & Cropanzano, 1999). Thus, an individual's negative mood or emotions caused by a certain domain of life may lead them to believe that they will lose resources from that domain. The ultimate negative outcome is typically burnout, in which a person ceases to participate actively in a role.

As it is the goal to conserve one's resources in order to remain in a positive mind-state, this assumes that a person does not have infinite resources, but instead only has a set amount of psychological and physiological resources they are able to expend. Therefore, there is a finite amount of resources that are available for people to respond to their role obligations. Having multiple roles can increase the demand on resources and an individual may risk depleting or exhausting their resources. This is referred to as the scarcity hypothesis, in which resources are limited (Goode, 1960; Marshall & Barnett, 1993). This theory especially focuses on the limited time and energy that people possess, and emphasizes that adding multiple roles and responsibilities could create tension because of the conflicting demands (Marshall & Barnett,

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1993). Furthermore, originating from the scarcity hypothesis, the conflict hypothesis suggests that having multiple roles each with high demands is likely to cause role strain or conflict for individuals because they only have a set amount of resources available to meet such demands (Goode, 1960; Rantanen, Kinnunen, Mauno, & Tillemann, 2011). Therefore, in work-life conflict, because of the scarcity of resources, conflict is bound to arise between work and personal life domains when the roles become too demanding or drain a person of their resources.

All of these aforementioned theories point to the importance and theoretical understanding of the conflict between work and life. Role theory and its subparts accurately address the interference of the work role on the life role and similarly the life role on the work role. Yet, the supplemental theory provided through the conservation of resources theory, scarcity hypothesis, and conflict hypothesis help to wholly explain work-life conflict and the reasons for its existence. These theories and hypotheses are central to the construct of work-life conflict, and remain important in properly defining, conceptualizing, and measuring work-life conflict.

Defining work-family conflict and work-life conflict

Work-family conflict is classically defined by Greenhaus and Beutell (1985) as a form of conflict between the work and family roles in which pressures from both causes for incompatibility to arise in some areas of a person's life. This incompatibility typically impacts performance, in which the tasks and responsibilities a person must execute in one role impedes their performance of tasks and responsibilities in another role. Thus, if a person uses all of their resources to perform well in one role, their performance in another role will suffer. It is this hindrance of performance in a particular role that is at the root of this discordance between the work role and other personal life roles.

However, work-family conflict can typically be further defined using its two main dimensions: direction and form. As for direction, conflict between these two domains can be emitted from work to family (WFC) or from family to work (FWC). In WFC, participation in one's work can lead to conflict, issues, and other difficulties in the family domain (Michel et al., 2011). In FWC, participation in one's family can lead to subsequent conflict, issues, and other difficulties in the work domain (Michel et al., 2011). This is an important delineation, since literature clearly shows differences in the outcomes and antecedents of WFC and FWC. As for form, conflict in the work-family interface typically fosters as issues with three categories of time, behavior, and strain (Greenhaus & Beutell, 1985). Conflict that is time-based is prevalent when time and attention is allotted more to one domain, possibly as a result of work schedules, travel, or family demands that could cause problems in the other domain. Conflict that is behavior-based is seen when behaviors such as habits, traits, or expectations are transferred from one domain to another, causing possible issues. Lastly, strain-based conflict arises when stresses or pressures from one domain hinder the ability to perform in the other domain (Michel et al., 2011). These three categories will be further discussed in sections to follow. Generally, the three categories of time, behavior, and strain-based conflicts are the most widely supported and validated constructs of work-family and work-life conflict by empirical evidence (e.g., Carlson et al., 2006). However, other measures (Carlson & Frone, 2003; Small & Riley, 1990), utilize additional categories including: energy, psychological, external, and internal based conflict when creating their work-family conflict measures. In the present study, we will further develop the constructs of energy and emotion to determine if these are viable variables to consider in the measurement of the work-family conflict domain.

More generally, work-life conflict (WLC), as opposed to work-family conflict, is a more inclusive construct referring to the general interference that work tends to have on one's personal life (Messersmith, 2007). Work-life conflict is evident in many forms, and may include intrusions of work into personal time, leisure activities, or being unable to stop thinking about work when at home (Messersmith, 2007). For example, work-life conflict is experienced when when a meeting might run long and a child's dance recital is missed, when phone calls or emails interrupt one's social time, or when thoughts wander to work problems during leisure time (Messersmith, 2007). Work-life conflict does categorize its issue into the same major three areas of time, strain, and behavior as introduced by Greenhaus and Beutell (1985), and does still have the bidirectional quality of work-to-life conflict and life-to-work conflict. Theory and definitions that apply to work-family conflict also apply to work-life conflict, with the main difference being that work-life conflict is simply a broader way to describe conflict between work and personal roles.

Using work-life conflict instead of work-family conflict will allow for several advantages. First, work-life conflict is more encompassing of all people, and can include individuals without families of their own. In addition, we can assume that our sample will now also include younger individuals who may be in the workforce, but do not yet have families. Younger individuals may provide a different insight into the disputes of work-life conflict, thus exploring conflict between work and personal life as opposed to family life will offer a better picture of the full issue. Second, using work-life conflict affords the opportunity for researchers to survey more people. The fewer constraints we put on our samples, the more people we will be able to utilize for research purposes. In the case of work-life conflict, samples only need to contain individuals who work a certain number of hours a week. In work-family conflict,

samples need to consist of those who work a certain number of hours per week and also those who have families of their own. This work-family sample can be especially difficult to find, and also the ability to define what constitutes as a family (just married, cohabitating, married with children) can be difficult. By using work-life conflict, we can avoid many of these sampling issues. Lastly, using work-life conflict allows researchers to tap into conflict that resides between workers and their friends and leisure time, as opposed to just issues with family. Much of the conflict between the work domain and personal life domain is missed when just considering family life. Special issues may exist between an individual's work and their friends or leisure time, and as researchers we should be interested in capturing such conflict.

As stated, while work-family conflict is an important issue, many times, by definition, work-family conflict can take a narrow approach. Work-family conflict excludes all working individuals who do not have a central family unit, and instead only considers those who have a prominent role in both their work and family life. Additionally, there are many idioms used for work-family conflict such as work-home conflict, work-family life conflict, and work-personal life conflict. Therefore, for the purposes of this paper, it seems appropriate to expand work-family conflict to a more general form of work-life conflict, in which all working individuals can be examined. While the work role remains the same, the life or personal life domain will be more encompassing. This domain will include interactions with family and friends, as well as personal issues that may be central to individual people.

Dimensions of work-life conflict

Most work-life conflict literature refers to three dimensions or categories of work-life conflict. As previously mentioned, these three dimensions are time, behavior, and strain (Greenhaus & Beutell, 1985; Netemeyer, Boles & McMurrian, 1996; Stephens & Sommer,

1993). It is widely accepted that these three dimensions include most if not all themes of conflict that can arise in a working individual's life. As will be discussed further, these three accepted dimensions of time, strain, and behavior are also used when creating items for scale development and measurement of work-life and work-family conflict. For the purposes of this paper, it is important to understand the differences between time, strain, and behavior-based conflict, as well as the additions of the new dimensions, which will be defined and discussed later.

Time-based conflict. It has been a known issue in both research and in popular press that long work hours might have negative consequences for workers who struggle to balance the demands of their work and personal life (Major, Klein, & Ehrhart, 2002). Additionally, the rational view posits that the more hours spent on roles associated with the work domain or personal domain, the more conflict a person will perceive (Gutek, Searle, & Klepa, 1991). Time-based conflict encompasses these issues and ideas. Time-based work-life conflict is defined as a conflict that arises when time devoted to one role makes it difficult to participate in another role (Carlson, Kacmar, & Williams, 2000; Greenhaus & Beutell, 1985). For example, the amount of time a person spends at work keeps them from spending time at home with friends and family. Moreover, not only is it simply the amount of time that a person spends in a role that can cause conflict in a separate role, but also the scheduling of time spent in either the work or personal domain that can causes tension (Adams & Jex, 1999). This type of conflict has been well established in the work-life conflict literature, and issues based on time such as work and family time demands and inflexibility of schedules are commonly encompassed in studies on work-family or work-life conflict (Michel et al., 2011).

Behavior-based conflict. There are ordinarily specific social expectations required by the different roles that people occupy in their lives. These social expectations also tend to drive

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the nature of interpersonal interactions that people have both at work and elsewhere. Additionally, the combination of social expectations and their determination of interpersonal interactions can many times dictate the essence of the behaviors that are displayed (Dierdorff & Ellington, 2008). Thus, some of these behavior requirements of the work or life domain can result in behavior-based work-life conflict (Dierdorff & Ellington, 2008). By definition, behavior-based conflict occurs when specific behaviors required in one role are incompatible with behavioral expectation in another role (Carlson et al., 2000; Greenhaus & Beutell, 1985). This type of conflict can also be explained by spillover theory, in which behavior developed in one domain influence behavior in another domain which leads to inhibited performance in that domain (Edwards & Rothbard, 2000). This is seen with workers when certain behaviors that may be deemed appropriate at work or home are not appropriate in the other domain. For example, it may be acceptable for some employees to use certain language at work, or even yell, while these behaviors may not be tolerated at home (Greenhaus & Beutell, 1985).

Strain-based conflict. The term strain is typically used to reference the responses that an individual may have to a stressor. A stressor, more generally, is some condition that adversely affects a person (Viswesvaran, Sanchez, & Fisher, 1999). For the purposes of work-life conflict, we are most interested in observing a person's reaction to stress (i.e., their strain) as opposed to the stressor itself. Therefore, strain-based conflict suggests that strain experienced in one role intrudes into and interferes with participation in another role (Carlson et al., 2000; Greenhaus & Beutell, 1985). This strain, as it is currently defined, can lament as tension, irritability, anxiety, fatigue, and other related issues (Greenhaus & Beutell, 1985). Additionally, strain is commonly viewed as a psychological distress, in which the stressors present in work or family manifest as psychological preoccupation or distress. For example, high levels of psychological involvement

in a role may result in mental preoccupation with a role even when a person should be performing duties in a different role (Frone et al., 1992). As such, stress felt at work to meet deadlines or receive a promotion may cause a person to be more detached from their personal lives and could create strain-based conflict. This psychological importance of the work and family roles has been described as a major antecedent of work-family conflict (Frone et al., 1992). Lastly, while behavior and time-based conflict are more specific and are directly represented in their corresponding items for measurement, strain-based conflict tends to be a catch-all for extraneous conflict that cannot be categorized as time or behavior-based. The attempt to break strain-based conflict into smaller, more cohesive, and separate dimensions of conflict will be discussed in more detail later.

Additionally, it is important to understand the bidirectional nature of work-life conflict for each of these dimensions. Gutek et al. (1991) argued that each of these three forms of work–life conflict has two directions. One direction is conflict due to work interfering with someone's personal life (WLC) and the other is conflict due to someone's personal life interfering with work (LWC). With these three forms (time, strain, and behavior) and two dimensions of work–life conflict (work to life and life to work), we are left with six dimensions. (1) time-based WLC, (2) time-based LWC, (3) strain-based WLC, (4) strain-based LWC, (5) behavior-based WLC, and (6) behavior-based LWC.

While these categories have been nearly unchanged since their development by Greenhaus and Beutell (1985), scholars are more recently considering the expansion of work-life conflict to include more dimensions. Constructs or dimensions of work-life conflict have more recently been attempting to delineate between strain and energy, as well as between emotional strain and psychological strain. Most notably, Small and Riley (1990), Carlson and Frone (2003),

and van Steenbergen, Ellemers, & Moijaart, 2007. (2007) have been analyzing work-life conflict through the lens of additional dimensions. Small and Riley (1990) consider dimensions of home management, leisure, marital, and parent-child-based work-life conflict, as denoted in Table 1. Furthermore, Small and Riley (1990) also took interest in the processes underlying these dimensions, which they consider to be time interference, energy interference, and psychological interference. They defined time-based conflict much to the same extent as previously defined by Greenhaus and Beutell (1985), in that time-based conflict deals with lessened amounts of time available for one domain because of time spent in the other. However, they introduced new definitions for both energy interference and psychological interference. Energy interference results from the physical challenges that an individual may face either at home or at work, which leads to less available energy with which to pursue activities in the opposing domain (Crouter et al., 1983; Piotrkowski, 1979). Simply put, a person's work or personal life fatigues them to the point that they are too tired to adequately pursue activities in the opposing domain. Psychological interference occurs when an individual becomes mentally preoccupied with either their work or personal life concerns, even when not in the domain in which the concerns are rooted (Crouter et al., 1983; Kanter, 1977; Piotrkowski, 1979). This can cause for psychological exhaustion, or the inability to focus on the task at hand. Currently, energy interference and psychological interference are either being collapsed into the three existing categories of conflict (time, strain, and behavior), or they are being all together ignored in measurement and in the conceptualization of conflict.

Carlson and Frone (2003) also began to move away from the traditional six-dimension characteristic of work-life conflict. They posit that work-life conflict is indeed bidirectional, but should be broken down in to two other dimensions: an internal and external dimension. The

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external dimension contains many of the same ideas considered by the original time and behavior dimensions (Greenhaus & Beutell, 1985). Carlson and Frone (2003) state that external-based work-life conflict results from behavioral or time demands that are placed on individuals that may inhibit or ultimately prevent participation in another role. In contrast, internal-based work-life conflict deals more with the original aspect of strain, and incorporates some constructs that may have not been previously considered, such as wandering thoughts. This type of conflict is typically associated with internally generated psychological preoccupation with one domain of life while physically within the role of another life domain (Carlson & Frone, 2003). This can include ruminating about work when one is at home, or not being able to focus on work because of preoccupation with personal matters.

Therefore, it is evident that the definitions and qualities of work-life conflict do seem to be changing to encompass more of the demands that may be felt by workers. It is the purpose of this paper to further explore the expansion of these dimensions. We will build off of the idea of psychological interference (Small & Riley, 1990) and internal conflict (Carlson & Frone, 2003) to explore the role that emotions play in work-life conflict, as well as use the evidence provided by Small and Riley (1990) to rationalize that usage of energy interference as an independent construct.

Previous scale development

There are many ways in which work-life (also life-work) conflict has been measured. Most commonly, these measures include items that represent the three higher-order constructs of time, behavior, and strain (Carlson et al., 2000; Frone et al., 1992; Gutek, Searle, & Klepa, 1991; Kirchmeyer, 1992; Netemeyer, Boles, & McMurrian, 1996; Stephens & Sommer, 1996). We

reviewed these and additional scales (Small & Riley, 1990, Carlson & Frone, 2003, van Steenbergen et al., 2007) in order to get the full picture of the existing work-life conflict scales and find additional constructs being measured. While all of these studies have been adequately developed and validated, a scale does not exist that includes constructs outside of time, strain, and behavior.

First, and overall, the previous dimensions on most scales have only been concerned with three main constructs (time, strain, and behavior). However, constraining existing items or creating new items to exclusively fit into one of these three dimensions could be restricting our conceptual understanding of the items and of work-life conflict as a whole. By making existing items and writing new items to represent commonly agreed upon forms, we could be missing valuable information about other variables involved in work-life conflict, such as the previously mentioned forms of internal conflict, external conflict, psychological interference, and energy interference. Additionally, if companies or individuals use work-life conflict scales to ascertain information about their own or their employees' levels and types of work-life conflict, incorrect interpretations can be gathered. Practically speaking, this could be resulting in companies making unsuccessful changes to the workplace in attempts to mitigate work-family conflict based on an unclear understanding of what is at the root of their employees' issues. Academically speaking, research could be missing out on more robust and accurate means of measurement by not searching for other possible dimensions for items to represent. Therefore, current measurements of work-life conflict could be underutilizing the literature on work-family conflict, and could thus be less successful at predictability.

It seems it would be more beneficial to measure work-life conflict based on a number of dimensions that will fit the data about conflict more accurately, as opposed to adhering to a

possible outdated understanding of work-life conflict. Therefore, exploring two additionally posited constructs such as emotions, stemming from psychological strain (Small & Riley, 1990) and internal conflict (Carlson & Frone, 2003), and energy, stemming from energy interference (Small & Riley, 1990), may better explain work-life conflict than the traditional three construct model of work-life conflict. By adding emotion and energy items to the measure of work-life conflict, we expect to see that dimensions of emotion and energy will emerge independently from the existing dimensions of time, strain, and behavior. The added benefit of energy and emotion, respectively, will be addressed in the coming sections.

Measurement of work-life conflict

Given the number of negative consequences that have been cited by previous researchers, it is important to be able to understand the interactions between the work and nonwork domains of life. Moreover, there needs to be an emphasis on the accuracy in which we measure the conflicting relationship between the work and personal life domains. Precise measurement allows for both individuals and employers to have a more accurate understanding of what is occurring between the work and family domains, and to capture any conflicts or issues that could be present. Acknowledgment and recognition of the types of conflict present in a person's life can further mitigate the prevalence of negative outcomes, which is especially important in extreme cases dealing with serious negative outcomes such as turnover or major depression. If work-family conflict is not accurately measured, there are many issues that could arise. However, the seemingly two most important issues are that first, workers could be lead to believe that they do not have conflict between their work and life domains. This could result in workers being oblivious to their problems, or could make workers who feel a sense of conflict yet are not being labeled as having high levels of work-life conflict feel unheard or

misunderstood. Both of these issues could deepen the actual conflict occurring. Second, organizations and employers may not be recognizing their employees who are experiencing conflict. If organizations are unable to identify employees who are having issues balancing their work and personal lives, they are not as likely to be able to prevent negative organizational outcomes such as turnover, absenteeism, and low commitment to work. By utilizing proper measurement, workers, their friends and families, and employers and organizations can all have a better understanding of the issues underlying work-life conflict.

Currently, there are many scales available to use to measure such work-family or work-life conflict concepts (Carlson et al., 2000; Frone et al., 1992; Gutek et al., 1991; Kirchmeyer, 1992; Netemeyer et al., 1996; Small & Riley, 1990; Stephens & Sommer, 1996). However, as will be elaborated, these measures may not capture the full complexity of work-life conflict. Therefore, development of a new scale to assess how additional constructs operate in the interface of work-life conflict is a necessary next step for work-life conflict literature. With this development of a new scale of measurement, researchers and practitioners can synthesize thoughts and hypotheses about conflict as well as move forward with theories that may involve more dimensions of work-life conflict beyond what has already been validated in the literature (Carlson, Kacmar, Wayne, & Grzywacz, 2006).

The purpose and goal of the present study is to determine if work-life conflict is being measured as completely as possible. While work-life conflict is currently measured using items that fit into three main categories, it could be that more dimensions (four or five) may help to better explain work-family conflict. By compartmentalizing all work-life conflict issues into just three categories, we could be missing other important issues present in the work-life conflict domain. An employee, for example, may complete a work-life conflict measure and determine

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from their answers that they are suffering from work-life conflict due to time. Yet, if items are being misrepresented as time, this person could be improperly informed about the reasons for their conflict. In more extreme cases, people could be unknowingly ignoring their issues between their work and personal lives because there are not items in existence to properly measure their specific feelings and struggles.

This paper will contribute to existing research by exploring alternatives to the typical work-life conflict scales that are in existence. Moreover, the proposed scale will include the most demonstrative items from some of the most highly used scales of work-life conflict and new items to reflect the introduction of new dimensions, which will provide practitioners and researchers with a new more comprehensive scale for future usage. Currently, researchers must make decisions about which work-life conflict measure to use to fit their needs best. With the development and validation of the proposed scale, researchers will have a new choice that is more inclusive of the actual issues felt by workers and is simultaneously representative of all items in work-life conflict measurement.

Energy and work-life conflict

Conflict within the work-life relationship typically falls into the categories of behavior, time, and strain. However, these three categories may be too few and may not properly identify many issues and conflicts that arise between the work and personal life domains. Several researchers seem to agree with this notion. Greenhaus and Beutell's (1985) typology of three categories of work-life conflict has since been expanded in the past by adding energy as its own separate form of conflict (Greenhaus, Allen, & Spector, 2006). Therefore, using energy as its own form of work-life conflict for measurement has an empirical basis, as well as simply adding more forms of work-life conflict beyond the typically supported three forms. Several other

sources also discuss energy as a dimension of work-life conflict. Adams, King, and King (1996) discuss energy as a characteristic of work-life conflict, in which workers may expend too much energy in one domain which could deplete their ability to have energy in other domains. Additionally, Small and Riley (1990) use energy as a dimension or form in their work-life conflict scale. According to the authors, energy is an apt dimension in that it includes challenges of work that can lead to fatigue and therefore less available energy that is needed to be active in the family role. However, in Small and Riley's (1990) study, they failed to find construct validity for their energy interference subscale. This could have been due to the scale's shortcomings, or that the items they chose were not adequate representations of energy interference and depletion. Also, energy depletion was only assessed in one direction, from work to family, and not from family to work. The present study will assess energy both from work to family and from family to work. It will be important to select and possibly create questions that accurately represent energy, especially knowing that this has been a challenging task in the past. A scale used by Grandey, Cordeiro, and Crouter (2005) also considered a subset of items measuring what they described as time- and energy-based conflict. While the authors considered time and energy as one basis of conflict, it may be more accurate for measurement to separate these two constructs into two independent dimensions of work-life conflict.

Theoretically, time is also clearly a separate construct from energy. Adams, King, and King (1996), Fox and Dwyer (1996), and ten Brummelhuis and Bakker (2012) discuss time and energy as separate characteristics, providing a foundation to deem it appropriate to measure these as different dimensions and different forms. ten Brummelhuis and Bakker (2012) also further outline energy as manifesting as physical, cognitive, or mental issues in the area of work-family conflict. In sum, it seems appropriate to use time and energy as separate dimensions or forms,

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given the differences in their characteristics. The dimensions of time and energy are also fixed resources according to the scarcity hypothesis, and participating in multiple domains can result in drain in these two areas (Marshall & Barnett, 1993). Simply put, we differentiate between time from energy every day in our lives, and each has the possibility of being depleted. A person may have time available to complete a task, but no energy available to complete that task. Further, time is based on the amount of availability a person has to devote attention to one domain or another, while energy deals more with the physical and mental ability to devote attention to one domain or another. An absence of ability or energy could result in issues such as absenteeism, burnout, physical health depletion, and other forms of distress, given that appropriate levels of energy are helpful to mitigate these issues. Moving forward, this research will attempt to develop a scale in which items are created to measure energy's role in the area of work and life conflict.

It is also important to delineate energy from strain, where it also could have been previously represented. There is considerable evidence that strain produced by work-life conflict can have symptoms similar to those of energy depletion, such as fatigue and apathy (Greenhaus & Beutell, 1985). However, strain is also conceptualized as representing other issues such as tension, depression, anxiety, and irritability. Therefore, it seems that the construct of strain may be conceptually responsible for too broad of a spectrum of issues, and would benefit from being broken down into an additional dimension of energy. This energy dimension could focus on the fatigue and apathy issues currently summarized as strain. Individuals may be scoring high on the strain dimension of work-life conflict because of their issues with energy. However, upon analysis of the scores, it could be hard to tell just what type of strain a person is feeling. By removing fatigue or apathy items from strain and placing them in their own category of energy, we could have a deeper understanding of the specific conflicts being felt by workers.

Additionally, Gutek et al. (1991) categorize items concerning being tired from work and therefore unable to properly participate in home activities as time or strain-based items. For one, it seems that a clear categorization needs to be made between either time-based or strain-based in order to give items more credibility and purpose. Also, an item of this nature seems to be dealing more with the ability or energy needed to perform while tired, as opposed to being an item dealing with constraints on time available for interacting at home. Kirchmeyer (1992) also uses an item concerning physical drain as a strain-based item. Given our understandings of strain and energy, this item could be tapping into the form of energy more strongly than that of strain. Similarly, Small and Riley (1991) used the form energy to categorize items on their scale of work-family conflict, while also having strain and time as a separate content forms. From this combined evidence, we can gather that it may indeed be appropriate to further delineate energy as its own content form.

Given all of this information, the present study defines energy-based conflict as conflict that exists when physical or emotional exhaustion in one domain hinders role performance in the other domain. For example, if a person stays up all night hanging out with friends, their lack of energy at work the next day may cause conflict (lower performance, concentration, etc.). This energy depletion is also likely to lead to negative outcomes of work-life conflict. For instance, a lack of energy may result in workers being unable to make it to work on time, more likely to quit their job, and more likely to suffer from decreases in physical health. While we know that work-life conflict generally leads to lower physical health (Frone, Russell, & Barnes, 1996), which exact construct of work-life conflict leads to such physical outcomes is yet to be explored. It seems clear that behavior and time could be removed as options to lead to negative physical outcomes simply due to the nature of these constructs, yet strain and energy may be plausible

explanations for these negative outcomes. A decrease in energy may lead to poorer health related decisions, such as lack of exercising and poor adherence to a healthy diet, and thus could result in these negative health outcomes. Additionally, a lack of energy leaving an individual unable to perform in life domains may cause workers to make negative organizational decisions as well. With a depletion of energy, work attendance, interest in work, and simply staying in a job may all be at risk. Thus, exploring energy-based work-life conflict may be worthwhile in order to determine if the introduction of this dimension will aid in predicting these negative outcomes.

Hypothesis 1: *Energy-based conflict is a dimension of work-life conflict independent of time, strain, and behavior.*

By adding the dimension of energy, we expect to see a more accurate measurement of work-life conflict due to the increased representation of conflict.

Emotion and work-life conflict

While energy may be a type of work-family conflict to consider when delineating between issues in the work and family domains, emotion is another possible form in which some measures may fit more adequately. Emotion has been identified as a realm that is likely affected by conflict between work and nonwork life (Judge, Ilies, Scott, 2006; Livingston & Judge, 2008; Schieman, McBrier, & Van Gundy, 2003). However, emotion has not been considered when creating measures and scales of work-family conflict in the past. Therefore, a more encompassing and comprehensive measure that also includes the dimension of emotion could be more suitable for measuring conflict in the work-life interface. Work-life conflict does evoke negative emotional feelings from those who experience incompatibility in this area, so we can assume that emotion-based work-life conflict would have some validity. Judge, Ilies, and Scott (2006) found that work-family conflict creates specific emotional reactions concerning guilt and

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hostility. Moreover, these emotions of guilt and hostility are evident in both directions. Therefore, family-to-work conflict that laments at work is related with emotions of hostility and guilt in the organization, just as work-to-family conflict that is experienced in the home is related with emotions of hostility and guilt at home with family (Judge et al., 2006). Generally speaking, the results from their study suggest that emotional reactions are experienced in the domain in which they are felt. Thus, if while at work an individual feels that participation in family or home activities is incompatible with their work tasks, their affect or emotions at work are more likely to be altered. This same idea operates in the work to family direction as well. This study by Judge et al. (2006) shows that emotion and affect are prominent characteristics found in the work-family domain, and measuring emotions could therefore be a worthwhile addition to existing work-life conflict scales.

Greenhaus, Allen, and Spector (2006) also observe negative emotions as outcomes of work-family conflict. Some of these emotions include anxiety, depressive symptoms, and emotional strain, and evidence was again found that these emotions exist in both directions, from work-to-family and from family-to-work. Additionally, there have been few studies that have used psychological health items (including items associated with the negative emotions previously mentioned). However, many times these emotions are clustered into constructs such as burnout, psychophysical symptoms, or somatic-psychological health (Greenhaus et al., 2006). It could be more appropriate to allow items concerned with negative emotions to fall under one single category of emotion, as opposed to conceptualizing the items into a category they may not properly represent. Again, emotion should be a prominent area of work-life conflict, yet with few studies measuring emotion directly, there leaves room for impact. Livingston and Judge (2008) also discuss the role of emotions in the work-family conflict context and put specific focus on the

rarity of emotions' presence in the WFC literature when not being considered as simply an outcome.

While the impact of emotional outcomes is important to consider when assessing conflict that is felt between one's work and personal life, emotions also seem to be a part of the process of work-life conflict. Emotions, as a process, are viewed as the interface between a person and their environment, and mediate between changing situations, events, and behavioral responses (Scherer, 1982). Therefore, in the case of work-life conflict, it may be appropriate to view negative emotions as a part of the process of work-life conflict, similar to the ways in which lack of time or energy and the presence of strain are part of the process of work-life conflict. Additionally, research suggests that individuals carry affects and attitudes from their work environment into their personal life and from their personal life into their work life (Belsky, Perry-Jenkins, & Crouter, 1985; Crouter, 1984; Kelly & Voydanoff, 1985; Piotrkowski, 1979). This transfer or spillover of mood and affect is commonly experienced on the positive side of the work-life interface (Hanson & Hammer, 2006), which gives precedent for such mood spillover to also exist on the negative side of work-life balance. More evidence is given through the notable work-life enrichment scale created by Carlson, Kacmar, Wayne, and Grzywacz (2006), in which affect is used as a form to describe the work-family interface. Hanson and Hammer (2006) also use affect as a dimension in measuring work-family positive spillover. It is also important to understand the stark differences between negative affect and positive affect. The constructs of positive affect and negative affect are independent, in that one is not simply the lack of positive emotions or the lack of negative emotions. Instead, positive affect and negative affect stem from two different biological systems (Watson, Wiese, Vaidya, & Tellege, 1999). Positive affect is associated with a behavioral engagement system, in which positive emotions help people to

engage in different aspects of their lives, while negative affect is associated with the behavioral inhibition system, in which negative emotions help people to avoid more situations that may have adverse consequences (Watson et al., 1999). Additionally, Crawford and Henry (2004) also argue this point, that negative affect and positive affect are only very lowly correlated, if even at all. This is similar to the lack of correlation found between work-family conflict and work-family enrichment. We are not able to just reverse the items in work-family enrichment to create work-family conflict items, just as we cannot reverse positive affective spillover items to create negative affective spillover items. Thus, given that positive affective spillover items exist in WFE measures (Carlson et al., 2006; Hanson & Hammer, 2006), negative affective spillover items should also exist on the conflict side.

There is also an argument for both negative and positive emotional or affective spillover provided in the literature (Ilies, Schwind, Wagner, Johnson, DeRue, & Ilgen, 2007; Judge & Ilies, 2004). According to Judge and Ilies (2004), positive emotions felt at work may facilitate more positive memories, and when looking back on the work day once at home, a person is more likely to feel positively when recalling those pleasant memories. However, the authors also note that this happens with negative emotions as well. Negative moods or emotions experienced at work can lead to unpleasant thoughts or feelings that will negatively impact one's mood at home. Therefore, the evaluations of the work day, whether positive or negative, will influence the affective states felt at home (Ilies et al., 2007). Lastly, Ilies et al. (2007) shows that affect or emotions at work influence both work-family conflict and affect at home. Additionally, Mitchell, Eby, and Lorys (2015) have written an entire chapter on the idea of negative affective spillover. In their chapter, they emphasize how workers might feel emotions that lead to negative affective spillover through a process. For example, a worker may receive a negative evaluation at work

that causes them to become upset and angry. After, the worker may continue to ruminate about the poor evaluation, which reinforces the negative emotions. By the time work is over and the worker is at home, the negative emotions are still just as present. Therefore, in this situation, negative affective spillover from work to family has taken place. From the Mitchell et al. (2015) chapter, it is clear that having more occurrences of negative affective states at work will lead to higher negative work to family affective spillover. From these references, it seems that there is precedence to use emotion as a dimension on the negative side of the work-family interface as well. In sum, we can see that negative emotions can have an impact on work-life conflict, and that these negative emotions can also spill over between work and family in many of the same ways that positive affect spills over between work and family.

Emotions may also be related to strain-based conflict. Strain includes psychological and physical strain, and therefore emotions may be related to this psychological aspect of strain-based conflict. Strain-based conflict, as it is defined in work-life conflict, has many elements of anxiety and stress, which can generalize to many other emotions felt during work-life conflict (Greenhaus & Beutell, 1985). Anxiety or stress may cause individuals to feel emotions such as anger, sadness, guilt, or hostility, and therefore the emotion dimension may be a plausible expansion of the strain dimension. Additionally, emotions may be better thought of as a process, in which they are evoked themselves more slowly overtime, similar to the way in which work-life conflict in general cultivates. Emotions typically are deeply felt responses to events happening in one's life, and therefore could be an extension of the emotional strain that is already felt in response to negative events happening at work or in the personal life. These negative emotions, moods, and emotional drain are likely to be outcomes of emotional strain present in different domains of life. Given this, it may be beneficial to break strain into a more

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physically based strain (i.e., energy-based conflict, as previously discussed), in which individuals experience stress and physical symptoms, and a more emotionally based strain (i.e., emotion-based conflict), in which individuals experience negative emotions, moods, and can many times feel overall emotionally drained. For example, items from the Stephens and Sommer (1996) scale that use words such as "irritable" and "emotionally drained" are currently conceptualized as being strain-based conflict items. However, given the nature of these items, it could be that they fit better with another form due to their content. Items concerning these emotional themes seem to fit better with an emotion-based form, since emotion concerns feelings and mental states. Strain-based conflict, once properly rid of emotion-based items and physical-based items would be defined as increased stress or tension in one domain that hinders role performance in the other domain. Consequently, for the purposes of this study, emotion-based work-life conflict is defined as conflict that occurs when mood and negative emotions in one domain hinders role performance in the other domain.

Increasing emotional reserves is also recommended as a coping mechanism for individuals who are dealing with work-life conflict, as this type of coping has been empirically validated (Neal & Hammer, 2009). Thus, if increased emotional reserves have a clear role in helping alleviate work-life conflict, we can infer that the opposite of this is most likely also true. In such, decreased emotional reserves can exacerbate work-life conflict, and having items that touch on this depletion could be helpful in measuring work-life conflict. Therefore, work decreases workers' emotional reserves, and reduces their performance in their personal life roles. This could also be thought of in the opposite direction, in which one's personal life may decrease their emotional reserves, leading to reduced performance on the job.

Hypothesis 2: *Emotion-based conflict is a dimension of work-life conflict independent of*

time, strain, and behavior.

By adding emotion-based work-life conflict, we will increase the likelihood of identifying

individuals whose negative feelings about work or their personal lives permeate their other life

domains. With the identification of people experiencing this specific type of work-life conflict,

effort can be taken in order to alleviate some of these negative emotional outcomes.

Purpose of study

In sum, the purpose of this research is to expand upon previous knowledge about work-

life conflict by exploring new dimensions in which to measure it by. Given the serious negative

impact work-life conflict can bring to an individual or family's life or to an organization, using

the most accurate measurement is of extreme importance. Adding emotion and energy as their

own dimensions, we will be able to identify more specific issues consumed under the broader

problem of work-life conflict. Work-life conflict's measurement is largely limited to items based

on time, strain, and behavior. By trying to understand all work-life conflict issues by just looking

through these three lenses, we could be missing other vital concerns with serious negative

outcomes in the work-life conflict domain. This research aims to fill this gap by building upon

the three category form of work-life conflict, by developing and validating a new scale that

represents an expanded conception of work-life conflict. With the proposed five dimensions of

time, strain, behavior, emotion, and energy, this research aims to produce a useful scale for

work-family and work-life researchers in addition to adding to the conceptualization and

definition of work-life conflict.

Hypothesis 3: *A five-factor model of work-life conflict (time, strain, energy, emotion, and*

behavior) fits the data better than a three-factor model of work-life conflict (time, strain,

and behavior).

Method

The intent of this study was to develop and validate a new scale of work-life conflict. To achieve this goal, the study was divided into three parts. In Study 1, items from existing scales (Carlson et al., 2000; Frone et al., 1992; Gutek et al., 1991; Kirchmeyer, 1992; Netemeyer et al., 1996; Small & Riley, 1990; Stephens & Sommer, 1996) were rated by subject matter experts (SMEs) to better understand the underlying constructs represented by the items. Additional items were developed by the author and thesis chair to supplement in this process. After examining proportion of substantive agreement (PSA), coefficient of substantive validity (CSV), and means of the items, the best 60 items were retained for the initial scale (12 items per dimension, with 6 items for each direction). In Study 2, exploratory factor analysis (EFA) was used to investigate the nature of the latent variables (e.g., energy and emotion) underlying work-life conflict. Amazon's Mechanical Turk (MTurk) was utilized to gather a broad range of workers for this study. After analyses at this stage, Study 3 examined a smaller subset of the original items via confirmatory factor analysis (CFA). For Study 3, MTurk was used in order to gather data from an independent sample to confirm the results from Study 2.

The end product was expected to be a more encompassing and comprehensive scale of work-life conflict that represents additional realms of issues that workers experience. More specifically, energy and emotion were expected to emerge as pertinent dimensions of measurement for work-life conflict. In sum, this newly developed scale will serve as a summative and expanded alternative to the existing work-family conflict scales that simply assess time, strain, and behavior forms of conflict.

Study 1: Item Sort Task

In Study 1, archival data from subject matter experts was used to make decisions about the items to select for the development of the scale. In this archival data, existing items from the literature were used as the foundation of the scale. These items were rated by SMEs in order to determine the items' form (time, strain, behavior, emotion, energy, or general), as well as to determine the items' direction (work-to-family, family-to-work, or non-directional). These items were then analyzed to determine their proportion of substantive agreement, coefficient of substantive validity, and content validity (Anderson & Gerbing, 1991; Ferris, Brown, Berry, & Lian, 2008) in order to make decisions about items to include that will best represent each of the six forms in order to develop a scale for future validation (i.e., Study 2). Additional items were also developed as necessary to ensure that each construct of time, strain, behavior, emotion, and energy have a total of 12 acceptable items.

Item Selection. A total of 102 items were collected from existing measures in the literature (see Table 1). Items were incorporated from Carlson et al. (2000); Carlson and Frone (2003); Frone et al. (1992); Gutek et al. (1991); Kirchmeyer (1992); Netemeyer et al. (1996); Small and Riley (1990); Stephens and Sommer (1996); and van Steenbergen et al. (2007). These scales were included due to their broad range of items on work-family conflict.

Participants. SMEs were 23 graduate students from a large southeastern university who were enrolled in a graduate seminar course on work and family. Graduate student SMEs are commonly found in the literature, and fit the criteria of subject matter experts as defined by Schriesheim et al. (1993). Content adequacy raters, or subject matter experts, must possess keen intellectual understanding in order to properly rate or sort items as well as remain unbiased in their decision-making processes (Schriesheim et al., 1993). From this, we can conclude that

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graduate students studying material in the work-family conflict content area would be highly sufficient in making informed judgments. One subject matter expert's ratings were dropped from the data due to careless responding and missing data. This SME only answered 54 of the 204 questions and was an outlier with z-scores of 3.2633 for the content rating and 3.0293 for the directionality rating. Therefore, 22 SMEs were utilized in Study 1. Although 22 total SMEs may seem to be a low number of item-sorters, around 20 is the typical size of a sample of item-sorters that has been recommended in past literature (Anderson & Gerbing, 1991; Ferris et al. 2008). With this number of SMEs, reliable conclusions can be drawn.

      Procedure. The SMEs were involved in an item-sort task, in which they were given a set of six form constructs and three direction constructs that they were familiarized with throughout a work and family graduate seminar, as well as the set of 102 items. The SMEs were asked to read each item and assign it to the one form construct and one direction construct that, in their judgment, the item best indicates (Anderson & Gerbing, 1991). The 102 items were given to the SMEs to be sorted by both form and directionality. SMEs were asked to categorize each of the items as concerning time (1), strain (2), behavior (3), emotion (4), energy (5), or general (6), as well as categorize each of the items as either being an item dealing with conflict happening from work-to-family (1), family-to-work (2), or non-directional conflict (3). General and non-directional were included as options to allow SMEs the ability to not misrepresent items as one of the five posited forms and the two posited directions if they felt the item did not properly fit with their understanding of that construct. Additionally, SMEs were asked to make a judgment about the content validity of the form of each item, in which they assessed how well the item captured the form of conflict that they assigned to that particular item. At this point, items were still set in a work-family conflict context, as opposed to a work-life conflict context. Items were

changed to represent the work and life domains after the SME sorting task. At the conclusion of the item sort task, results were gathered to show which form of content and direction was the most frequently endorsed by the SMEs. The form and direction most agreed upon by the SMEs was called the "endorsed" construct, and the form and direction given by the authors of the original scale the "proposed" construct. For the purpose of this study, the endorsed construct was considered the correct form or direction for the item when computing future calculations.

Analyses. The classification and ratings for each item, taken from the SMEs, constitute the data for the assessments of its substantive validity and content validity. In contrast with other item-sort procedures (e.g., Holden & Jackson, 1979; Strieker, Jacobs, & Kogan, 1974), this item-sort task does not require SMEs to determine the appropriate number of underlying categories for the set of items or to create labels or descriptions for each category (Anderson & Gerbing, 1991). The six constructs for form and three constructs for direction have already been labeled and were pre-selected for the SMEs to use in the task. Thus, this type of item-sort task not only is less effortful for the SMEs, but it also lends itself to adhering to pre-existing theory and allows the data to be readily collected across SMEs (Anderson & Gerbing, 1991).

Therefore, Study 1 assessed the substantive validity of the 102 items from the item-sort task (Anderson & Gerbing, 1991). To do this, two indices previously supported by Anderson and Gerbing (1991) and Ferris et al. (2008) were employed. The first of these two indices, the proportion of substantive agreement (PSA), assesses the proportion of respondents who assign an item to its intended construct. The formula is as follows:

$$PSA = n_c / N$$

Where n_c represents the number of respondents assigning a measure to its expected construct and N represents the total number of respondents. The values of PSA range from 0.00 to 1.00 with

larger values indicating greater substantive validity. Typically, PSA coefficients should be used in a comparative manner to retain a subset of items with the largest values (Anderson & Gerbing, 1991). Thus, to balance substantive validity and scale economy, it is recommended to retain items with a PSA greater than or equal to 0.95 (Ferris et al., 2008).

For the purposes of the current study, the number of respondents who assign an item to the intended, "endorsed" construct (time, strain, behavior, emotion, energy, or general) and direction (work-to-family, family-to-work, or non-directional) were assessed. Thus, each item has a separate PSA for form and for direction. PSA was calculated by dividing the number of people who endorsed a particular construct by the total number of SMEs. However, while PSA gives us information indicating the extent to which an item reflects its intended construct, it does not indicate the extent to which an item might also be representative of other, unintended constructs. For example, while 15 of the SMEs may assign a single item to the behavior form of work-life conflict, what did the other SMEs assign that item to?

This is answered by the coefficient of substantive validity (CSV), which represents how much sorters assign an item to a construct more than to any of the other constructs. The formula is as follows:

$$CSV = (n_c - n_o) / N$$

Where n_c and N are defined as before, and n_o represents the highest number of assignments of the item to any other construct. The values of CSV, unlike PSA, range from -1.00 to 1.00 with larger values indicating greater substantive validity for that particular intended construct. Large negative values for a CSV would indicate that the item is strongly tapping into a construct that is not the posited construct. Thus, CSV is calculated concerning the construct that is the second most endorsed by the SMEs along with the most endorsed construct and sample size. Typically,

it is recommended to retain items with a CSV that is greater than or equal to 0.90 (Ferris et al., 2008). In this study, the construct with the most assignments for a single item became the endorsed or posited construct. When items are assigned to constructs other than the posited construct, this information was retained in the CSV.

This type of task has been recommended as a strong method to use at the beginning stages of scale development (Anderson & Gerbing, 1991; Ferris et al., 2008; Hinkin, 1998). By using substantive validity, we provided a more standardized guide by which we could make decisions about eliminating items that do not represent their endorsed form or direction, and therefore do not add further validity to the scale. Calculating substantive validity also served as a glimpse into which items performed best in future factor analyses (Anderson & Gerbing, 1991; Ferris et al., 2008).

Lastly, the mean of each item's assigned content validity were examined. During the item sort task, SMEs were asked how well an item captured the form of conflict that they assigned to that particular item. The item read as "How well does this item capture this form of conflict?" and was measured on a five-point Likert scale (1= poor, 2= fair, 3= well, 4= very well, 5= excellent). This provides a measure of content validity, as rated by the SMEs. Content validity is simply the degree to which an item in an assessment instrument is relevant to and represents the construct of interest (Haynes, Richard, & Kubany, 1995). In the present study, content validity was used to assess how much the SMEs agree that an item represents one of the six form dimensions (time, strain, behavior, energy, emotion, and general). A higher mean in this case represented stronger content validity, while lower means represented lower content validity. One mean was then calculated for every item that takes into account how well the item fits its intended form. Mean information was used as a secondary analysis to help determine the

strength of each item. Due to the simplicity of assigning a direction to each item, and the likelihood of high PSAs and CSVs for the direction of each item, content validity for the direction assignment for each item was not requested from the SMEs.

Items were categorized by their endorsed construct of form (time, strain, behavior, energy, emotion, or general) and direction (work-to-family, family-to-work, and non-directional) and then from these groupings, items with the highest PSAs and CSVs were used in the newly developed scale, and items with lower PSAs and CSVs were dropped. The goal was to retain six items from each of the five categories of time, strain, behavior, emotion, and energy. In cases in which there were more than six items that meet the PSA and CSV recommendations of 0.95 and 0.90 or higher, respectively, further analysis was done. In these cases, items that had the highest means were selected. Therefore, when more items than necessary (i.e., six) for the scale had adequate PSAs and CSVs, selection were based on items with the highest content validity means. In cases in which the recommendations for PSA and CSV were not met, items were selected based on the highest possible PSAs, CSVs, and means available, or new items in more extreme cases were written. In the case that items need to be developed by the author and thesis chair, items were written in a similar format to the other items being used, and reference the necessary articles to further understand the most salient content for a specific construct. Several iterations of item writing were conducted, and guidelines for item writing denoted by Hinkin (1998) and Sapsford (2006) on constructing scales were followed.

Based on these analyses, 30 items from the SMEs' item sorting task were retained. However, to develop the scale, bidirectional items were used; one item for each direction of life-to-work and work-to-life. Therefore, the originally selected 30 items were doubled to 60 items when the additional direction item was added for each. For example, a work-to-life conflict item

that reads "My work demands time from me that could be spent on my personal life" was duplicated and altered to be a life-to-work conflict item. Therefore, the item representing the opposite direction would read "My personal life demands time from me that could be spent on my work." The items are nearly exactly the same, with just the directional words being changed. At this time, the context was also broadened, in that items previously referring to the domains of work and family were changed to represent the more encompassing domains of work and personal life. As previously mentioned, this is done in order to provide a larger and more diverse sample of workers, as well as to cover a wider range of issues likely to be felt by workers.

Study 2: Exploratory Factor Analysis

  Participants. Participants were required to live in the United States, be 18 years of age or older, and employed at least 30 hours a week at the time of the study. MTurk qualifications and survey screening items were used to verify these study requirements and participants that did not meet the study requirements were unable to complete the study. In total, 989 participants completed Study 2 and were paid $0.25 USD. This payment was allotted to all participants through their Amazon accounts.

  Data collected through Amazon's Mechanical Turk was downloaded from Qualtrics and cleaned in SPSS. It was necessary to remove participants based on their responses to insufficient effort responding items (IERs). Insufficient effort responding items are a call to resolve the issue of careless responding (Meade & Craig, 2012). As outlined by Meade and Craig (2012), careless responding can be classified as giving responses to items with little attention or care. This can be a serious psychometric and data problem. Careless responses can skew data sets, can provide for inaccurate results, and can reduce reliability estimates in the scale development process (Meade & Craig, 2012). To combat careless responding, this study implemented five IERs to catch

careless respondents during data collection. As recommended by Meade and Craig (2012), we chose to use instructed response items (e.g., "Please select strongly agree for this item"), which are a type of IER. Instructed response items were used as it is suggested to use them in surveys that are longer. Also, given that the data collection was completed online through MTurk, five instructed response items were included (often times three IERs are recommended). These items were spaced out so there were at least 11 items between each instructed response item. Substantive items were randomly assorted throughout the survey within a work-to-life and life-to-work block.

Based on the data, participants who missed none of the instructed response items were retained. One participant was also removed due to reporting working 110 hours per week. Therefore, the final sample for analysis in Study 2 was 854. This choice was made for several reasons. First, the data would be the cleanest if there were no participants included that missed any of the IERs. Second, the sample size of 854 was still more than adequate to confidently run exploratory factor analysis. And lastly, there was a large difference between the number of participants who only missed one IER (N=958) and the number who missed no IERs (N=854). Therefore, it was decided to go with the cleanest sample of 854 participants.

In the final sample (N=854), 47.1% of participants were married or living as married, 54.7% were female, 44.5% had children (with the average age of his or her youngest child being 10.21 years old), 37.6% had a Bachelor's degree, 79.3% identified as Caucasian, the average age was 34.97, and the average hours of employment per week was 40.54. These sample demographics match well with what we expect from MTurk samples (Ross, Irani, Silberman, Zaldivar, & Tomlinson, 2010; Ipeirotis, 2010).

Procedure. A survey was administered on MTurk containing the retained items from Study 1. MTurk is a crowdsourcing web service (database currently consists of over 500,000 individuals from 190 countries) that coordinates the supply and the demand of tasks that require human intelligence to complete (Paolacci, Chandler, & Ipeirotis, 2010). In comparison to other samples, MTurk samples tend to be more demographically diverse (especially in comparison to the typical college samples that are commonly used in psychological data collection) and data obtained through MTurk is at least as reliable as data obtained in more traditional methods (Buhrmester, Kwang, & Gosling, 2011). Overall, MTurk has been cited as a valuable medium through which to collect samples for reliable and fast data collection (Berinsky, Huber, & Lenz, 2012; Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2012; Paolacci, Chandler, & Ipeirotis, 2010). A posting for the study was listed on MTurk containing a brief introduction to the study, as well as an estimation of the amount of time it will take to complete (approximately 5-10 minutes). MTurk workers, those who browse surveys on MTurk and complete surveys for compensation, were free to choose to participate in the study given that they met the listed requirements (currently living in the United States, 18 years of age or older, and working a minimum of 30 hours per week). Participants from MTurk rated the degree to which they felt they were experiencing work-to-life or life-to-work conflict as described in each of the 60 items. Responses were made on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Additionally, demographic information was gathered to ensure that active employment and age requirements are met (see Appendix for questions).

Analyses. The conflict items were factor analyzed using exploratory factor analysis (EFA). EFA can be appropriately applied in scenarios in which a researcher desires to understand the latent structure of correlations among measured variables (Fabrigar et al., 1999),

which is the goal of Study 2. The maximum likelihood extraction method was used, as this has been cited as the best choice because it allows for many calculations of indexes of goodness of fit and permits statistical significance testing of factor loadings and correlations among factors (Fabrigar et al., 1999). Oblique rotation was also applied, as this tends to be the most supported form of rotation since generally it is expected that at least some of the factors or constructs will be correlated with one another (Costello & Osborne, 2005). There is some theoretical evidence suggesting that strain would be correlated with emotion or energy, and thus factors should be allowed to correlate in order to show such these linkages. Factor loadings were also examined. In order to be considered a strong factor, factors usually need to have at least three or more items (5 being recommended) and items need to load with eigenvalues of 1 or higher according to the Kaiser criterion (Costello & Osborne, 2005; Fabrigar et al., 1999). The chi-square test statistic was reported for the EFA, in which small chi-squares are desired (Williams et al., 2002). At this time, items with the largest factor loadings were retained. The goal was to trim the items from 60 to about 30 in order to validate a scale that is not as lengthy and thus more practical for future use. Items were cut based on factor loadings and eigenvalues. Of the retained items, six items (three per each direction) were retained for each of the determined constructs.

Study 3: Confirmatory Factor Analysis

Participants. For Study 3, data were collected from Amazon's Mechanical Turk. Similar to Study 2, participants were required to live in the United States, be 18 years of age or older, and employed at least 30 hours a week at the time of the study. In total, 951 participants completed the study. Participants in this study were paid $0.25 USD for taking the survey. This payment was allotted to all participants through their Amazon accounts. To ensure that participants from Study 2 did not also participate in Study 3, an option on MTurk to block the

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Study 3 survey from MTurk workers who participated in Study 2 was utilized. This is simply a feature that MTurk offers, in which the MTurk IDs (which is a random code; e.g., A17HGKD9PLHTCX) from a previous study can be used to restrict participants from completing a future study. In the case that any errors in this process were made by MTurk, the data was examined to see if participants with the same MTurk ID were able to complete both Study 2 and Study 3. The data were also cleaned based on the same insufficient effort responding criteria as used in Study 2. Therefore, in Study 3, participants that missed any of the five IER items were removed (IER items were again presented an equal distance apart in the survey). The final sample for analysis in Study 3 was 823. This choice was made for not only the same reasons as we did in Study 2 (e.g., cleaner, more accurate data), but also in order to match the criteria for participants across studies.

In the final sample (N=823), 45.1% of participants were married or living as married, 59.8% were female, 46.7% had children (with the average age of his or her youngest child being 11.09 years old), 37.9% had a Bachelor's degree, 75.8% identified as Caucasian, the average age was 35.49, and the average hours of employment per week was 40.53. These sample demographics also match well with what we expect from MTurk samples (Ross et al., 2010; Ipeirotis, 2010).

Procedure. A survey was administered on MTurk containing the retained items from Study 2. The same posting for Study 2 was listed on MTurk containing a brief introduction to the study, as well as an estimation of the amount of time it would take to complete (approximately 5-10 minutes). MTurk workers were again free to choose to participate in the study given that they met the requirements (currently living in the United States, 18 years of age or older, and working a minimum of 30 hours per week). The posting was not visible to those workers who already

participated in Study 2. The remainder of Study 3 was identical to Study 2. Participants from MTurk rated the degree to which they felt they were experiencing the work-to-life or life-to-work conflict as described in each of the work-life conflict items. Responses were made on a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Additionally, demographic information was gathered to ensure requirements are met for active employment and age (see Appendix for questions).

Analyses. The work-life conflict items were factor analyzed using confirmatory factor analysis (CFA). EFA and CFA complement each other well, and are typically used in succession, as was done in Study 2 and Study 3. While goodness-of-fit indices provide the researcher with helpful information from CFA, eigenvalues can be used to gain more direct insight about dimensionality from EFA (Hurley et al., 1997). Given this, it can be considered most effective to use both EFA and CFA in studies with multiple samples, in which researchers can first explore factor loadings and then confirm hypotheses in a new sample. Thus, this is the methodology that was carried out in the present series of studies. In CFA, the main goal revolves around the context of confirmation, in which the purpose is to test formal hypotheses (Hurley et al., 1997). In CFA, a priori hypotheses are required, or some form of a clear theory must be present before analyses are completed. In this case, the results from the EFA will serve as the precedence for the completion of the CFA. CFA is also typically appreciated as the more theoretically rigorous of the two forms of factor analyses in that it provides a helpful framework in which to see the relationships between theory and data. Again, this provides a compelling reason to use both forms of factor analysis.

Many of the same decisions about factor loadings from Study 2 were made in Study 3. CFA was performed with oblique rotation to allow the factors to correlate with each other and

through the maximum likelihood extraction method. In the analysis process, decisions were made about which fit indices to report. The chi-square test statistic for the CFA were reported, in which small chi-squares are desired, similarly to the report of chi-square in Study 2 for the EFA. However, in Study 3, the comparative fit index, or CFI, in which large values above 0.95 are desired, the root mean square error of approximation, or RMSEA, in which small values of 0.06 or lower are considered to reflect good fit, and the standardized root mean squared residual, or SRMR, in which small values of 0.08 or lower are considered to reflect good fit, are considered (Hu & Bentler, 1999; Williams et al., 2002). The goal was to confirm the factor structure that was found in the EFA from Study 2, and identify the hypothesized new dimensions of work-life conflict.

Results

Study 1: Item Sort Task

A total of 60 items were selected from the PSA, CSV, and mean results. As previously stated, only items with PSAs above 0.95 and CSVs above 0.90 should be retained for further examination. When there were more than six items per construct that had PSAs and CSVs above the thresholds, item choices were made based on the mean score for how well the item represented its proposed construct, where higher means indicate better item fit with the construct. However, out of the top six strain items, there was one item that had a format that did not match the rest of the items. Additionally, this item was considered by Carlson and Frone (2003) to be a time-based work-family conflict item, and contains the word "time". This item read: "How often does your home-life keep you from spending the amount of time you would like to spend on job or career-related activities?". Because of this difference in formatting (i.e., focus on frequency) as well as the incorrect classification as strain, this item was deemed not usable for the new

work-life conflict scale, despite its adequate PSAs (0.95 for form, 1.00 for direction), CSV (0.91), and mean (3.955). Therefore, the next best strain-based item was used (item WLS5, Table 3). While this item did not meet the requirements posited by Ferris and colleagues (2008), it's PSAs (.91 for form, 1.00 for direction), CSV (.82), and mean (4.045) were high enough for it to be considered a good item for further consideration (i.e., EFA in Study 2) based on examples from existing scale development research (e.g., Michel, Pace, Edun, Sawhney, & Thomas, 2014). The final 60 items with their corresponding PSAs (for both direction and form), CSVs, and means are listed in the Table 3. For the items that were only in one direction (e.g., the item only was written in a work-to-family direction), only PSAs, CSVs, and means could be calculated for the direction those items originally appeared in. Thus, some items have no PSAs, CSVs, and means because they were re-written in the opposite direction of the original item.

Unfortunately, all of the items that were sorted into emotion-based work-life conflict did not meet the PSA and CSV standards (Ferris et al., 2008). Therefore, all of the emotion-based items were self-developed and also do not have PSAs, CSVs, or means. Emotion-based items were developed through several rounds of item writing done by the author and thesis chair. Emotion-based adjectives were predominately pulled from the PANAS-X and Job-Affective Well-Being Scale (JAWS) in order to create the items (Van Katwyk, Fox, Spector, & Kelloway, 2000; Watson & Clark, 1999). Annoyed, upset, irritable, and frustrated are all words that come from negative emotions scales in the PANAS-X and JAWS. "Irritable" was also in an emotion-based item posited in the item sort task for SMEs, and had a moderately high form PSA and CSV (0.86 and 0.82, respectively), thus we felt confident in using "irritable" in our emotion-based conflict items. Mad was a negative emotion word that we chose based on its prevalent use in measuring negative emotion and affect (Kim, Walden, Harris, Karrass, & Catron, 2007; Patrick,

Skinner, & Connell, 1993; Stets & Tsushima, 2001). The inclusion of the phrase "bad mood" in the emotion-based items was utilized based on literature on negative spillover between work and life (Mitchell, Eby, & Lorys, 2015). In all, we felt that our negative emotion items are representative of a wide array of feelings experienced at work and nonwork roles. Emotion-based item writing went through approximately five rounds of edits and re-writes until items correctly reflected the proposed emotion construct.

As previously stated, it was also in Study 1 that items were edited from concerning the work and family domains to encompassing the broader domains of work and personal life. Items were edited from their original work-family version to a version that alluded more to a personal life or nonwork domain. The comparison between the original work-family items and adapted work-life items can be seen in Table 2. Note that this is only 30 items, as these items still needed to be re-written in the opposite direction (i.e., they were re-written to be either work-to-life or life-to-work, depending on the original item). The final 60 items can be found in Table 3.

Therefore, the item sort task performed in Study 1 provided the final 60 items that were used in the EFA in Study 2. There were a total of 12 items for time-based work-life conflict (six work-to-life items and six life-to-work items), 12 items for strain-based work-life conflict (six work-to-life and six life-to-work items), 12 items for behavior-based work-life conflict (six work-to-life and six life-to-work items), 12 items for energy-based work-life conflict (six work-to-life and six life-to-work items), and 12 items for emotion-based work-life conflict (six work-to-life and six life-to-work items).

Study 2: Exploratory Factor Analysis

The sample's responses were analyzed using MPlus version 7.2 (Muthén & Muthén, 2007). Two EFAs were run in MPlus for the sample: one EFA for the work-to-life conflict

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(WLC) items and one EFA for the life-to-work conflict (LWC) items. For the WLC EFA, a four-factor model best fit the data. The factor loadings for each item can be found in Table 4. The factor loadings indicate four distinct factors, in which Factor 1 is composed of time-based work-life conflict, Factor 2 is a combination of strain- and emotion-based work-life conflict, Factor 3 is composed of energy-based work-life conflict, and Factor 4 is concerned with behavior-based work-life conflict. While strain and emotion did load together onto Factor 2, strain items performed poorly and were excluded from further examination in Study 3. This decision was made based on the overall higher factor loadings for the emotion items on Factor 2 than the strain items. Therefore, the emotion items performed better than the strain items, and the best 3 emotion based items were retained for Study 3.

For the four-factor model of WLC, the eigenvalue was 1.016, which is above the guidelines set by the Kaiser criterion of a minimum accepted eigenvalue of 1 in order to retain a factor. Additionally, it is important to note here that in the WLC EFA there was a significant drop between the desired four-factor model's eigenvalue (1.016) and the five-factor model's eigenvalue (0.582). Such a large drop in the eigenvalues typically serves as an indicator of where to make the choice on the number of factors to retain, similarly to making decisions from a scree plot. Therefore, from the eigenvalues, we can determine with confidence that the four-factor solution is indeed the best fit with the data. The comparative fit index, or CFI, has been cited as the best fit index and has small sampling variability (Bentler, 1990). TLI, or the Tucker Lewis Index, is also reported. TLI is based on comparing the model at hand to a worst case scenario model (a model with zero factors) and to a best case scenario model (a model that would fit perfectly at a value of 1). Therefore, TLI is used to determine how close the model is to a perfect model. According to Hu and Bentler (1999), a CFI and TLI should be close to or higher than

0.95. The CFI reported for the four-factor model for WLC was 0.979 and the TLI was 0.972. The RMSEA, or root mean square error of approximation of the models, was also assessed. The RMSEA tells us how well the model would fit the data with the optimally chosen number of parameter estimates (Hooper, Coughlan, & Mullen, 2008). RMSEA is therefore partial to parsimony, and will prefer a model with a lower number of parameters. A cut-off of about 0.06 as an upper-limit is preferred (Hu & Bentler, 1999). The RMSEA for the four-factor model was 0.041, with a 90% confidence interval of 0.037 to 0.045, which is considered to be good fit. Lastly for fit indices, the square root mean residual, or SRMR, was also assessed. The SRMR is the square root of the difference between the residuals of the current model and a perfect model. A SRMR value should be less than 0.05 (Byrne, 1998), but in some cases is acceptable up to 0.08 (Hu & Bentler, 1999). For the four-factor model for WLC, the SRMR was 0.015, which is significantly lower than the recommended cut-off and therefore represents very good model fit. This information is also presented in Table 5. The chi-square difference tests for the five models are also presented. The chi-square difference tests indicate that there are significant differences between the models run in MPlus. This way we can ensure that two of the models are not statistically the same. This information is presented in Table 6.

As for the LWC EFA, a three-factor model was retained based on the results. Factor 1 was mainly time- and energy-based conflict items, Factor 2 was an emotion- and strain-based factor, and Factor 3 was concerned with behavior-based work-life conflict. These factor loadings are presented in Table 7. While this did not mimic the four factors found in the WLC domain, there are several theoretical why only three factors were found. The main reason is that there is blurring in the life domain between some of these constructs, in that time and energy may be

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much more interrelated at home than they are at work. These reasons will be expanded on in the following discussion section.

For the three-factor model, the eigenvalue was 1.036, which meets the Kaiser criterion of 1, whereas the Kaiser criterion for the four-factor model was less than 1 at 0.876. The CFI for the three-factor model was 0.957, and the TLI was 0.947, suggesting adequate model fit. RMSEA for the LWC EFA was 0.054, with a 90% confidence interval of 0.051 to 0.057. This is considered to be good or adequate fit. Lastly, SRMR for the three-factor LWC EFA was 0.025, which again represents good fit. A summary of this information, as well as the fit indices for other number of factor models is listed in Table 8. Additionally, while the WLC EFA showed a marked decrease in eigenvalues between the desired model (four-factor) and the next model (five-factor), this pattern was not exhibited in the LWC EFA. The three-factor eigenvalue of 1.036 decreases much less when proceeding to the four-factor model, with an eigenvalue of 0.876, and even to the five-factor model, with an eigenvalue of 0.803. This may indicate that the four-factor model and even five-factor model of work-life conflict was close to fitting the data given their eigenvalues of 0.876 and 0.803, respectively. Similar to the WLC EFA, the chi-square difference tests for the LWC EFA models are also presented. These results show that the models were all distinctly different from one another, with all model comparisons having p-values less than 0.001. This information is presented in Table 9.

Lastly, the author and thesis chair made decisions about which items to retain from the information provided by the EFAs. We set out to reduce the scale by half, taking the number of items from 60 to 30. Therefore, we originally planned to retain 30 items from the EFA for further analysis in the CFA, with there being 15 WLC items and 15 identical items but written as LWC, resulting in the need to select 3 time items, 3 strain items, 3 behavior items, 3 energy items, and

3 emotion items. However, given the four-factor structure that was found to best fit the WLC data, we decided to use the four-factor structure from the WLC items as the basis with which we would make the selections for both the WLC and LWC directions. For example, if we decided to use item 4 for time-based WLC, we would also then select item 4 (which is the same item written in the opposite direction) for LWC. We made these choices based on which items performed the best (i.e., had the highest factor loadings), for each factor. Originally, we planned to make the decision based on the items that performed the best for each construct, however, given then four-factor solution found for WLC and three-factor solution found for LWC, we only retained the best items by factor. Therefore, we used 3 items from the WLC EFA Factor 1, 3 items from the WLC EFA Factor 2, 3 items from the WLC EFA Factor 3, and 3 items from the WLC EFA Factor 4.

There are several reasons that we chose to use WLC factor loadings as the basis for the item selections, and not the LWC factor loadings. First, the four-factor model produced from the WLC EFA more closely matches with the hypothesized five-factor model, and thus this served as precedence to use the four-factor model as the basis for item selection. Second, the loadings in the WLC show a much cleaner solution. Time clearly loads strongly onto Factor 1, emotion and strain load well onto Factor 2, energy loads clearly on Factor 3, and behavior loads onto Factor 4. Such a clean representation of the data was not found on the LWC side. Lastly, this unclear loading on the LWC side, in which time and energy load together on Factor 1, emotion and strain load together on Factor 2, and behavior loads onto Factor 3, could be a part of the nature of life-to-work conflict. That is, at home or in our personal lives, it may be much more difficult to draw the line between what time-based conflict is and what energy-based conflict is. Many times, not having the energy to complete a task or not having the time to complete a task go hand in hand in

our personal lives. However, on the work-to-life conflict side, it may be easier to make this distinction. At work, we may have a specific set of tasks to complete in a day that take a certain amount of time that feel very distinct from being drained of energy or too tired to complete something. We also typically, in some fashion, clock in and out of work. We are, in most situations, expected to be at work from a certain time in the morning to a certain time in the evening. This temporal characteristic of work may be something unique to the work role, in that we do not feel this same presence of clocking in and out of our personal lives.

Therefore, based on our decisions about which items to retain, we retained time-based work-life conflict items 2, 3, and 6, with factor loadings of 0.784, 0.825, and 0.860, in the WLC direction, respectively. For energy-based work-life conflict, we retained items 1, 2, and 4, with factor loadings of 0.865, 0.879, and 0.832 in the WLC direction, respectively. Behavior-based work-life conflict items 1, 4, and 5 loaded the strongest, with loadings of 0.653, 0.629, and 0.602 in the WLC direction, respectively. For Factor 2, in which emotion and strain loaded together, we had to again make a decision about which items to retain. We came to the conclusion that it was most logical to keep with our method of selecting items based on factor loadings, and therefore chose the best three items for Factor 2 based on highest loadings. From this, only emotion-based conflict items were retained, as they loaded more highly than the strain items. In fact, only strain-based conflict item 6 performed as well as the emotion items did, with a loading of 0.803. All of the emotion-based conflict items loaded at a 0.757 or higher. The retained emotion-based conflict items from Factor 4 are items 1, 4, and 5, with loadings of 0.869, 0.839, and 0.837 for the WLC direction, respectively. The items themselves can be found in Table 3, and the loadings are displayed in Table 4.

Therefore, from Study 2, we retained 6 time-based conflict items (WLT2, WLT3, WLT6, LWT2, LWT3, and LWT6) 6 emotion-based items (WLEm1, WLEm5, WLEm6, LWEm1, LWEm5, and LWEm6), 6 energy-based items (WLE1, WLE2, WLE4, LWE1, LWE2, and LWE4), and 6 behavior-based items (WLB1, WLB4, WLB5, LWB1, LWB4, and LWB5). These 24 items were further analyzed in Study 3 in a new sample of participants through confirmatory factor analysis.

Study 3: Confirmatory Factor Analysis

Sample's responses were then analyzed using MPlus version 7.2 (Muthén & Muthén, 2007). Seven CFAs in MPlus were run for the sample: three CFAs for the work-to-life conflict (WLC) items and three CFAs for the life-to-work conflict (LWC) items, and one higher-order correlated CFA, in which a model involving both the WLC items and LWC items was tested. For further clarification of the structure of these models, these seven figures are presented in Figures 1-7.

The first model was a one-factor CFA for the WLC items. This CFA only used one factor of WLC to specify where items should load. Therefore, the model entailed all of the 12 items loading onto a single factor of WLC. This analysis is depicted in Figure 1. Because of the four-factor model found in Study 2, it was expected that this one-factor model would fit the data poorly. As such, that is what was found. The CFI for the one-factor WLC CFA was 0.690 and the TLI was 0.621, which are both well below the desired criteria of 0.95 for CFI and TLI. The RMSEA was also much larger than what is deemed acceptable. The RMSEA was 0.200, with a 90% confidence interval of 0.192 to 0.208. Lastly, the SRMR was 0.101, which is also too high to be considered good fit. Therefore, the one-factor model does not appear to be a good fit with the WLC data.

Next, in the search for better fit, a four-factor CFA was run, in which items were specified to load onto a latent factor of either time, emotion, energy, or behavior, depending on the item. A representation of this structure is shown in Figure 2. Given the prior knowledge about the factor structure from Study 2, it was expected this CFA to have good fit, and this is what was found. The CFI four-factor WLC CFA was 0.994 and the TLI was 0.992, which are both indicative of good model fit. The RMSEA also was considered good at 0.029, which fits the criteria of a "good" RMSEA by being below 0.05. The 90% confidence interval was also entirely in the good range, as it ranged from 0.018 to 0.040. The SRMR also indicated good fit, as it was at a 0.020, which is below the 0.05 criterion.

Lastly for WLC, a higher-order CFA was also run. For this CFA, it extends the two previous CFAs, in that WLC is conceptualized as a higher-order factor, with the facet factors of time, emotion, energy, and behavior loading onto WLC, with the subsequent individual items loading onto their intended facet factor. This factor structure is depicted in Figure 3. The results for the higher-order WLC CFA showed a strong model fit. The CFI was 0.979, while the TLI was 0.972, both indicating good fit. Additionally, the RMSEA was 0.054, which shows good to adequate model fit, as does the 90% confidence interval of 0.045 to 0.063. The SRMR was 0.046, which also shows good fit. In all, while the four-factor model seems to fit best, there is also strong indication that the higher-order structure fits comparably well. However, this can be further determined according to the Akaike Identification Criterion (AIC). Lower AICs indicate stronger model fit and also models with AICs different than 1 or more are considered to be significantly different from one another. Therefore, the data shows that there is a significant difference between the four-factor model (AIC= 25501.393) and the higher-order factor model

(AIC= 25585.127). In this scenario, the four-factor model performs the best out of the three tested models. All of the results for the WLC CFAs are depicted in Table 10.

As for LWC CFAs, the same three CFA models were analyzed: a one-factor model, a four-factor model, and a higher-order model in order to compare the fit across the different models. The one-factor model (Figure 4) was expected to have the poorest fit with the data out of the three models. According to the data, the one-factor model had a CFI of 0.875 and a TLI of 0.847, which are well below desired levels. For the one-factor model, the results showed a RMSEA of 0.129, with a 90% confidence interval of 0.121 to 0.137, which does not show adequate fit. Lastly, the one-factor model had a SRMR of 0.066, which is near an acceptable range but does not indicate good model fit.

The four-factor CFA model (Figure 5) of LWC yielded better results. The CFI for the LWC four-factor model was 0.990, with a TLI of 0.986, which both show excellent fit. Additionally, the RMSEA also showed good fit with a point estimate of 0.039 and a 90% confidence interval of 0.029 to 0.049. The SRMR also points to good fit at a value of 0.021. Therefore, the four-factor model is deemed as more appropriate for the data than the one-factor model based on these fit indices.

The final model for the LWC data was the higher-order model, which is displayed in Figure 6. For this model of LWC, the data showed a CFI of 0.990 and a TLI of 0.987, both again indicating excellent fit. This model also produced a RMSEA of 0.038 and a 90% confidence interval for this estimate of 0.028 to 0.047, which ensures with 90% confidence that the RMSEA is in the "good" range of estimates. The SRMR for this model was also good at a value of 0.021. In this case, we can turn to the Akaike Identity Criterion (AIC) to determine if the models are significantly different, and also to determine which model is best based on the desired lower

values of AIC. Given that a difference of 1 in an AIC indicates a significant difference between two models, it is determined that the higher-order model (with an AIC of 22483.403) is significantly different than and subsequently better than the four-factor model (with and AIC of 22487.195). The three LWC CFAs are also displayed in Table 11.

After the running of the previous six CFAs, it was decided to run a correlated higher-order factor model, in which the two WLC and LWC higher-order CFAs were combined and run together as one CFA with the WLC and LWC factors correlated. A depiction of this is shown in Figure 7. This model also showed overall good fit. The CFI of the model was 0.954 while the TLI was 0.948, both reflecting good fit. The RMSEA was 0.053 with a 90% confidence interval of 0.049 to 0.057, which shows adequate to good fit. Lastly, the SRMR was adequate with a value of 0.075. This "grandmaster" higher-order CFA shows the network and relationship between LWC and WLC best, and provides insight into how these two domains of conflict are related.

Discussion

The three studies presented here highlight the presence of new factors within work-life conflict, and all hypotheses receive at least partial support. Hypothesis 1 was generally supported, though energy was not determined to be completely independent of time in LWC in Study 2, while it was independent of time for WLC in Study 2. Hypothesis 2 was generally supported, though emotion was not completely independent of strain in WLC or LWC in Study 2, although it was more representative of conflict in both WLC and LWC. Lastly, Hypothesis 3 was partially supported, as a three factor model was not found to be the best fit with the data. However, it was found that a four factor model, but not the hypothesized five factor model, was most supported by the data.

The resultant four-factor model provides a novel contribution to extant literature on work and nonwork. From these studies, results suggest that time, behavior, emotion, and energy operate as four distinct factors of work-life conflict. From Study 1, 60 items of work-life conflict were identified through subject matter expert data. Study 1 identified items that represented time, strain, behavior, and energy and made choices on which items to retain based on PSAs, CSVs, and means. The emotion-based items were self-developed due to less than acceptable item statistics from our original analyses. For Study 2, there were 60 items used for exploratory factor analysis. There were 12 items for each of the five proposed facets of work-life conflict. As shown in Study 2, emotion-based work-life conflict actually better represented (psychometrically) work-life conflict than strain-based work-life conflict. Lastly, the models tested in Study 3 show that the energy-based and emotion-based work-to-life conflict and life-to-work conflict is supported. Furthermore, Study 3 showed support for both the four-factor models with only first order factors as well as the higher-order factor model that included both first and second order factors. This provides confidence that the four-factor interpretation of both WLC and LWC is supported.

Interpretations

It is important to note that the four-factor model that the data support is in contrast to the proposed five-factor model of work-life conflict. While it was expected to see five distinct dimensions of time, strain, behavior, energy, and emotion, instead this series of studies found support for a model in which emotion trumps strain. While this replacement of strain with emotion needs to be further explored in future studies, there may be several reasons for this finding. First, the positive side of work-life research, work-life enrichment, utilizes affect as a facet. Affect is one of the four dimensions of work-life enrichment, and entails situations in

which involvement in one role results in a positive emotional state or attitude which helps the individual in another role (Carlson et al., 2006). It would be reasonable to believe that a similar dimension also exists on the work-life conflict side of the work-life interface. Several of the other dimensions of work-life enrichment, such as development and efficiency, also seem to be reflections of work-life conflict dimensions. Development refers to the idea that a given role can lead to the acquisition or refinement of skills, knowledge, behaviors, or ways of viewing things that help an individual be perform better in another role (Carlson et al., 2006). This development dimension parallels well with the behavior dimension of work-life conflict, as they both contain a behavioral component. Additionally, efficiency is similar to the time dimension of work-life conflict in that it involves the gaining of time as a resource. Therefore, given that several of the other facets of work-life conflict seem to already be reflected in work-life enrichment, including the well-established facet of affect within work-life enrichment, it serves as precedence to include an affective component within work-life conflict as well.

Secondly, emotion may be more appropriate as a dimension of work-life conflict because of its mechanics. Emotion is viewed as a mechanism through which a stimulus can be decoupled from a response (Scherer, 1984). In this sense, an emotion is the process that happens between some event or stimulus and the response or outcome. This is also reflected in Greenhaus and Powell's (2006) model of work-family enrichment. In this model, positive affect is a pathway through which the resources in one role positively influence the performance in another role. Again, this inclusion of affect as the mechanism through which one domain influences another is present. Thus, since this is modeled as a pathway or process on the positive side of work-life research, it may also be applicable as a pathway or process to the negative side of work-life research.

This model and the interpretation of emotion as a mechanism by Schrerer (1984) also points to a third way in which emotion seems to belong within the realm of work-life conflict. Specifically, time and behavior can be considered the processes or mechanism through which work-life conflict is felt. For example, an event happens (antecedent) that takes away your time (process), that therefore leads to heightened work-life conflict (outcome). However, strain seems to be more of the event or antecedent to the process of emotion. For example, your boss yells at you (strain), you get angry (emotion), and then you leave work and continue to be angry (outcome). Therefore, strain itself might not actually be the process through which work-life conflict manifests itself, whereas emotion could be a better fit. More research will need to explore this idea of emotion as a process, and strain as more of an antecedent in future research.

Second, life-to-work permeability is different than work-to-life permeability. Work-to-life conflict is more frequent than life-to-work conflict, which suggests that the nonwork domain is more permeable to the demands of work than is the work domain to the demands of life (Frone, Russell, & Cooper, 1992; Pleck, 1977). Therefore, the nonwork domain is much more influenced by the working domain than the working domain is influenced by the nonwork domain. Because of this asymmetry in permeability, the nonwork domain may be susceptible to conflict manifesting in different ways, as was exhibited in Study 2. Additionally, if more conflict is creeping into the nonwork domain than is creeping into the work domain, there could be more blurring occurring in the boundary to the nonwork domain. This blurring of the line between work and personal life may be part of the reason that work-to-life conflict is more prevalent than life-to-work conflict. Additionally, this blurring may result in an inability to distinguish between different types of conflict in the nonwork domain. If there is more conflict spilling over from the work domain to the nonwork domain, it may become increasingly harder to distinguish between

the type of conflict being experienced. With this heightened level of blurring occurring in the nonwork domain, conflict may be harder to categorize, thus resulting in only the three factors of time and energy, emotion and strain, and behavior. For example, at work, time-based conflict may be obviously felt. If a certain task is not completed on time or by a specific deadline, time-based conflict may occur. However, at home, time-based conflict may be less clear to delineate, and may be more muddled with energy-based conflict. This may be a result of the more structure seen in the work role and more fluidity in the nonwork role.

Overall, the finding of energy as a distinct domain is well-supported by the data, and the interpretation of using emotion-based conflict as a distinct construct can be supported through extant literature. Additionally, the choice to use the four-factor model of work-life conflict regardless of the three-factor solution found in Study 2 for LWC is also supported because of LWC's higher rates of blurring and the near four-factor fit for the LWC items found in Study 2. Collectively, these data suggest the newly developed four-factor scale of work-life conflict with the constructs of time, behavior, emotion, and energy is the most representative measurement instrument of work-life conflict.

Implications

There are several important implications of these findings. The emergence of energy as a construct of conflict alludes to the need to include energy-based conflict in future scales of work-life conflict. While time and energy were somewhat previously confounded in one dimension of time-based conflict, this research points to the fact that energy is an independent construct. Therefore, energy-based conflict should be incorporated into the measurement of work-life conflict in the future. Without measuring energy-based conflict, researchers and practitioners may be missing out on information about conflict focused on being drained, tired, or overall

depleted of resources. If we are missing out on this type of conflict at the measurement level, employees may have unrepresentative levels of work-life conflict. This underrepresentation of energy-based conflict in current measurement could be incorrectly guiding organizations in trying to address work-life conflict through policy creation or other organizational programs. By screening for energy-based conflict, organizations may be better able to understand the entire realm of their employees' work-life conflict and can therefore derive more appropriate ways to combat such conflict.

Moreover, this scale of work-life conflict may be a more sufficient instrument by which to measure conflict in understudied groups. By adding in an emotional component and energy component, we may be able to study the conflict felt by a wider variety of workers. For example, blue collar workers may experience high levels of energy depletion from work that may be spilling over into their personal lives. Yet, this type of conflict would not have been captured by measuring their level of work-life conflict on previously existing scales. However, if such workers who employ higher levels of labor at work and as a result feel more tired or drained were to respond to this newly developed scale of work-life conflict, it is expected that their scores would be more representative of their true levels of work-life conflict. Additionally, with emotion-based conflict, there are certain occupations or workers who may be more likely to experience emotion-based work-life conflict because of their job. For example, nursing or counseling can many times be an emotionally taxing occupation and therefore we would expect people in these occupations to experience negative emotional spillover. Previously, this emotionally driven work-to-life conflict may have been missed by existing work-life conflict scales. With the implementation of the newly developed scale, it is expected that workers who

may have previously been marginalized by the dimensions of work-life conflict will now be better represented and can have their conflict recognized.

Lastly, and as previously mentioned, emotion-based conflict trumps strain-based conflict. From Study 2, we see that the emotion-based conflict items load more highly onto their factor and are therefore outperforming the strain-based items. Therefore, emotion-based conflict seems to be more representative of work-life conflict than is strain-based conflict. While these constructs may be correlated as evidenced by loading together on the same factor in the EFAs, these findings suggest utilizing the emotion-based conflict items for measurement as opposed to the strain-based conflict items. While the loadings for the strain-based conflict items show that using strain would be an adequate way to measure work-life conflict, the higher loadings for the emotion-based conflict items provide support that emotion may be more appropriate to measure than strain. More research in the future could be done to address this comparison between strain and emotion more specifically.

Strengths, Limitations, & Future Directions

There are several notable strengths of this study. First, three distinct studies were conducted in an effort to develop a scale that has been subjected to rigorous development procedures (cf. Carlson, Kacmar, & Williams, 2000). The scale was also developed using three separate samples, and thus the potential for some type of bias due to sampling issues is minimized. This research also utilized samples that contained a wide array of employed individuals since the samples for Study 2 and Study 3 were obtained from MTurk. MTurk yields samples that are more demographically diverse with more variability in job type than might be obtained from sampling individuals within a single organization. Lastly, the resultant scale provides researchers and practitioners with a more representative measurement tool that

incorporates the two new dimensions of work-life conflict that have been previously missed in existing scales by using only 24 items (e.g., Carlson et al., 2000).

No study is without its limitations. Currently, the most pertinent limitation is not having convergent or discriminant validity evidence for the new scale, though time, strain, and behavior facets are already considered unique constructs (Carlson et al., 2000). Therefore, the evidence for time, strain, and behavior as discriminant from other constructs has been established. Further evidence is needed to examine how unique energy and emotion are from other constructs. Additionally, it would be interesting to observe if emotion-based work-life conflict is different from affect-based work-life enrichment. Thus it is suggested that studies of convergent and discriminant validity be carried out for the emotion and energy constructs. There is also a lack of criterion-related validity in these three studies. Criterion-related validity is often used in the scale development process to show that a new scale is capable of predicting related outcomes. Because of this prediction quality, it would be advisable to collect multi-wave or longitudinal data as opposed to cross-sectional data in order to determine stronger inferences of causality between predictor and outcome variables.

Conclusion

In sum, this project provides evidence that a four-factor model of work-life conflict may be best in order to measure conflict as experienced by many types of workers in many different careers. The previously validated constructs of time-based and behavior-based conflict remain important in measuring work-life conflict; however, these studies provide support for also including constructs of emotion-based conflict and energy-based conflict. Additionally, this research provides support for eliminating strain-based conflict from work-life conflict measurement, as emotion-based conflict seems to better represent this factor. These two new

constructs of emotion and energy provide a deeper insight into work-life conflict experienced by workers, thus both researchers and practitioners should consider examining these additional factors for future work-life conflict research and assessment.

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Table 1: *Work-family conflict items (102)*

Item	Author(s)	Direction	Form
How often does your home-life interfere with your job or career?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Family to work (FIW)	External Conflict
How often does your home-life interfere with your responsibilities at work, such as getting to work on time, accomplishing daily tasks, or working overtime?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Family to work (FIW)	External Conflict
How often does your home-life keep you from spending the amount of time you would like to spend on job or career-related activities?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Family to work (FIW)	External Conflict
How often does your job or career interfere with your home life?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Work to family (WIF)	External Conflict
How often does your job or career interfere with your responsibilities at home, such as yard work, cooking, cleaning, repairs, shopping, paying the bills, or childcare?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Work to family (WIF)	External Conflict
How often does your job or career keep you from spending the amount of time that you would like to spend with your family?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Work to family (WIF)	External Conflict
When you are at home, how often do you think about things you need to accomplish at work?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Work to family (WIF)	Internal Conflict
When you are at home, how often do you think about work-related problems?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Work to family (WIF)	Internal Conflict
When you are at home, how often do you try to arrange, schedule, or perform job-related activities outside of your normal work hours?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Work to family (WIF)	Internal Conflict
When you are at work, how often do you think about family-related problems?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Family to work (FIW)	Internal Conflict
When you are at work, how often do you think about things you need to accomplish at home?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Family to work (FIW)	Internal Conflict
When you are at work, how often do you try to arrange, schedule, or perform family-related activities?	Carlson & Frone (2003), Van Steenberger et al. (2007)	Family to work (FIW)	Internal Conflict
Because I am often stressed from family responsibilities, I have a hard time concentrating on my work.	Carlson et al. 2000	Family to Work (FIW)	Strain
Behavior that is effective and necessary for me at home would be counterproductive at work.	Carlson et al. 2000	Family to Work (FIW)	Behavior

Behavior that is effective and necessary for me at work would be counterproductive at home.	Carlson et al. 2000	Work to Family (WIF)	Behavior
Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.	Carlson et al. 2000	Work to Family (WIF)	Strain
Due to stress at home, I am often preoccupied with family matters at work.	Carlson et al. 2000	Family to Work (FIW)	Strain
I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.	Carlson et al. 2000	Work to Family (WIF)	Strain
I have to miss family activities due to the amount of time I must spend on work responsibilities.	Carlson et al. 2000	Work to Family (WIF)	Time
I have to miss work activities due to the amount of time I must spend on family responsibilities.	Carlson et al. 2000	Family to Work (FIW)	Time
My work keeps me from my family activities more than I would like.	Carlson et al. 2000	Work to Family (WIF)	Time
Tension and anxiety from my family life often weakens my ability to do my job.	Carlson et al. 2000	Family to Work (FIW)	Strain
The behaviors I perform that make me effective at work do not help me to be a better parent or spouse/significant other.	Carlson et al. 2000	Work to Family (WIF)	Behavior
The behaviors that work for me at home do not seem to be effective at work.	Carlson et al. 2000	Family to Work (FIW)	Behavior
The problem-solving behaviors I use in my job are not effective in resolving problems at home.	Carlson et al. 2000	Work to Family (WIF)	Behavior
The problem-solving behaviors that work for me at home do not seem to be as useful at work.	Carlson et al. 2000	Family to Work (FIW)	Behavior
The time I must devote to my job keeps me from participating equally in household responsibilities and activities.	Carlson et al. 2000	Work to Family (WIF)	Time
The time I spend on family responsibilities often interferes with my work responsibilities.	Carlson et al. 2000	Family to Work (FIW)	Time
The time I spend with my family often causes me not to spend time in activities or work that could be helpful to my career.	Carlson et al. 2000	Family to Work (FIW)	Time
When I get home from work I am often too frazzled to participate in family activities/responsibilities.	Carlson et al. 2000	Work to Family (WIF)	Strain
How often does your homelife interfere with your responsibilities at work, such as getting to work on time, accomplishing daily tasks, or working overtime?	Frone et al. 1992	Family to Work (FIW)	Time
How often does your homelife keep you from spending the amount of time you would like to spend on job or career-related activities?	Frone et al. 1992	Family to Work (FIW)	Time
How often does your job or career interfere with your responsibilities at home, such as yard work, cooking, cleaning, repairs, shopping, paying the bills, or child care?	Frone et al. 1992	Work to Family (WIF)	Time
How often does your job or career keep you from spending the amount of time you would like to spend with your family?	Frone et al. 1992	Work to Family (WIF)	Time
After work, I come home too tired to do some of the things I'd like to do.	Gutek, Searle, & Klepa (1991)	Work to Family (WIF)	Time and/or strain

I'm often too tired at work because of the things I have to do at home.	Gutek, Searle, & Klepa (1991)	Family to Work (FIW)	Time and/or strain
My family/friends dislike how often I am preoccupied with my work while I am at home.	Gutek, Searle, & Klepa (1991)	Work to Family (WIF)	Time and/or strain
My personal demands are so great that it takes away from my work.	Gutek, Searle, & Klepa (1991)	Family to Work (FIW)	Time and/or strain
My personal life takes up time that I'd like to spend at work.	Gutek, Searle, & Klepa (1991)	Family to Work (FIW)	Time and/or strain
My superiors and peers dislike how often I am preoccupied with my personal life while at work.	Gutek, Searle, & Klepa (1991)	Family to Work (FIW)	Time and/or strain
My work takes up time that I'd like to spend with family/friends.	Gutek, Searle, & Klepa (1991)	Work to Family (WIF)	Time and/or strain
On the job I have so much work to do that it takes away from my personal interests.	Gutek, Searle, & Klepa (1991)	Work to Family (WIF)	Time and/or strain
My family creates difficulties for me since I must behave so differently at work.	Kirchmeyer (1992)	Nonwork-to-work	Behavior
My family creates worries and problems that make concentration at work difficult.	Kirchmeyer (1992)	Nonwork-to-work	Strain
My family demands time from me that could be spent on my job.	Kirchmeyer (1992)	Nonwork-to-work	Time
My family makes it hard to adjust back to the way I must act at work.	Kirchmeyer (1992)	Nonwork-to-work	Behavior
My family makes me behave in ways which are unacceptable at work.	Kirchmeyer (1992)	Nonwork-to-work	Behavior
My family makes me so irritable that I take it out on the people at work.	Kirchmeyer (1992)	Nonwork-to-work	Strain
My family produces tensions and anxieties that decrease my performance at work.	Kirchmeyer (1992)	Nonwork-to-work	Strain
My family tires me out so I feel drained for work.	Kirchmeyer (1992)	Nonwork-to-work	Strain
Activities and chores at home prevent you from getting the amount of sleep you need to do your job well.	MIDUS study	Family to work spillover	
Job worries or problems distract you when you are at home.	MIDUS study	Work to family spillover	
Personal or family worries and problems distract you when you are at work.	MIDUS study	Family to work spillover	
Responsibilities at home reduce the effort you can devote to your job.	MIDUS study	Family to work spillover	
Stress at home makes you irritable at work.	MIDUS study	Family to work spillover	
Stress at work makes you irritable at home.	MIDUS study	Work to family spillover	
Your job makes you feel too tired to do the things that need attention at home.	MIDUS study	Work to family spillover	
Your job reduces the effort you can give to activities at home.	MIDUS study	Work to family spillover	
Due to work-related duties, I have to make changes to my plans for family activities.	Netemeyer, Boles, & McMurrian (1996)	Work-family (WFC)	Time & Strain
Family-related strain interferes with my ability to perform job-related duties.	Netemeyer, Boles, & McMurrian (1996)	Family-work (FWC)	Time & Strain
I have to put off doing things at work because of demands on my time at home.	Netemeyer, Boles, & McMurrian (1996)	Family-work (FWC)	Time & Strain

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My home life interferes with my responsibilities at work such as getting to work on time, accomplishing daily tasks, and working overtime.	Netemeyer, Boles, & McMurrian (1996)	Family-work (FWC)	Time & Strain
My job produces strain that makes it difficult to fulfill family duties.	Netemeyer, Boles, & McMurrian (1996)	Work-family (WFC)	Time & Strain
The amount of time my job takes up makes it difficult to fulfill family responsibilities.	Netemeyer, Boles, & McMurrian (1996)	Work-family (WFC)	Time & Strain
The demands of my family or spouse/partner interfere with work-related activities.	Netemeyer, Boles, & McMurrian (1996)	Family-work (FWC)	Time & Strain
The demands of my work interfere with my home and family life.	Netemeyer, Boles, & McMurrian (1996)	Work-family (WFC)	Time & Strain
Things I want to do at home do not get done because of the demands my job puts on me.	Netemeyer, Boles, & McMurrian (1996)	Work-family (WFC)	Time & Strain
Things I want to do at work don't get done because of the demands of my family or spouse/partner.	Netemeyer, Boles, & McMurrian (1996)	Family-work (FWC)	Time & Strain
After work I am often too tired to do things with my spouse.	Small & Riley (1990)	Work to family spillover	Marital (Energy)
Because I am often irritable after work, I am not as good a parent as I would like.	Small & Riley (1990)	Work to family spillover	Parent-Child (Psychological)
Because I am often tired after work, I don't see friends as much as I would like.	Small & Riley (1990)	Work to family spillover	Leisure (Energy)
Having a job makes it easier for me to get my household chores done.	Small & Riley (1990)	Work to family spillover	Home management (General)
I am a better parent because of my job.	Small & Riley (1990)	Work to family spillover	Parent-Child (General)
I spend so much time working that I am unable to get much done at home.	Small & Riley (1990)	Work to family spillover	Home management (Time)
My job doesn't affect whether I enjoy my free time outside of work.	Small & Riley (1990)	Work to family spillover	Leisure (General)
My job helps me have a better relationship with my spouse.	Small & Riley (1990)	Work to family spillover	Marital (General)
My job keeps me from spending time with my spouse.	Small & Riley (1990)	Work to family spillover	Marital (Time)
My job makes it difficult for me to enjoy my free time outside of work.	Small & Riley (1990)	Work to family spillover	Leisure (General)
My job makes it difficult for me to get household chores done.	Small & Riley (1990)	Work to family spillover	Home management (General)
My job makes it hard for me to have a good relationship with my child(ren).	Small & Riley (1990)	Work to family spillover	Parent-Child (General)
My marriage suffers because of my work.	Small & Riley (1990)	Work to family spillover	Marital (General)
My working hours interfere with the amount of time I spend with my child(ren).	Small & Riley (1990)	Work to family spillover	Parent-Child (Time)
The amount of time I spend working interferes with how much free time I have.	Small & Riley (1990)	Work to family spillover	Leisure (Time)

When I get home from my job, I do not have the energy to do work around the house.	Small & Riley (1990)	Work to family spillover	Home management (Energy)
When I get home from work I often do not have the energy to be a good parent.	Small & Riley (1990)	Work to family spillover	Parent-Child (Energy)
Worrying about my job interferes with my ability to get things done around the house.	Small & Riley (1990)	Work to family spillover	Home management (Psychological)
Worrying about my job is interfering with my relationship with my spouse.	Small & Riley (1990)	Work to family spillover	Marital (Psychological)
Worrying about my job makes it hard for me to enjoy myself outside of work.	Small & Riley (1990)	Work to family spillover	Leisure (Psychological)
Because my work is so demanding, I am often irritable at home.	Stephens & Sommer (1996)	Work to family conflict	Strain
Behavior that is effective and necessary for me at work would be counterproductive at home.	Stephens & Sommer (1996)	Work to family conflict	Behavior
I act differently in responding to interpersonal problems at work than I do at home.	Stephens & Sommer (1996)	Work to family conflict	Behavior
I am not able to act the same way at home as at work.	Stephens & Sommer (1996)	Work to family conflict	Behavior
I generally seem to have enough time to fulfill my potential both in my career and as a spouse and parent.	Stephens & Sommer (1996)	Work to family conflict	Time
I often feel the strain of attempting to balance my responsibilities at work and home.	Stephens & Sommer (1996)	Work to family conflict	Strain
My work keeps me from my family more than I would like.	Stephens & Sommer (1996)	Work to family conflict	Time
My work takes up time that I feel I should spend with my family.	Stephens & Sommer (1996)	Work to family conflict	Time
The demands of my job make it difficult for me to maintain the kind of relationship with my spouse and children that I would like.	Stephens & Sommer (1996)	Work to family conflict	Strain
The problem-solving approaches I use in my job are effective in resolving problems at home.	Stephens & Sommer (1996)	Work to family conflict	Behavior
The tension of balancing my responsibilities at home and work often causes me to feel emotionally drained.	Stephens & Sommer (1996)	Work to family conflict	Strain
The things I do that make me effective at work also help me to be a better parent and spouse.	Stephens & Sommer (1996)	Work to family conflict	Behavior
The time I must devote to my job does not keep me from participating equally in household responsibilities and activities.	Stephens & Sommer (1996)	Work to family conflict	Time
What works for me at home seems to be effective at work as well, and vice versa.	Stephens & Sommer (1996)	Work to family conflict	Behavior

Table 2: *Comparison of WFC and adapted final WLC items*

Work-Family Items	Adapted Work-Life Items
I have to miss family activities due to the amount of time I must spend on work responsibilities.	I have to miss activities in my personal life due to the amount of time I must spend on my work responsibilities.
My work takes up time that I'd like to spend with family/friends.	My work takes up time that I'd like to spend with friends or family.
The amount of time I spend working interferes with how much free time I have.	The amount of time I spend working interferes with how much free time I have.
The amount of time my job takes up makes it difficult to fulfill family responsibilities.	The amount of time my job takes up makes it difficult to fulfill responsibilities in my personal life.
The time I spend with my family often causes me not to spend time in activities or work that could be helpful to my career.	The time I spend on my personal life often causes me not to spend time in activities or work that could be helpful to my career.
My family demands time from me that could be spent on my job.	My personal life demands time from me that could be spent on my job.
Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.	Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.
Family-related strain interferes with my ability to perform job-related duties.	Personal life related strain interferes with my ability to perform job related duties.
Because I am often stressed from family responsibilities, I have a hard time concentrating on my work.	Because I am often stressed from persona -life responsibilities, I have a hard time concentrating on my work.
Due to stress at home, I am often preoccupied with family matters at work.	Due to stress at home, I am often preoccupied with home matters at work.
My job produces strain that makes it difficult to fulfill family duties.	My job produces strain that makes it difficult to fulfill personal life duties.
My family produces tensions and anxieties that decrease my performance at work.	My personal life produces tensions and anxieties that decrease my performance at work.
After work, I come home too tired to do some of the things I'd like to do.	After work, I come home too tired to do some of the things I'd like to do.
When I get home from my job, I do not have the energy to do work around the house.	When I get home from my job, I do not have the energy to do work around the house.
When I get home from work I often do not have the energy to be a good parent.	When I get home from work, I often do not have the energy to be a good friend or family member.
After work I am often too tired to do things with my spouse.	After work, I am often too tired to do things in my personal life.
Your job makes you feel too tired to do the things that need attention at home.	My job makes me feel too tired to do the things that need attention in my personal life.

My family tires me out so I feel drained for work.	My personal life tires me out so I feel drained for work.
My family creates difficulties for me since I must behave so differently at work.	My personal life creates difficulties for me since I must behave so differently at work.
My family makes me behave in ways which are unacceptable at work.	My personal life makes me behave in ways which are unacceptable at work.
The behaviors I perform that make me effective at work do not help me to be a better parent or spouse/significant other.	The behaviors I perform that make me effective at work do not help me to be a better friend or family member.
The problem-solving behaviors I use in my job are not effective in resolving problems at home.	The problem-solving behaviors I use in my job are not effective in resolving problems at home.
My family makes it hard to adjust back to the way I must act at work.	My personal life makes it hard to adjust back to the way I must act at work.

Table 3: *Final item list with item statistics*

Item Name	Item	Author(s)	Mean	Direction PSA	Form PSA	CSV
WLT1	I have to miss activities in my personal life due to the amount of time I must spend on my work responsibilities.	Carlson et al., 2000	4.5	1.00	1.00	1.00
WLT2	My work takes up time that I'd like to spend with friends or family.	Gutek, Searle, & Klepa, 1991	4.045	1.00	1.00	1.00
WLT3	The amount of time I spend working interferes with how much free time I have.	Small & Riley, 1990	3.455	0.95	1.00	1.00
WLT4	The amount of time my job takes up makes it difficult to fulfill responsibilities in my personal life.	Netemeyer, Boles, & McMurrian, 1996	4.136	0.95	1.00	1.00
WLT5	The time I spend at work often causes me to not spend time in activities that could be helpful to my personal life.	Carlson et al., 2000				
WLT6	My work demands time from me that could be spent on my personal life.	Kirchmeyer, 1992				
LWT1	I have to miss work activities due to the amount of time I must spend on my personal life responsibilities.	Carlson et al., 2000	4.5	1.00	1.00	1.00
LWT2	My family or friends take up time that I'd like to spend working.	Gutek, Searle, & Klepa, 1991				
LWT3	The amount of free time I have interferes with how much time I spend working.	Small & Riley, 1990				
LWT4	The amount of time my personal life takes up makes it difficult to fulfill responsibilities in my job.	Netemeyer, Boles, & McMurrian, 1996				
LWT5	The time I spend on my personal life often causes me not to spend time in activities or work that could be helpful to my career.	Carlson et al., 2000	4.227	1.00	1.00	1.00

LWT6	My personal life demands time from me that could be spent on my job.	Kirchmeyer, 1992	3.909	1.00	1.00	1.00
WLS1	Job related strain interferes with my ability to perform personal life related duties.	Netemeyer, Boles, & McMurrian, 1996				
WLS2	Because I am often stressed from my work responsibilities, I have a hard time concentrating on my friends and family.	Carlson et al., 2000				
WLS3	Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.	Carlson et al., 2000	4.045	1.00	0.95	0.91
WLS4	Due to stress at work, I am often preoccupied with work matters at home.	Carlson et al., 2000				
WLS5	My job produces strain that makes it difficult to fulfill personal life duties.	Netemeyer, Boles, & McMurrian, 1996	4.045	1.00	0.91	0.82
WLS6	My work produces tensions and anxieties that decrease my performance in my personal life.	Kirchmeyer, 1992				
LWS1	Personal life-related strain interferes with my ability to perform job related duties.	Netemeyer, Boles, & McMurrian, 1996	3.5	1.00	0.95	1.00
LWS2	Because I am often stressed from personal life responsibilities, I have a hard time concentrating on my work.	Carlson et al., 2000	4.045	1.00	0.95	0.91
LWS3	Due to all the pressures in my personal life, sometimes when I am at work I am too stressed to do the things I enjoy.	Carlson et al., 2000				
LWS4	Due to stress at home, I am often preoccupied with home matters at work.	Carlson et al., 2000	3.818	0.95	0.95	0.91

LWS5	My personal life produces strain that makes it difficult to fulfill job duties.	Netemeyer, Boles, & McMurrian, 1996				
LWS6	My personal life produces tensions and anxieties that decrease my performance at work.	Kirchmeyer, 1992	4.273	1.00	0.91	0.86
WLE1	After work, I come home too tired to do some of the things I'd like to do.	Gutek, Searle, & Klepa, 1991	3.864	0.95	1.00	1.00
WLE2	When I get home from my job, I do not have the energy to do work around the house.	Small & Riley, 1990	4.364	1.00	1.00	1.00
WLE3	When I get home from work, I often do not have the energy to be a good friend or family member.	Small & Riley, 1990	4.182	1.00	1.00	1.00
WLE4	After work I am often too tired to do things in my personal life.	Small & Riley, 1990	4.136	1.00	0.95	0.91
WLE5	My work tires me out so I feel drained for my personal life.	Kirchmeyer, 1992				
WLE6	My job makes me feel too tired to do the things that need attention in my personal life.	MIDUS Study	4.091	1.00	0.95	0.91
LWE1	My personal life leaves me too tired to do some of the things I'd like to do at work.	Gutek, Searle, & Klepa, 1991				
LWE2	When I get to work, I do not have the energy to do the work I planned to do.	Small & Riley, 1990				
LWE3	When I get to work I often do not have the energy to be a good employee or co-worker.	Small & Riley, 1990				
LWE4	My personal life leaves me too tired to do things in my work life.	Small & Riley, 1990				
LWE5	My personal life tires me out so I feel drained for work.	Kirchmeyer, 1992	4.364	1.00	0.95	0.91
LWE6	My personal life makes me feel too tired to do the things that need attention at work.	MIDUS Study				

WLB1	Behavior that is effective and necessary for me at work would be counterproductive at home.	Carlson et al., 2000 Stephens & Sommer, 1996	3.545	0.95	1.00	1.00
WLB2	My work creates difficulties for me since I must behave so differently in my personal life.	Kirchmeyer, 1992				
WLB3	My work makes me behave in ways which are unacceptable in my personal life.	Kirchmeyer, 1992				
WLB4	The behaviors I perform that make me effective at work do not help me to be a better friend or family member.	Carlson et al., 2000	3.409	0.95	0.95	0.91
WLB5	The problem-solving behaviors I use in my job are not effective in resolving problems at home.	Carlson et al., 2000	3.5	0.91	0.95	0.91
WLB6	My work makes it hard to adjust back to the way I must act at home.	Kirchmeyer, 1992				
LWB1	Behavior that is effective and necessary for me at home would be counterproductive at work.	Carlson et al., 2000				
LWB2	My personal life creates difficulties for me since I must behave so differently at work.	Kirchmeyer, 1992	3.591	0.91	1.00	1.00
LWB3	My personal life makes me behave in ways which are unacceptable at work.	Kirchmeyer, 1992	4.273	1.00	1.00	1.00
LWB4	The behaviors I perform that make me effective at home do not help me to be a better employee or co-worker.	Carlson et al., 2000				
LWB5	The problem-solving behaviors I use in my personal life are not effective in resolving problems at work.	Carlson et al., 2000				
LWB6	My personal life makes it hard to adjust back to the way I must act at work.	Kirchmeyer, 1992	3.636	1.00	0.95	0.91

WLEm1	My work often makes me so frustrated that it negatively impacts my personal life.	Self-developed				
WLEm2	Because my work often makes me irritable, I am not as good of a friend or family member.	Self-developed				
WLEm3	Because my work often makes me mad, it is hard to participate in activities outside of work.	Self-developed				
WLEm4	I often get so annoyed about my work that I am unable to be active in my personal life.	Self-developed				
WLEm5	My work often makes me so upset that I do not engage in personal life activities.	Self-developed				
WLEm6	I often am in such a bad mood because of work that I am unable to participate in personal or family responsibilities.	Self-developed				
LWEm1	My personal life often makes me so frustrated that it negatively impacts my work.	Self-developed				
LWEm2	Because my personal life often makes me irritable, I am not as good of an employee or co-worker.	Self-developed				
LWEm3	Because my personal life often makes me mad, it is hard to participate at work.	Self-developed				
LWEm4	I often get so annoyed about my personal life that I am unable to be active at work.	Self-developed				
LWEm5	My personal life often makes me so upset that I do not engage in work activities.	Self-developed				
LWEm6	I often am in such a bad mood because of my personal-life that I am unable to participate in work responsibilities.	Self-developed				

Table 4: *Factor loadings for WLC EFA (loadings <0.3 suppressed)*

Item	Factor 1	Factor 2	Factor 3	Factor 4
WLT1	.535*			
WLT2	.784*			
WLT3	.825*			
WLT4	.453*			
WLT5	.527*			
WLT6	.860*			
WLS1		.663*		
WLS2		.708*		
WLS3		.662*		
WLS4		.722*		
WLS5		.624*		
WLS6		.803*		
WLE1			.865*	
WLE2			.879*	
WLE3			.580*	
WLE4			.832*	
WLE5			.710*	
WLE6			.764*	
WLB1				.653*
WLB2		.463*		.386*
WLB3		.516*		.375*
WLB4				.629*
WLB5				.602*
WLB6		.443*		.366*
WLEm1		.869*		
WLEm2		.757*		
WLEm3		.799*		
WLEm4		.769*		
WLEm5		.839*		
WLEm6		.837*		

Table 5: *Model fit indices for WLC EFA*

	Eigenvalue	CFI	TLI	RMSEA	SRMR	χ^2	df	AIC
1-Factor Model	16.469	0.797	0.782	0.113	0.075	4842.225	405	63396.228
2-Factor Model	2.475	0.911	0.897	0.078	0.042	2317.275	376	60929.278
3-Factor Model	1.402	0.960	0.95	0.054	0.025	1227.525	348	59895.529
4-Factor Model	1.016	0.979	0.972	0.041	0.015	778.570	321	59500.573
5-Factor Model	0.582	0.985	0.978	0.036	0.013	621.040	295	59395.043

Table 6: *WLC model fit comparisons*

Models Compared	Chi-Square	df	P-Value
1-factor against 2-factor	2524.950	29	0.000
2-factor against 3-factor	1089.749	28	0.000
3-factor against 4-factor	448.956	27	0.000
4-factor against 5-factor	157.530	26	0.000

Table 7: *Factor loadings for LWC EFA (loadings <0.3 suppressed)*

Item	Factor 1	Factor 2	Factor 3
LWT1	.558*		
LWT2	.389*		
LWT3	.414*		
LWT4	.520*		
LWT5	.650*		
LWT6	.647*		
LWS1	.386*	.486*	
LWS2		.595*	
LWS3		.563*	
LWS4		.524*	
LWS5	.398*	.483*	
LWS6		.669*	
LWE1	.801*		
LWE2	.704*		
LWE3	.616*		
LWE4	.865*		
LWE5	.722*		
LWE6	.828*		
LWB1			.668*
LWB2		.483*	.234*
LWB3		.563*	.230*
LWB4			.674*
LWB5			.702*
LWB6			
LWEm1		.878*	
LWEm2		.769*	
LWEm3		.925*	
LWEm4		.788*	
LWEm5		.802*	
LWEm6		.748*	

Table 8: *Model fit indices for LWC EFA*

	Eigenvalue	CFI	TLI	RMSEA	SRMR	χ^2	df	AIC
1-Factor Model	17.095	0.913	0.906	0.071	0.039	2171.499	405	55102.810
2-Factor Model	1.308	0.935	0.925	0.064	0.300	1698.266	376	54687.577
3-Factor Model	1.036	0.957	0.947	0.054	0.025	1213.720	348	54259.031
4-Factor Model	0.876	0.972	0.963	0.045	0.019	880.947	321	53980.258
5-Factor Model	0.803	0.986	0.980	0.033	0.013	571.077	295	53722.388

Table 9: *LWC EFA model fit comparisons*

Models Compared	Chi-Square	df	P-Value
1-factor against 2-factor	473.233	29	0.000
2-factor against 3-factor	484.546	28	0.000
3-factor against 4-factor	332.772	27	0.000
4-factor against 5-factor	309.870	26	0.000

Table 10: *WLC CFA fit indices*

Model	CFI	TLI	RMSEA	RMSEA CI	SRMR	χ^2	df	AIC
One-factor	0.690	0.621	0.200	(0.192, 0.208)	0.101	1831.232	54	27238.613
Four-factor	0.994	0.992	0.029	(0.018, 0.040)	0.020	82.012	48	25501.393
Higher-order	0.979	0.972	0.054	(0.045, 0.063)	0.046	169.746	50	25585.127

Table 11: *LWC CFA fit indices*

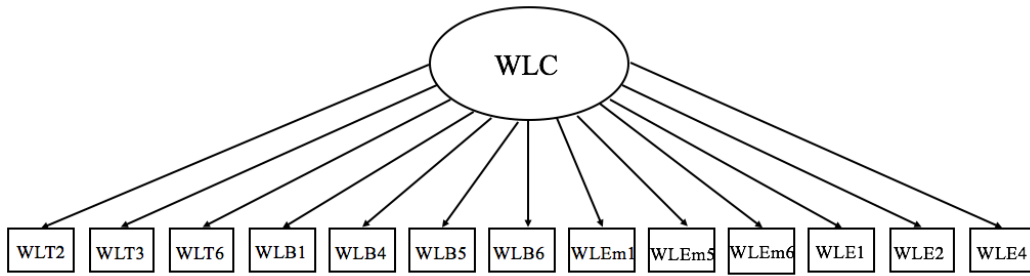| Model	CFI	TLI	RMSEA	RMSEA CI	SRMR	χ^2	df	AIC
One-factor	0.875	0.847	0.129	(0.121, 0.137)	0.066	788.245	54	23154.997
Four-factor	0.990	0.986	0.039	(0.029, 0.049)	0.021	108.443	48	22487.195
Higher-order	0.990	0.987	0.038	(0.028, 0.047)	0.021	108.651	50	22483.403

Figure 1: *WLC CFA one-factor model*

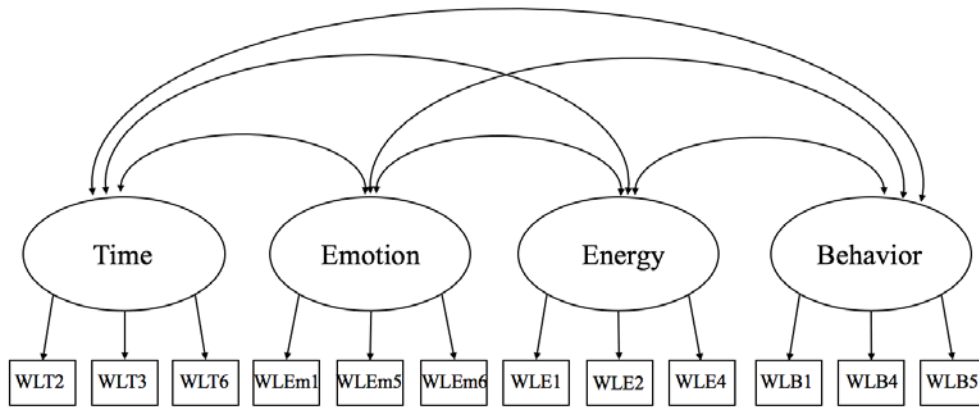Figure 2: *WLC CFA four-factor model*
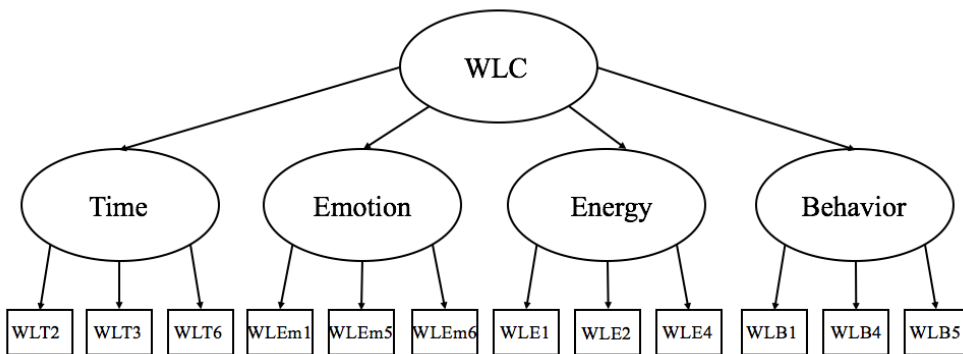

Figure 3: *WLC CFA higher-order model*
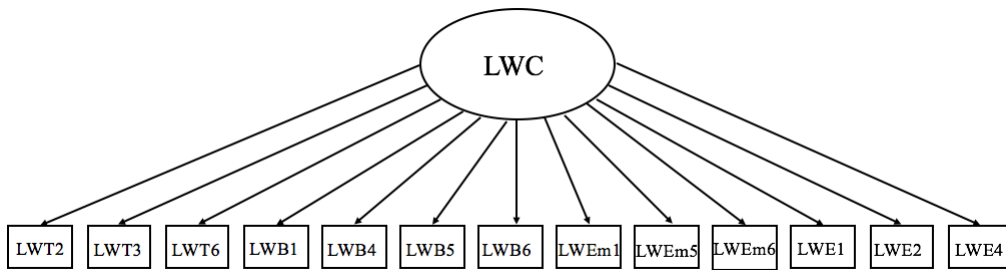
Figure 4*: LWC CFA one-factor model*

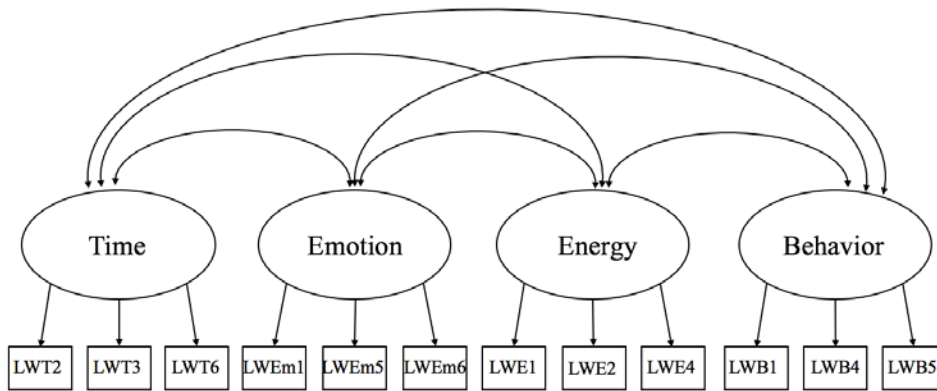Figure 5: *LWC CFA four-factor model*
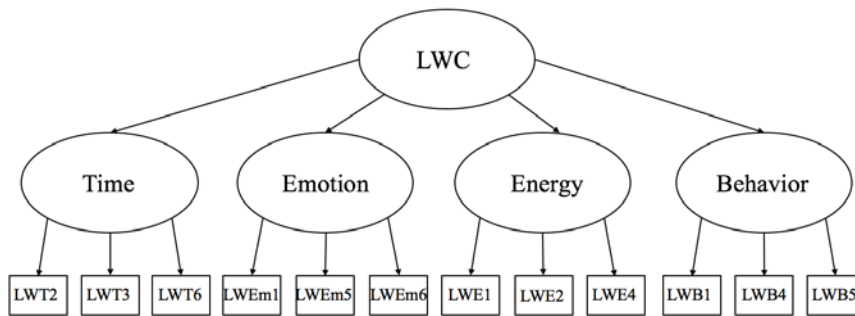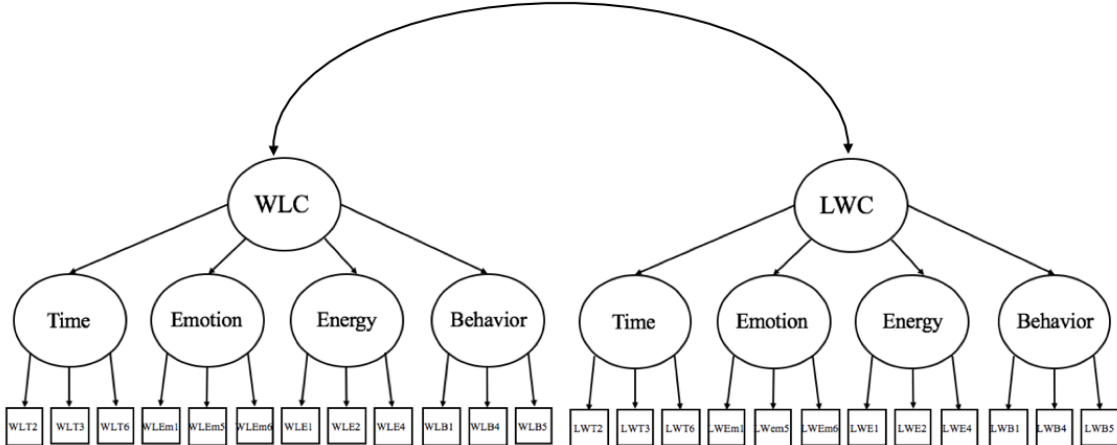

Figure 6: *LWC CFA higher-order model*

Figure 7: *Higher-order correlated WLC & LWC CFA*

Appendix

Demographic Questions

1. Do you currently live in the United States?
   a. Yes
   b. No (if "no" the study terminated)

2. Are you currently 18 years of age or older?
   a. Yes
   b. No (if "no" the study terminated)

3. How old are you? _____

4. What is your gender?
   a. Male
   b. Female

5. Which of the following best describes your racial background? (Choose One)
   a. African-American/Black
   b. Caucasian/White (Non-Hispanic)
   c. Hispanic
   d. Asian American/Pacific Islander
   e. Native American
   f. Other (specify) _____

6. What is the highest level of education you have completed?
   a. Grammar school
   b. High school or equivalent
   c. Vocational/technical school (2 year)
   d. Some college
   e. Bachelor's degree
   f. Master's degree
   g. Professional degree (MD, JD, PsyD, etc.)
   h. Doctoral degree (PhD)
   i. Other (specify) _____

7. What is your marital status?
   a. Single (never married)
   b. Married/living as married
   c. Separated/divorced/widowed

8. Are you currently employed?
   a. If yes, on average, how many hours per do you work?: _____
   b. No (if "no" the study terminated)

9. Do you have any children?
   a. If yes, how many?: _____
   b. No